site	site	comm_main	quad_250	quad_63360	latitude	longitude	location
Sheep Mountain	Sheep Mountain	Clay, Cu, Gypsum	AN	D-2	61.84	-147.47	Near upper reaches of Glacial Fan Creek, southern flank of Sheep Mountain, 3,300 ft south of
Alaska Homestake; Black and Hogan; SSSS; Bruno #4	Alaska Homestake; Black and Hogan; SSSS; Bruno #5	Ag, Au	AN	A-4	61.08	-148.28	On north shore of Harriman Fiord, on eastern point of the inlet into which the Serpentine Glacier flows. Accurate within
Unnamed Occurence	Unnamed Occurence	Asbestos	AR	B-6	67.3	-158.85	Located on ridge southeast of VABM Rich and north of VABM Hunt in T. 22 N., R. 1 W., Kateel River

Unnamed	Unnamed	Asbestos, Cu	AR	B-6	67.31	-158.8	Located on ridge east of VABM Rich and north of VABM Hunt in T. 22 N., R. 1 W., Kateel River Meridian. Shown as locality 10 in Mayfield and Grybeck (1978) and accurate to within 2000 ft. (600 m).

Hunt River	Hunt River	Asbestos	AR	B-6	67.33	-158.55	Located on low hill between the Hunt River and Nekakte Creek in T. 22 N., R. 2 E., Kateel River Meridian. Shown as locality 9 in Mayfield and Grybeck (1978) and accurate to within 2000 ft. (600 m).

Jade Mountain	Jade Mountain	Jade	AR	A-5	67.21	-158.05	Located on south slope of Jade Mountain above Jade Creek in T. 21 N., R. 4 E., Kateel River Meridian. Shown as locality 14 in Mayfield and Grybeck (1978) and accurate to within 2000 ft. (600 m).

Jade Hills	Jade Hills	Ni	AR	A-4	67.17	-157.8	Located just west of Manuilyisat Hills at an elevation of 130 m in T. 20 N., R. 5 E., Kateel River Meridian. Shown as locality 15 in Mayfield and Grybeck (1978) and accurate to within 2000 ft. (600 m).

Shungnak Rivers; Shingnek Creek	Shungnak Rivers; Shingnek Creek	Au	AR	A-3	67.031	-157.235	Located in canyon between Bismark Mountain and Shungnak Mountain near confluence with Bismark Creek in T. 19 N., R. 7 E., Kateel River Meridian. Shown as locality 19 in Mayfield and Grybeck (1978). Accurate to within 1000 ft. (300 m).

Bismark Mountain	Bismark Mountain	Asbestos	AR	A-3	67.05	-157.26	Located above Shungnak River on Bismark Mountain in T. 19 N., R. 7 E., Kateel River Meridian. Shown as locality 18 in Mayfield and Grybeck (1978) and accurate to within 1000 ft. (300 m).

Cosmos Creek	Cosmos Creek	Asbestos	AR	A-3	67.01	-157.14	Located near Shungnak Mountain above and along Cosmos Creek in T. 19 N., R. 8 E., Kateel River Meridian. Shown as locality 20 in Mayfield and Grybeck and accurate to within 1000 ft. (300 m).

Dahl Creek Head; Asbestos Mountain, Ing-Ink	Dahl Creek Head; Asbestos Mountain, Ing-Ink	Asbestos	AR	A-2	67.009	-156.825	Location is just northwest of Asbestos Mountain in T. 19 N., R. 9 E., Kateel River Meridian. Shown as locality 29 in Mayfield and Grybeck (1978). Location accurate to within 600 ft. (200 m).

Canyon Creek	Canyon Creek	Au	AR	A-2	67	-156.63	Located along Canyon Creek, east of Asbestos Mountain in the Cosmos Hills in T. 19 N., R. 10 E., Kateel River Meridian. Shown as locality 31 in Mayfield and Grybeck (1978) and is accurate to within 2000 ft. (600 m).

Serpentine Creek	Serpentine Creek	Au	BD	D-1	64.836	-144.32	Serpentine Creek drains west into the Salcha River. The creek is roughly 17 miles long and has several tributaries. The Alaska Division of Mining Kardex file system reports placer mining on Serpentine Creek, but it is unclear where mining activity took place. The approximate midpoint of the creek is in SW1/4SW1/4 section 10, T. 1 S., R. 16 E., of the Fairbanks Meridian. The creek can be accessed from the Salcha River. It was not identified as

Homestake Creek	Homestake Creek	Au	BN	C-6	65.684	-164.82	Homestake Creek is a west tributary of the Kougarok River. The mouth of Homestake Creek is 2,500 feet upstream from the mouth of Taylor Creek. Sainsbury and others (1969) show the lower 5,000 feet of the channel of Homestake Creek to have been placer mined. This is locality 37 of Cobb (1972; MF 417; 1975; OFR 75-429).

Upper Homestake Creek	Upper Homestake Creek	Au	BN	C-6	65.679	-164.889	Homestake Creek is a west tributary of the Kougarok River. The mouth of Homestake Creek is 2,500 feet upstream of the mouth of Taylor Creek. Sainsbury and others (1969) show that 3,000 feet of the upper part of the creek, starting about 2.2 miles upstream from the mouth, has been placer mined. Cobb (1972; MF 417; 1975; OFR 75-429) summarizes information for Homestake Creek in general and locates previous mining here on lower Homestake

Dick Creek	Dick Creek	Au	BN	D-6	65.787	-164.981	Dick Creek, located along the southwest border of the Bendeleben D-6 quadrangle, is a north-flowing tributary to Bryan Creek. Bryan Creek is a northeast-flowing drainage with some headwater tributaries on the northeast flank of the Kougarok Mountain upland (TE070, Hudson, 1998). The continental divide separates the Dick Creek drainage from that of Mascot Gulch (BN044) to the south (in the Bendeleben C-6 quadrangle). Sainsbury and

Midnight Mountain	Midnight Mountain	Au	BN	D-6	65.76	-164.59	Midnight Mountain is a prominent upland reaching an elevation of 2,720 feet in the southeast part of the Bendeleben D-6 quadrangle. It is located on the continental divide which separates the drainages of the Serpentine River (Schlitz Creek) and Kougarok River (Taylor Creek) in this area. This location is on the south flank of Midnight Mountain at an elevation of about 2,100 feet.

Unnamed (near headwaters of Midnight Creek)	Unnamed (near headwaters of Midnight Creek)	Ag, Au, Pb	BN	D-6	65.8	-164.52	This location is 1,500 feet east of the headwaters of Midnight Creek, a north tributary to Taylor Creek. It is a flat southeast-trending spur at 1,950 feet elevation that is 8,000 to 8,500 feet east of elevation 2,370 feet on the continental divide. The continental divide separates the headwaters of Hot Springs Creek and Midnight Creek.

Unnamed (northwest of headwaters of Humbolt Creek)	Unnamed (northwest of headwaters of Humbolt Creek)	Au	BN	D-6	65.82	-164.51	This occurrence is on a level spur, at 2,000 feet elevation, 1,000 feet northwest of the upstream termination of the west headwater tributary of Humbolt Creek. Humbolt Creek is a northeast-flowing tributary to Goodhope River. This location is 2,000 feet north of the continental divide and 5,000 feet north-northwest of ARDF locality BN048.

Unnamed (Ferndale Creek)	Unnamed (Ferndale Creek)	Ag, Pb, Zn (gold has not been determined for samples from this occurrence)	BN	D-6	65.83	-164.54	This occurrence is on a flat ridge crest at an elevation of 2,220 feet; it overlooks the headwaters of Hot Springs Creek and Ferndale Creek (a tributary to Humbolt Creek, Hudson, 1979, Plate 1). It is one mile north of the continental divide and 2,000 feet east of outcrops of the Oonatut Granite Complex (Hudson, 1979).

Unnamed (near headwaters of Humbolt Creek)	Unnamed (near headwaters of Humbolt Creek)	Ag, Au, Pb	BN	D-5	65.81	-164.48	This occurrence is on the north side of the central headwater tributary to Humbolt Creek. Humbolt Creek is a northeast-flowing tributary to Goodhope River. The occurrence is 3,500 to 4,000 feet north of the continental divide and about 500 feet north of the the Humbolt Creek headwater. The locality is plotted separately by Sainsbury and others (1970, sample locality 23, Plate 1).

Unnamed (near headwaters of Humbolt Creek)	Unnamed (near headwaters of Humbolt Creek)	Ag, Au, Pb	BN	D-5	65.81	-164.49	This occurrence is on the north side of the ridge overlooking the main west headwater tributary to Humbolt Creek. Humbolt Creek is a northeast-flowing tributary to Goodhope River. It is at an elevation of 1,460 feet adjacent to a flat spot on the ridge and 5,300 feet north of the continental divide. This is locality 2 of Cobb (1972; MF 417; 1975; OFR 429).

Humboldt Creek	Humboldt Creek	Au, Sn	BN	D-5	65.84	-164.42	About 5,000 feet of placer gold mine workings are present along the main channel of upper Humbolt Creek. Humbolt Creek is a northeast-flowing tributary to Goodhope River. The placer mine workings begin about 6 miles upstream of the mouth of Ballard Creek, a southeast tributary to Humbolt Creek. This is locality 20 of Cobb (1972; MF 417; 1975; OFR 75-429).

Billiken	Billiken	Cu, Fe	BN	C-1	65.69	-162.49	The Billiken prospect is a magnetite-bearing skarn on the east side of Kugruk Mountain (elevation 1,607 feet), at an elevation of about 760 feet. This is 2 miles northwest of the Independence Mine (BN076) on the Kugruk River. Although tundra cover is extensive in this area, the deposit is well expressed in aeromagnetic data.

Independence	Independence	Ag, Pb	BN	C-1	65.672	-162.464	Independence mine is on a low ridge (maximum elevation of 685 feet) between lower Independence Creek and Kugruk River. Independence Creek is a southeast tributary to Kugruk River and this deposit is exposed in outcrop (about 250 feet elevation) on the east side of Kugruk River, about 1,000 feet upstream of the mouth of Independence Creek. The north-south trending deposit extends from 0.25 mile north of Kugruk River south for about

Unnamed (in headwaters of Niukluk River)	Unnamed (in headwaters of Niukluk River)	Ag, Cu, Pb, Zn	BN	A-4	65.19	-163.84	This prospect is on the ridge between two unnamed northeast headwater tributaries of Niukluk River. It is on the east-souteast slopes at an elevation of 2,995 feet. It is approximately location 82 of Gamble (1988).

Hot Springs Creek	Hot Springs Creek	Hg	BN	D-6	65.86	-164.71	The location of this occurrence is very approximate; it can only be located to within one or two miles. Moxham and West (1953) note cinnabar 'in concentrates panned from a shallow gully in the south side of the eastern fork of Hot Springs CreeK'. Hot Springs Creek is a tributary of the Serpentine River with headwaters in the Oonatut Granite Complex (Hudson, 1979). The location description suggests that the occurrence is in an area

Unnamed (west of Rice Gulch Creek)	Unnamed (west of Rice Gulch Creek)	Asbestos, Cu	BR	C-1	66.5172	-141.3142	This occurrence is at an elevation of about 2,250 feet, approximately 2.7 miles west-northwest of VABM Circle and 4.2 miles west of the junction of Rice Gulch Creek and the Salmon Fork of Black River. It is in T. 19 N., R. 30 E., of the Fairbanks Meridian. The location is accurate to within 500 feet.

Unnamed (west of Sithylemenkat Lake)	Unnamed (west of Sithylemenkat Lake)	Co, Cr	BT	A-3	66.1281	-151.4485	This occurrence is at an elevation of about 1,100 feet on the ridge about 0.75 mile west-northwest of the outlet of Sithylemenkat Lake. The location is accurate to within one-half mile.

Pilgrim	Pilgrim	Ag, Au(?), Cu	CH	D-5	67.75	-149.03	The Pilgrim occurrence is at an elevation of about 4,600 feet just east of the headwaters of Robert Creek (SW1/4 sec. 24, T. 34 N., R. 7 W., of the Fairbanks Meridian) approximately 6 miles northeast of Horace Mountain and about 1 1/4 mile south-southeast of the Mike prospect (CH100). The location is accurate within a 1/2-mile radius.

Continental; Chevelle; Cannery Creek	Continental; Chevelle; Cannery Creek	Ir, Os, Pd, Pt, Rh	CR	D-1	55.77235	-132.15249	This site consists of three separate prospects that were first located in 2003. The coordinates are at the Continental prospect, which is the middle and best sampled of the three; it is about 1.1 mile west-southwest of Mount Burnett and about 0.2 mile northeast of the center of section 25, T. 70 S., R. 86 E. The Chevelle prospect is about 0.7 mile northeast of the Continental prospect, and the Cannery Creek prospect is about 1.2 mile southwest of the

West Cobra; East Cobra	West Cobra; East Cobra	Ir, Os, Pd, Pt, Rh	CR	D-1	55.77296	-132.12481	The West Cobra prospect, which is at the site selected for this record, is about 0.4 mile south of Mount Burnett and about 0.4 mile east-northeast of the center of section 30, T. 70 S., R. 87 E. The East Cobra prospect is about 1.5 miles east of the West Cobra prospect. The only published location of the Cobra prospects is a small-scale map on a web page, but the site is probably accurate to within 0.2 mile.

Mount Burnett Zone	Mount Burnett Zone	Ir, Os, Pd, Pt, Rh	CR	D-1	55.7786	-132.11463	The Mount Burnett Zone prospect was found in 2001. It is about about 0.4 mile east of Mount Burnett and about 0.2 mile east of the southwest corner of section 20, T. 70 S., R. 87 E. The location of this prospect is known only from a small-scale map on a web page, but it probably is accurate to within 0.1 mile.

Lexus	Lexus	Ir, Os, Pd, Pt, Rh	CR	D-1	55.77911	-132.08445	The Lexus prospect was found in 2002. It is about 1.2 miles east of Mount Burnett and about 0.4 mile east of the southwest corner of section 21, T. 70 S., R. 87 E. The location of this prospect is known only from a small-scale map on a web page, but it is probably accurate to within 0.1 mile.

North Zone	North Zone	Ir, Os, Pd, Pt, Rh	CR	D-1	55.77759	-132.05838	The North Zone prospect was found in 2001. It is 2.7 miles east of Mount Burnett and about 0.4 mile east of the northwest corner of section 27, T. 70 S., R. 87 E. The location of this prospect is known only from a small-scale map on a web page, but it is probably accurate to within 0.1 mile.

Jaguar	Jaguar	Ir, Os, Pd, Pt, Rh	CR	D-1	55.77437	-132.06374	The Jaguar prospect was found in 2002. It is about 2.0 miles east-southeast of Mount Burnett and about 0.4 mile northwest of the center of section 27, T. 70 S., R. 87 E. The location of this prospect is known only from a small-scale map on a web page, but it is probably accurate to within 0.1 mile.

Shellhouse; Miller	Shellhouse; Miller	Ag, Au, Cu, Mo	CR	A-4	55.05157	-133.10471	The Shellhouse prospect is about 0.8 mile west-northwest of the northwest head of Coco Harbor, and about 0.4 mile northeast of the center of section 6, T. 79 S., R. 82 E. The location is accurate.

Unnamed (at head of Dora Bay)	Unnamed (at head of Dora Bay)	Nb, REE, Y	CR	A-1	55.16825	-132.24393	This site is near the center of an area about two miles long and 2,000 feet wide that extends south along the valley from the head of Dora Bay. The site is about 0.6 mile northwest of the center of section 25, T. 77 S., R. 87 E.

Pleasant Creek	Pleasant Creek	Pb, Zn	CY	A-1	65.177	-141.053	The Pleasant Creek prospects are located in the central and southwest portion of T. 4 N., R. 33 E., of the Fairbanks Meridian. They have an irregular boundary and cover about 6 square miles. The easternmost boundary is the Canadian border, and they do not encompass VABM Pack. Coordinates are for the northernmost prospect, in section 16, T. 4 N., R. 33 E., of the Fairbanks Meridian. The location is accurate.

Geiger	Geiger	Cb, REE, Ta, Th, U, Y, Zr	DE	D-1	54.9511	-132.1742	The Geiger prospect is at an elevation of about 50 feet, 0.4 mile north-northeast of the mouth of Perkins Creek where it enters the South Arm of Moira Sound. The prospect is near the center of the east boundary of the NE1/4 section 8, T. 80 S., R. 88 E. The location of the Geiger prospect relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Boots	Boots	REE, Th, U	DE	D-1	54.9357	-132.1754	The Boots prospect is about 1.6 miles north-northwest of Bokan Mountain in about the center of the E1/2 NE1/4 section 17, T. 80 S., R. 88 E. The location of the Boots prospect relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Sunday Lake	Sunday Lake	Cb, REE, Th, U, Y, Zr	DE	D-1	54.9295	-132.1724	The Sunday Lake prospect is at an elevation of about 750 feet, about 1.2 miles northwest of Bokan Mountain and about 0.7 mile east-southeast of the center of section 17, T. 80 S., R. 88 E. Its location relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Old Crow	Old Crow	Th, U	DE	D-1	54.9251	-132.1668	The Old Crow prospect of the Lazo Group is about 0.8 mile northwest of Bokan Mountain at about the midpoint of the north boundary of the NW1/4 section 21, T. 80 S., R. 88 E. The location of the Old Crow prospect relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Wennie (Lazo Group); I and L No. 1 and 2	Wennie (Lazo Group); I and L No. 1 and 3	Cb, REE, Th, U	DE	D-1	54.92	-132.181	The Wennie prospect of the Lazo Group and the adjacent I & L No. 1 and 2 prospect are centered about 1.0 mile west-northwest of Bokan Mountain, near the center of the NE1/4 section 20, T. 80 S., R. 88 E. Their locations relative to the other uranium and REE prospects in the vicinity of Bokan Mountain are best shown on Plate 1 of MacKevett (1963).

Little Jim; Little Joe No. 1, Little Joe No. 2	Little Jim; Little Joe No. 1, Little Joe No. 3		DE	D-1	54.9209	-132.1491	The geologically similar Little Jim and Little Joe prospects are scattered over an area about one-half mile long. The center of the prospect area is about 0.4 mile north-northeast of Bokan Mountain in the NE1/4 section 21, T 80 S., R. 88 S. The location of these prospects relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

I,L, and M; ILM; I, L, and M Nos. 1-3	I,L, and M; ILM; I, L, and M Nos. 1-4	Cb, REE, Th, Y, U, Zr	DE	D-1	54.9157	-132.1488	The three I, L, and M prospects are centered about 0.3 mile east of Bokan Mountain near the midpoint of the east boundary of the SE1/4 section 21, T. 80 S., R. 88 E. The prospects are aligned southeasterly over a distance of about 1,000 feet. Their location relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Irene-D	Irene-D	Cb, REE, U, Y, Zr	DE	D-1	54.9179	-132.1334	The Irene-D prospect is at the head of Perkins Creek at an elevation of about 850 feet. It is about 0.9 mile east-northeast of Bokan Mountain, near the center of section 22, T. 80 S., R. 88 E. Its location relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

I and L; I and L Nos. 3-5	I and L; I and L Nos. 3-6	Cb, Th, U	DE	D-1	54.913	-132.1345	The I & L Nos. 3-5 prospects occupy an area about 1,000 feet in diameter centered about 0.9 mile east-southeast of Bokan Mountain. The center of the area is just north of the midpoint of the south boundary of section 22, T. 80 S., R. 88 E. Their location relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Atom Marietta	Atom Marietta	Th, U	DE	D-1	54.9122	-132.1283	The Atom Marietta prospect is about 1.1 miles east-southeast of Bokan Mountain, near the center of the west boundary of the SE1/4 SE1/4 section 22, T. 80 S., R. 88 E. Its location relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Ross-Adams	Ross-Adams	U	DE	D-1	54.9092	-132.1406	The Ross-Adams Mine is about 0.7 mile southeast of Bokan Mountain. It is shown as a mine symbol on the U.S.G.S., 1:63,360-scale topographic map in the NW1/4 section 27, T. 80 S., R. 88 E. The location of the Ross-Adams mine relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Pieper's Purple	Pieper's Purple	F, Th, U	DE	D-1	54.9064	-132.1561	The Pieper's Purple prospect is about 0.7 mile south of Bokan Mountain at about the center of the NE1/4 section 28, T. 80 S., R. 88 E. Its location relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Carol Ann; Carol Ann No. 1; Carol Ann No. 2; Carol Ann No 3; Dotson	Carol Ann; Carol Ann No. 1; Carol Ann No. 2; Carol Ann No 3; Dotson	Cb, REE, Th, U, Y	DE	D-1	54.9053	-132.1072	The three Carol Ann prospects are associated with a series of parallel mineralized dikes that extend about N45W for at least 3,000 feet. The coordinates are at near the center of the prospect area, about 1.9 miles southeast of Bokan Mountain, near the middle of the N1/2 section 26, T. 80 S., R. 88 E. The locations of the Carol Ann prospects relative to the other uranium and REE prospects in the vicinity of Bokan Mountain are best shown on

Upper Cheri	Upper Cheri	Be, Cb, REE, Th, U, Y, Zr	DE	D-1	54.8898	-132.1096	The Upper Cheri occurrence is centered about 0.6 mile south of the head of the West Arm of Kendrick Bay; it is near the center of section 35, T. 80 S., R. 88 E. Its location relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Cheri; Cheri No. 1	Cheri; Cheri No. 2	Be, Cb, REE, Th, U, Y, Zr	DE	D-1	54.8924	-132.1035	The Cheri prospects are centered about 0.7 mile south-southeast of the head of the West Arm of Kendrick Bay, near the center of the NE1/4 section 35, T. 80 S., R. 88 E. Their locations relative to the other uranium and REE prospects in the vicinity of Bokan Mountain are best shown on Plate 1 of MacKevett (1963).

Shore	Shore	Be, Cb, REE, Th, Ti, U, Y, Zn, Zr	DE	D-1	54.896	-132.0935	The Shore occurrence is in the intertidal zone in the vicinity of the point that juts out into the West Arm of Kendrick Bay, near the northwest corner of section 36, T. 80 S., R. 88 E. The location of this occurrence relative to the other uranium and REE prospects in the vicinity of Bokan Mountain is best shown on Plate 1 of MacKevett (1963).

Geoduck	Geoduck	Be, Cb, REE, Th, U, Y, Zr	DE	D-1	54.8887	-132.0853	The Geoduck occurrences are south of the West Arm of Kendrick Bay. They are related to a dike system that extends N40-50W for about 10,000 feet, nearly diagonally through the center of section 36, T. 80 S., R. 88 E. and into the NW1/4 of section 2, T. 81 S., R. 89 E. The site is approximately at the midpoint of the most continuous and thickest dike, where resource calculations have been made.

Mount Sorensen	Mount Sorensen	Cr, Pd, Pt	EA	D-5	64.9866	-143.042	The Mount Sorensen occurrences cover an approximately 4-square-mile area centered about 3 miles west of Mount Sorensen, in section 22, T. 2 N., R. 23 E., of the Fairbanks Meridian.

Butte Creek	Butte Creek	Au, Pd, Pt	EA	C-3	64.6435	-142.1765	The Butte Creek prospect is at an elevation of about 3,700 feet on the ridge north of the North Fork of the Fortymile River, about 3.5 miles north of the mouth of Butte Creek. The deposit occurs as three separate lenses that cover approximately 0.5 square kilometer each and are less than 5 kilometers apart. The coordinates are the approximate center of the lenses in the NE1/4 section 20, T. 3 S., R. 28 E., of the Fairbanks Meridian. The

Slate Creek Asbestos; Alaska Asbestos; Eagle Asbestos	Slate Creek Asbestos; Alaska Asbestos; Eagle Asbestos	Asbestos	EA	C-3	64.5674	-142.497	The Slate Creek Asbestos prospect is located on the ridge between Bryan Creek and Happy New Year Creek. The coordinates are the center of the prospect, in section 15, T. 4 S., R. 26 E., of the Fairbanks Meridian. The location is accurate within 1,000 feet. The Slate Creek Asbestos prospect is locality 9 of Eberlein and others (1977). The Slate Creek Asbestos prospect is located within Doyon, Ltd. selected or conveyed land.

Happy	Happy	Mo, W, Zn	EA	C-3	64.5351	-142.3113	The Happy prospect is at an elevation of about 3,600 feet and centered about 2 miles southeast of VABM Happy. The prospect includes the ridges on both sides of the valley of an unnamed stream that is a tributary of North Fork of the Fortymile River. The coordinates are the approximate center of the prospect,in section 27, T. 4 S., R. 27 E., of the Fairbanks Meridian; the location is accurate within 1,000 feet. This prospect is located within

Yellow Pup	Yellow Pup	W	FB	D-1	64.981	-147.348	The Yellow Pup mine is located in the SW1/4SE1/4, sec. 21, T. 2 N., R. 2 E., Fairbanks Meridian. The Yellow Pup mine is at an elevation of 1,900 feet near the head of Yellow Pup Creek, about 0.5 mile east of the summit of Gilmore Dome. The mine is locality 34 of Cobb (1972 [MF 410]).

Gold-Quartz	Gold-Quartz	Ag, Au, Cu, Pb, Zn	GU	C-1	62.736	-144.008	The Gold-Quartz prospect (Cobb, 1979 [OF 79-1247]) is in Ahtell Creek. about one mile below the junction of Silver Creek. It is in NE1/4 section 13, T. 11 N., R. 7 E., Copper River Meridian. The location of the prospect is shown correctly as location 9 in Richter (1966). It is shown incorrectly as number 13 in Richter and Matson (1972), and is approximately located as number 12 of MacKevett and Holloway (1977). The location given here is accurate

Unnamed (divide between Christy and Copeland creeks)	Unnamed (divide between Christy and Copeland creeks)	Cr	HE	A-6	63.13	-149.75	This occurrence is at an elevation of about 5,200 feet, about midway between the middle reaches of Christy and Copeland Creeks. the map site is about 1.3 mile north of VABM 5048 (Copeland), in the NE1/4 of sec. 1, T. 21 S., R. 12 W., of the Fairbanks Meridian. The location is accurate to within 0.5 mile. This is location 22 of Cobb (1978: OFR 78-1062), and location E-29 of Balen (1990: OFR 34-90).

Unnamed (divide between Partin and Little Shotgun creeks)	Unnamed (divide between Partin and Little Shotgun creeks)	Cr	HE	A-6	63.04	-149.93	This occurrence is at an elevation of about 4,300 feet on the west side of the divide between Little Shotgun Creek and Partin Creek. The map site is in the NW1/4 of sec. 6, T. 22 S., R. 12 W., of the Fairbanks Meridian. The accuracy of the location is within 1 mile. This is location E-37 of Balen (1990: OFR 34-90).

Red Mountain	Red Mountain	Pt	HG	D-6	58.94	-161.73	This prospect is on the east side of Red Mountain on the ridge between Boulder and Squirrel Creek drainages. The map site is at the approximate center of a large soil geochemistry anomaly at an elevation of about 1,000 feet. It is accurately located.

Unnamed (near Hickey Creek)	Unnamed (near Hickey Creek)	Ag, Cr, Ni	ID	C-4	62.69285	-157.8699	This occurrence is on a south-facing bluff beside Hickey Creek about 1 mile upstream from its mouth on Moose Creek. The occurrence is at an elevation of about 450 feet, about 0.5 mile east-northeast of the center of section 15, T. 30 N., R. 46 W., of the Seward Meridian. The location is accurate.

Unnamed (northwest of upper Paint River)	Unnamed (northwest of upper Paint River)	Cu, Fe	IL	A-5	59.1435	-154.6392	This prospect is at an elevation of about 1,500 feet on the west valley wall of upper Paint River, about 0.8 mile northwest of the junction of Crevice Creek. The prospect is in the SE1/4 SE1/4 sec. 10, T. 12 S. R. 32 W., Seward Meridian. It corresponds to locality 1 of Richter and Herreid, 1965. The location is accurate within 500 feet.

Crevice Creek; McNeil; Sargent (also Holly and others; Okchiak Creek; Reward-Ridgway; Cook & Bornland)	Crevice Creek; McNeil; Sargent (also Holly and others; Okchiak Creek; Reward-Ridgway; Cook & Bornland)	Ag, Au, Cu	IL	A-5	59.1369	-154.639	The Crevice Creek prospect is at an elevation of about 1,250 feet on the northwest valley wall of Crevice Creek about 0.7 mile above the junction of Paint River. The coordinates are for the midpoint of the half-mile-long prospect area, near the center of SE1/4 sec. 15, T. 12 S., R. 32 W., Seward Meridian. The location is accurate within 500 feet. The site corresponds to number 8 of Richter and Herreid (1965), and approximately to locality 20 of

Zengar	Zengar	Au	JU	B-3	58.2654	-134.811	The Zengar prospect is at an elevation of approximately 100 feet on a south tributary to Bear Creek. It is 3 miles south-southeast of Lone Mountain and 3 miles east-northeast of Funter Bay, near the southwest corner of the SE1/4 section 32, T. 41 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Bear Creek	Bear Creek	Asbestos	JU	B-3	58.2593	-134.8102	The Bear Creek prospect is at an elevation of about 200 feet on a north-flowing tributary of Bear Creek. It is 3.5 miles south of Lone Mountain and 2 miles east of the head of Funter Bay. It is near the center of the NE1/4 section 5, T. 42 S., R. 65 E. of the Copper River Meridian. The location is accurate within 1/4 mile.

Commonwealth	Commonwealth	Au?, Cu, Mo, Zn	KC	D-1	55.75	-130.22	The presumed location of this prospect is based on Buddington's (1929, p. 111-112 [B 807]) description of the Commonwealth group of claims, which in turn refers to somewhat ambiguous landmarks that cannot be accurately located on the Ketchikan D-1 topographic map. The map site therefore is probably accurate only within about a mile. The site is in section 34, T. 70 S., R. 99 E., of the Copper River Meridian. It corresponds

Yellow Hill	Yellow Hill	Cr	KC	A-5	55.106	-131.574	This site consists of two occurrences near Yellow Hill, in sections 16 and 17, T. 78 S., R. 92 E., of the Copper River Meridian. One is at an elevation of about 300 feet, about 0.3 mile north-northeast of the top of Yellow Hill; the other is at an elevation of about 200 feet, about 0.45 mile northwest of the top of the hill. The coordinates are for the approximate midpoint between the occurrences. The site corresponds to loc. 22 in Berg (1972 [I 684]),

Blanca Dinero	Blanca Dinero	Asbestos	LC	B-3	60.35	-154.11	Occurrence is about 5.8 km west of the mouth of Portage Creek, in Sec. 15, T. 3 N., R. 28 W., of the Seward Meridian. Accurate within 1,600 meters.

Amy Creek	Amy Creek	Au	LG	C-3	65.543	-148.438	Cobb (1972, MF-413), loc. 69, on the tailings along Amy Creek. The placer-mined ground is located near the mouth of Amy Creek, approximately 3 miles north of Amy Dome.

Lucky Creek (also known as Goodluck Creek)	Lucky Creek (also known as Goodluck Creek)	Au	LG	C-3	65.552	-148.422	Cobb (1972, MF-413) loc. 70. These placer deposits are scattered in the lower mile of Lucky Creek, a tributary of Livengood Creek. The coordinates given are for the placer deposits closest to the mouth of Lucky Creek. Accuracy is within 2,000 feet. Lucky Creek is also called 'Goodluck Creek' and 'Lucky Gulch'. The creek is named 'Lucky Creek' on the U.S.G.S. Livengood C-3 quadrangle.

Calcite	Calcite	Cu	MC	C-8	61.545	-143.723	This prospect is at the head of MacDougal Creek. It is at an elevation of about 4,950 feet, 2,500 feet north-northwest of elevation 5975, and 1,700 feet southeast of the center of section 2, T. 4 S. R. 9 E. of the Copper River Meridian. This is locality 106 of MacKevett (1976) and locality 37 of MacKevett and others, 1978). The location is accurate to within about 100 feet. This prospect was included by Cobb and MacKevett (1980) under the name 'Calcite'.

Unnamed (north of Upper Hanagita Lakes)	Unnamed (north of Upper Hanagita Lakes)	Cr, Ni	MC	A-7	61.2225	-143.4059	This occurrence is in the headwaters of an unnamed north tributary to the Klu River. It is at an elevation of about 4,600 feet, 8,500 feet east-southeast of benchmark Verde (elevation 6233). The site is in the NE1/4 of section 34, T. 7 S., R. 11 E. of the Copper River Meridian. This is locality 41 of MacKevett (1976). It is probably accurate to within about 1,000 feet.

Unnamed (east of Chakina River)	Unnamed (east of Chakina River)	Cr, Ni	MC	A-6	61.0782	-142.9973	This occurrence is on a ridge crest east of the Chakina River. It is at an elevation of about 5,800 feet, about 1,000 feet southeast of peak 6015 and about 3,000 feet northwest of peak 6165. The site is in the NW1/4 of section 19, T. 9 S., R. 14 E. of the Copper River Meridian. This is locality 20 of MacKevett (1976); it is probably accurate to within about 500 feet.

Whalen Shaft	Whalen Shaft	Ag, Au, Cu	MD	A-4	63.217	-154.767	The Whalen Shaft is located in Section 24, T. 26 S., R. 21 E., of the Kateel River Meridian, about 500 feet (152 m) from the Whalen Glory Hole near the old airstrip. Reporter visited the site in 1997.

Unnamed (Francis Island)	Unnamed (Francis Island)	Ag, Au, Cu, Zn	MF	C-1	58.626	-136.177	The Francis Island mine site is on the southwest side of the island. The original site, described in several older reports (Buddington, 1926; Smith, 1933; Reed, 1938; Rossman, 1963) is now, apparently, largely covered by landslide debris. The occurrence is number 28 of MacKevett and others (1971), number 47 of Cobb (1972), and number 94 of Kimball and others (1978). It is accurate within 0.1 mile.

Unnamed (near Iceberg Point, Lemesurier Island)	Unnamed (near Iceberg Point, Lemesurier Island)	Cu, Mo	MF	B-1	58.263	-136.076	The occurrence is almost at sea level on Iceberg Point, south of Jacks Cove and west of Willoughby Cove on the south-central coastline of Lemesurier Island. The site is location number 62 of Cobb (1972). It is accurately located within 0.15 mile.

Roberts No. 2; McGinnis Glacier	Roberts No. 2; McGinnis Glacier	Cu, Pb, Zn	MH	C-5	63.5932	-146.2553	The Roberts No. 2 prospect is on a knife-like southeast -trending ridge at an elevation of about 7,200 feet. The prospect is about at the east end of the boundary between sections 19 and 30, T. 15 S., R. 8 E., Fairbanks Meridian. The location corresponds to locality N9 in table 2 of Nokleberg and others (1991); the Roberts No. 2 prospect corresponds to the McGinnis Glacier locality of Lange and others (1993). The location is accurate to

Unnamed (northeast of Dot Lake)	Unnamed (northeast of Dot Lake)	Asbestos	MH	C-1	63.7424	-144.0238	This occurrence is north of the Tanana River a few miles northeast of Dot Lake. The location is approximate and based on Saunders' (1958) imprecise description. The accuracy of the location is indeterminate; it may be several or many miles away.

Unnamed (west of lower Eureka Glacier)	Unnamed (west of lower Eureka Glacier)	Cr	MH	B-5	63.3155	-146.4291	This occurrence is at an elevation of about 6,500 feet on peak 6580, about 2 miles west of the toe of Eureka Glacier, near the north end of the boundary between sections 32 and 33, T. 18 S., R.7 E., Fairbanks Meridian. The occurrence corresponds to locality 37 in table 2 of Nokleberg and others (1991).

Unnamed (west of Eureka Glacier)	Unnamed (west of Eureka Glacier)	Cr, Cu, Ni	MH	B-5	63.3259	-146.38	This occurrence is at an elevation of about 5,300 feet, a third-mile west of lower Eureka Glacier. It is southeast of the center of section 27, T. 18 S., R. 7 E., Fairbanks Meridian. The occurrence corresponds to locality 38 in table 2 of Nokleberg and others (1991).

Unnamed (west of the terminus of Eureka Glacier)	Unnamed (west of the terminus of Eureka Glacier)	Cu, Ni	MH	B-5	63.2876	-146.3695	This occurrence is at an elevation of about 3,600 feet at the west edge of the terminus of Eureka Glacier (as shown on the 1951 [rev. 1978] edition of the Mount Hayes B-5 topographic map). The occurrence is in the NE1/4NE1/4 section 10, T. 19 S., R. 7 E., Fairbanks Meridian.

Tres Equis	Tres Equis	Cu, Ni, Pd	MH	B-5	63.2796	-146.3087	The Tres Equis prospect is located one-quarter mile northwest of peak 3710, east of the headwaters of Eureka Creek below Eureka Glacier. The prospect is at the center of the SE1/4 section 12, T. 19 S., R.7 E., Fairbanks Meridian.

Landslide Creek (east of lower Eureka Glacier)	Landslide Creek (east of lower Eureka Glacier)	Cu, Ni, Pd, Pt	MH	B-5	63.3227	-146.2847	This prospect is at an elevation of about 5,100 feet, about 1.5 miles east of the toe of the Eureka Glacier. It is in the headwaters of informally named Landslide Creek, a south-flowing tributary of Eureka Creek (see figure 3 of Rose (1966 [ADMM GR 20]). The prospect is about one-quarter mile south of the center of section 30, T. 18 S., R. 8 E., Fairbanks Meridian.

Unnamed (east of lower Eureka Glacier)	Unnamed (east of lower Eureka Glacier)	Cr	MH	B-5	63.3187	-146.2576	This occurrence is at an elevation of 4,700 feet about 2.25 miles east of lower Eureka Glacier. It is in the eastern headwaters of locally named Landslide Creek, a south-flowing tributary of Eureka Creek, and about one-half mile south-southwest of the center of section 29, T. 18 S., R. 8 E., Fairbanks Meridian. The occurrence corresponds to locality 41 in table 2 of Nokleberg and others (1991) and to locality 6 in figure 3 of Rose (1966 [ADMM GR 20]).

Notar	Notar	Cu, Ni	MH	B-5	63.3187	-146.2031	The Notar prospect is at an elevation of about 4,850 feet in the headwaters of an east-flowing tributary to the stream(s) in Broxson Gulch. It is in the NW1/4NW1/4 section 34, T. 18 S., R. 8 E., Fairbanks Meridian. The location is accurate within 1,000 feet.

Crash	Crash	Ni, Pd, Pt	MH	B-5	63.3166	-146.221	The Crash prospect is at an elevation of about 5,200 feet, in the headwaters of an east-flowing tributary to the west fork of Broxson Gulch. The prospect is about 1,800 feet east of peak 5540, in the NW1/4NE1/4 section 33, T. 18 S., R. 8 E., Fairbanks Meridian.

Unnamed (west side of Broxson Gulch)	Unnamed (west side of Broxson Gulch)	Asbestos	MH	B-5	63.3155	-146.1672	This occurrence is at an elevation of 3,500 feet at the mouth of an east-flowing tributary to the stream(s) in Broxson Gulch, approximately in the center of the NW1/4 section 35, T. 18 S., R. 8 E., Fairbanks Meridian. The occurrence corresponds to locality 17 of MacKevett and Holloway (1977), locality 33 in figure 4 of Cobb (1979 [OFR 79-238]), and locality 3 on figure 3 of Rose (1966 [ADMM GR 20]).

Unnamed (ridge between middle and east forks in Broxson Gulch)	Unnamed (ridge between middle and east forks in Broxson Gulch)	Cr	MH	B-5	63.3429	-146.0845	The occurrence is at an elevation of about 4,900 feet on the ridge between the locally named middle fork and the east fork of the stream(s) in Broxson Gulch (see figure 2 of Rose, 1965). The occurrence is in the SE1/4NE1/4 section 19, T. 18 S., R. 9 E., Fairbanks Meridian; it corresponds to locality 46 in table 2 of Nokleberg and others (1991).

BGM Breccia	BGM Breccia	Cu, Ni, Pd, Pt	MH	B-5	63.3222	-146.0654	The BGM Breccia occurrence is at an elevation of 4,500 feet in the headwaters of an unnamed east tributary to the east fork of the stream in Broxson Gulch, about 800 feet north-northeast of peak 4825 in the SE1/4SW1/4 section 29, T. 18 S., R. 9 E., Fairbanks Meridian.

Green Wonder	Green Wonder	Cu, Zn	MH	B-5	63.306	-146.0782	The Green Wonder prospect is at an elevation of 4,600 feet, a mile east of the east fork of the stream(s) in Broxson Gulch, and about 1,800 feet southwest of peak 5304 on the boundary between sections 31 and 32, T. 18 S., R. 9 E., Fairbanks Meridian. The prospect corresponds to locality 55 in table 2 of Nokleberg and others (1991), locality 38 on figure 4 of Cobb (1979 [OFR 79-238]), and locality 13 on figure 2 of Rose (1965).

Unnamed (east of lower Broxson Gulch)	Unnamed (east of lower Broxson Gulch)	Cu	MH	B-5	63.301	-146.0829	This occurrence is at an elevation of about 4,050 feet on the east side of the east fork of the stream(s) in Broxson Gulch, in the NE1/4NE1/4 section 6, T. 19 S., R. 9 E., Fairbanks Meridian. The occurrence corresponds to locality 12 on figure 3 of Rose (1965) and locality 39 in figure 4 of Cobb (1979 [OFR 79-238]).

Unnamed (east of lower Broxson Gulch)	Unnamed (east of lower Broxson Gulch)	Cu	MH	B-5	63.2995	-146.0732	This prospect is at an elevation of 4,300 feet on the east side of the east fork of stream(s) in Broxson Gulch, in the SW1/4NW1/4 section 5, T. 19 S., R. 9 E., Fairbanks Meridian. The prospect corresponds to locality 11 in figure 2 of Rose (1965).

Unnamed (ridge between the middle and east forks in Broxson Gulch)	Unnamed (ridge between the middle and east forks in Broxson Gulch)	Ag, Au, Co, Cu, Ni	MH	B-5	63.3485	-146.0481	This location represents several prospects at about 4,800 feet in elevation on the east side of the ridge between the locally named middle and east forks of the stream(s) in Broxson Gulch (Rose, 1965, figure 2). It is at the southeast corner of section 17, T. 18 S., R. 9 E., Fairbanks Meridian. The site corresponds to locality 18 on figure 2 of Rose (1965), locality 19 of MacKevett and Holloway (1977), and locality 50 in table 2 of Nokleberg and

East Canyon	East Canyon	Ni, Pd, Pt	MH	B-4	63.3386	-145.9963	This occurrence is approximately 1 mile north-northwest of peak 6346 at an elevation of about 4,800 feet. It is east of the east fork of Broxson Gulch below an unnamed hanging glacier, near the center of section 22, T. 18 S., R. 9 E., Fairbanks Meridian.

Unnamed (east of peak 6346)	Unnamed (east of peak 6346)	Au, Cu, Ni, Pd, Pt	MH	B-4	63.3251	-145.9793	This occurrence is on the southeast side of a ridge about 0.4 mile southeast of the top of peak 6346 at an elevation of about 5,900 feet. It is on the west side of the North Fork Rainy Creek about 0.4 mile west of the center of section 26, T. 18 S., R. 9 E., Fairbanks Meridian.

East Peak (Rainy)	East Peak (Rainy)	Cu, Ni, Pd, Pt	MH	B-4	63.3284	-145.9898	The East Peak (Rainy) occurrence is a few hundred feet east of peak 6346 at an elevation of 6,000 feet. It is on the west side of North Fork Rainy Creek in SW1/4NE1/4 section 27, T. 18 S., R. 9 E., Fairbanks Meridian.

Unnamed (east side of upper Specimen Creek)	Unnamed (east side of upper Specimen Creek)	Ag, Au, Cu	MH	B-5	63.3199	-146.0284	This prospect is at an elevation of about 5,050 feet on the south flank of a ridge at the head of an unnamed east fork of Specimen Creek. The prospect is about 2,000 feet south of the center of section 28, T. 18 S., R. 9 E., Fairbanks Meridian. The location corresponds to locality 15 on figure 2 of Rose (1965), locality 21 of MacKevett and Holloway (1977), locality 41 of Cobb (1979 [OFR 79-238]), and locality 57 in table 2 of Nokleberg and

North Rainy	North Rainy	Cu, Ni, Pd, Pt	MH	B-4	63.3424	-145.9313	The North Rainy prospect is located at an elevation of 4,200 feet on the east valley wall of upper North Fork Rainy Creek. It is in the SW1/4NE1/4 section 24, T. 18 S., R. 9 E., Fairbanks Meridian.

Ann Creek (Bee Mining)	Ann Creek (Bee Mining)	Ag, Au, Cu, Ni	MH	B-4	63.3398	-145.777	This prospect is located at an elevation of 3,200 feet in a north tributary to lower Ann Creek. It is just south of the center of section 23, T. 18 S., R. 10 E., Fairbanks Meridian. The site corresponds to locality 3 of Rose (1965) and locality 11 of Cobb (1979 [OFR 79-238]); it combines localities S84 and S85 in table 2 of Nokleberg and others (1991). It is the same as Foley's (1992) Ann Creek showing.

Unnamed (east side of North Fork Rainy Creek)	Unnamed (east side of North Fork Rainy Creek)	Cu, Ni, Pd, Pt	MH	B-4	63.3181	-145.9221	This record represents an area of several occurrences east of North Fork Rainy Creek at an elevation of 4,250 feet in the NE1/4NE1/4 section 36, T. 18 S., R. 9 E., Fairbanks Meridian. This location is approximated from Foley and others (1989) and corresponds to locality S79 in table 2 of Nokleberg and others, 1991).

Unnamed (south of upper Eureka Creek)	Unnamed (south of upper Eureka Creek)	Cr	MH	B-5	63.2539	-146.2215	This occurrence is approximately located at an elevation of 4,000 feet, on the north-facing slope of a hill one mile south of upper Eureka Creek, and at the center of section 21, T. 19 S., R. 8 E., Fairbanks Meridian. The occurrence corresponds to locality 45 in table 2 of Nokleberg and others (1991).

BM-75	BM-76	Cu, Ni, Pd, Pt	MH	A-5	63.2477	-146.208	The BM-75 occurrence is at an elevation of about 4,300 feet in the headwaters of a north-flowing tributary of upper Eureka Creek and is in the SE1/4SE1/4 section 21, T. 19 S., R. 8 E., Fairbanks Meridian.

Unnamed (west of Fish Lake)	Unnamed (west of Fish Lake)	Cr	MH	A-5	63.2354	-146.0664	This occurrence, west of Fish Lake at an elevation of 4,100 feet, is about a half-mile west-northwest of VABM Wild. It is in the SE1/4SW1/4 section 29, T. 19 S., R. 9 E., Fairbanks Meridian. The occurrence corresponds to locality 70 in table 2 of Nokleberg and others (1991).

Wild One	Wild One	Cu, Ni	MH	A-5	63.2275	-146.0606	The Wild One occurrence, west of Fish Lake at an elevation of about 4,000 feet, is 0.4 mile southwest of VABM Wild. It is about 800 feet north of the center of section 32, T. 19 S., R. 9 E., Fairbanks Meridian.

Unnamed (Fish Lake)	Unnamed (Fish Lake)	Cr	MH	A-4	63.2172	-145.9316	This occurrence is located on the hill southeast of Fish Lake at an elevation of 3,900 feet. It is in the NW1/4NE1/4 section 1, T. 20 S., R. 9 E., Fairbanks Meridian. The site corresponds to locality S72 in table 2 of Nokleberg and others (1991) and represents localities S73 and S74, which were similar occurrences within a mile of this one.

Antler	Antler	Cu, Ni	MH	A-4	63.2102	-145.9144	This occurrence is at an elevation of 3,800 feet on the south flank of peak 3924 about 2.5 miles southeast of Fish Lake. It is in the NW1/4SW1/4 section 6, T. 20 S., R. 10 E., Fairbanks Meridian.

White Socks	White Socks	Cu, Ni	MH	A-5	63.0885	-146.1031	This occurrence is located one mile south-southwest of Landmark Gap Lake at an elevation of 3,200 feet and is in the SW1/4SW1/4 section 18, T. 21 S., R. 9 E., Fairbanks Meridian.

Unnamed (northwest of Fourteenmile Lake)	Unnamed (northwest of Fourteenmile Lake)	Cu, Ni, Pd, Pt	MH	A-4	63.0943	-145.83	This occurrence is at an elevation of 4,650 feet, about 1.5 miles northwest of Fourteenmile Lake. It is in the NW1/4SE1/4 section 16, T. 21 S., R. 10 E., Fairbanks Meridian.

Norel	Norel	Cu	MH	A-4	63.1152	-145.7532	The Norel occurrence is at an elevation of 3,300 feet on the east valley wall of the principal south tributary to Fielding Lake. It is in the NW1/4NW1/4 section 12, T. 21 S., R. 10 E., Fairbanks Meridian. This site corresponds to locality S86 in table 2 of Nokleberg and others (1991).

Gravel Pit	Gravel Pit	Cu, Ni, Pd, Pt	MH	A-4	63.056	-145.7501	This occurrence is in a gravel pit at an elevation of 3,650 feet on the north side of the Denali Highway, 1.9 miles southeast of Fourteenmile Lake. It is in the NW1/4NW1/4 section 36, T. 21 S., R. 10 E., Fairbanks Meridian.

Dunite Hill	Dunite Hill	Cu, Ni, Pd, Pt	MH	A-4	63.0685	-145.7458	This occurrence is at an elevation of 4,000 feet on the east side of peak 4220 about 1.6 miles east-southeast of Fourteenmile Lake. It is in the SE1/4NW1/4 section 25, T. 21 S., R. 10 E., Fairbanks Meridian. Peak 4220 is informally called Dunite Hill.

Unnamed (west of Mud Lake)	Unnamed (west of Mud Lake)	Cu	MH	A-4	63.035	-145.5433	This occurrence is at an elevation of 3,100 feet one-half mile west of Mud Lake. It is in the SE1/4SE1/4 section 1, T. 22 S., R. 11 E., Fairbanks Meridian. The occurrence corresponds to locality 1 in Rose and Saunders (1965) and locality S95 of table 2 in Nokleberg and others (1991).

Emerick; Rainbow Ridge; Miller Creek	Emerick; Rainbow Ridge; Miller Creek	Cu, Ni, Pd, Pt	MH	B-4	63.3569	-145.6994	This prospect is at an elevation of 2,900 feet at the north end of Rainbow Ridge. It is about a mile southeast of Millers Roadhouse on the Richardson Highway and in the SE1/4NE1/4 section 18, T. 18 S., R. 11 E., Fairbanks Meridian. Access to the property is by a dirt road (not shown on the 1984 topographic map) from the east side of the highway (at mile 213.5) approximately a mile south of the roadhouse. The prospect is described by Rose (1965,

Glacier Lake; Forbes	Glacier Lake; Forbes	Cu, Ni, Pd, Pt	MH	B-4	63.352	-145.66	This prospect is at an elevation of 3,600 feet on the southwest valley wall of lower Canwell Glacier. Access to the property is by a mile-long trail from the end of a dirt road (not shown on the 1984 topographic map) on the east side of the Richardson Highway about a mile south of Millers Roadhouse. The prospect is in the NW1/4SE1/4 section 16, T. 18 S., R. 11 E., Fairbanks Meridian. The prospect is locality 2 in Rose (1965), locality 14 in

Upper Glacier	Upper Glacier	Au, Co, Cu, Ni, Pd, Pt	MH	B-4	63.3391	-145.618	The prospect is at an elevation of 4,150 feet on the southwest valley wall of lower Canwell Glacier. It is in the NW1/4SW1/4 section 22, T. 18 S., R. 11 E., Fairbanks Meridian. Access to the property is by a 3-mile-long trail from the end of a dirt road (not shown on the 1984 topographic map) on the east side of the Richardson Highway at mile 213.5, approximately 1 mile south of Millers Roadhouse.

Lower Canwell	Lower Canwell	Au, Co, Cu, Ni, Pd, Pt	MH	B-4	63.3284	-145.5882	The prospect is at an elevation of 4,600 feet on the southwest valley wall of lower Canwell Glacier, just south of MH227. It is in the SE1/4NW1/4 section 26, T. 18 S., R. 11 E., Fairbanks Meridian. Access to the property is by a 3-mile-long trail from the end of a dirt road (not shown on the 1984 topographic map) on the east side of the Richardson Highway at mile 213.5, approximately 1 mile south of Millers Roadhouse. The site described

Unnamed (northwest of the terminus of Chistochina Glacier)	Unnamed (northwest of the terminus of Chistochina Glacier)	Chrysotile	MH	A-2	63.1999	-144.8764	This occurrence is on a ridge on the northwest side of the terminus of the Chistochina Glacier at an elevation of about 5,700 feet. It is near the center of the W1/2NE1/4 section 9, T. 20 S., R. 15 E., Fairbanks Meridian. This corresponds to locality 19 on figure 1 of Rose (1967) and locality 10 on figure 6 of Cobb (1979 [OFR 79-238]). It is accurate to about 0.1 mile.

Unnamed (east of Chistochina River)	Unnamed (east of Chistochina River)	Ag, Cu	MH	A-2	63.1239	-144.9047	This occurrence is about 1.5 miles east-southeast of the junction of the Chistochina River and the West Fork Chistochina Rivers. The occurrence is about one-third mile east of the center of section 5, T. 21 S., R. 15 E., Fairbanks Meridian. It corresponds to locality 138 in table 2 of Nokleberg and others (1991), and the location is probably accurate to 0.2 mile.

Trio West	Trio West	Zn	MH	B-1	63.2604	-144.0536	The Trio West occurrence is located about 3.8 miles southeast of the confluence of the Robertson River and Rumble Creek. It is at an elevation of about 5,300 feet elevation about one-half mile north-northeast of the center of section 15, T. 17N., R. 7 E., Copper River Meridian. The location is accurate.

Rum South	Rum South	Ag, Pb, Zn	MH	A-1	63.2362	-144.117	The Rum South prospect is at an elevation of about 5,900 feet about 2 miles east of Rumble Creek and one-half mile west-southwest of peak 7405 and in the SW1/4 section 20, T. 17 N., R. 7 E., Copper River Meridian. The location is accurate.

Unnamed (ridge between Moose Creek and Eureka Creek)	Unnamed (ridge between Moose Creek and Eureka Creek)	Zn	MM	C-2	63.5331	-150.8746	This occurrence is between elevations 3500 and 3600 feet on the crest and south flank of the ridge that separates Eureka and Moose Creeks. It is about 1/4 mile east of the head of No Name Creek, in the NE1/4 NE1/4 of section 17, T. 16 S., R. 17 W., Fairbanks Meridian. The location is accurate within 500 feet. The site corresponds to an unnumbered mineral occurrence east of number 42 of Bundtzen, Smith, and Tosdal (1976),

Iron Dome	Iron Dome	Cu	MM	C-2	63.5226	-150.988	This occurrence is at an elevation of about 2500 feet on Iron Dome, in the SE1/4 SW1/4 section 14, T. 16 S., R. 18 W., Fairbanks Meridian. The location is accurate. The occurrence is number 70 of Hawley and Associates (1978), 16 of Bundtzen (1981), and 19 of Thornsberry, McKee, and Salisbury (1984). The site also represents a nearby mineral occurrence described by Bundtzen, Tosdal, and Smith (1976,

Misheguk Mountain--west	Misheguk Mountain--west	Cr, Platinum-group elements (PGE)	MU	A-4	68.25	-161.06	Location plotted is midway between localities 229 and 231 of Degenhart and others (1978, fig. 8); about 1 mi (1.6 km) northeast of Misheguk Mountain summit; located to within 1 mi (1.6 km).

Misheguk Mountain--east	Misheguk Mountain--east	Asbestos, Cr, Cu?	MU	A-4	68.25	-161	Location plotted encompasses MAS/MILS Sequence #'s 0020190002-4 (USBM, 1995); and localities 228, 233, 236, and 238 of Degenhart and others (1978, fig. 8); 1-2 mi (1.6-3.2 km) east of and on opposite (south) side of canyon from MU002; located to within 1 mi. (1.6 km).

Corky; Roseie; Ram's Horn; Verde	Corky; Roseie; Ram's Horn; Verde	Asbestos	NB	D-6	62.9536	-143.6877	This prospect is on the ridge west of lower Stratton Creek. It is at an elevation of about 4,000 feet, 3,500 feet west of Stratton Creek in the NW1/4 of section 34, T. 14 N., R. 9 E. of the Copper River Meridian. It is approximately located, perhaps to within several thousand feet.

Patten	Patten	Jade	NB	D-6	62.9312	-143.6386	This prospect is 1,000 feet north of the Mentasta Lake road and 2,100 feet northwest of the intersection of this road with the Glen Highway. It is at an elevation of about 2,700 feet in the SE1/4 of section 2, T. 13 N., R. 9 E. of the Copper River Meridian. It is locality 7 of Richter (1967) and locality 2 of Richter and others (1975). It is located to within a few hundred feet.

Rambler; Golden Eagle Group; Cliff vein	Rambler; Golden Eagle Group; Cliff vein	Au	NB	B-5	62.3824	-143.006	This prospect is low on the east flank of White Mountain. It is at an elevation of about 3,600 feet, 4,500 feet north-northeast of Nabesna. The site is in the SE1/4 of section 16, T. 7 N., R. 13 E. of the Copper River Meridian. This is locality M2 of Lowe and others (1982), locality 12 of Richter and others (1975), and National Park Service locality WRST-13 (unpublished data). Cobb and Richter (1980) included this prospect under the name 'Nabesna (Mining Corp.)'.

Devils Mountain	Devils Mountain	Cu	NB	B-4	62.4171	-142.9398	This occurrence is on the creek draining the northwest side of Devils Mountain. It is at an elevation of about 3,100 feet, about 6,000 feet southwest of the summit of Devil Mountain. This is locality 11 of Richter and others (1975) and National Park Service locality WRST-5 (unpublished data). It was included as an 'Unnamed occurrence' by Cobb and Richter (1980). It is located to within several hundred feet.

Carden Hills	Carden Hills	Cr	NB	B-1	62.2967	-141.1985	This prospect is on the south flank of the Carden Hills. The prospect is about 0.3 mile west of the center of section 17, T. 6 N., R. 23 E. of the Copper River Meridian. It is National Park Service locality WRST-77 (unpublished data) and coordinates for this prospect were provided by the National Park Service.

Horsfeld	Horsfeld	Cu	NB	A-1	62.0443	-141.216	This prospect is in the headwaters of a small, unnamed north tributary to Horsfeld Creek; it is about 6,000 feet southwest of elevation 7253 (Joe) and 3,300 feet south-southwest of peak 6895. The site is near the center of the north boundary of the NW1/4 of section 16, T. 3 N., R. 23 E. of the Copper river Meridian. This is locality 7 of Richter and others (1973), locality 52 of Richter and others (1975), and National Park Service locality WRST-85 (unpublished data). Cobb

Baultoff	Baultoff	Cu	NB	A-1	62.1054	-141.2159	This prospect is at an elevation of about 5,100 feet on a low ridge along the east side of a small south tributary valley to Baultoff Creek. It is 4,500 feet northwest of peak 6142 and 6,500 feet northeast of peak 7821. The site is in the SW1/4 of section 21, T. 4 N., R. 23 E. of the Copper River Meridian. This is locality 4 of Richter and others (1973), locality 53 of Richter and others (1975), and National Park Service locality WRST-87 (unpublished

Round Top; Tim's Greisen	Round Top; Tim's Greisen	Cu, Mo	NL	A-4	64.177	-157.567	The Round Top prospect is on the south-central flank of the Kaiyuh Hills, in sec. 21, T. 15 S., R. 7 W., approximately 3300 feet southwest of the peak of VABM Round Top. The lobate prospect area, defined by drill holes and sediment sampling, is about 0.6 mile wide and extends northwest for approximately 1.24 mile. The coordinates are for the approximate center of the western lobe of mineralization. The location is accurate within

Unnamed (in the Maiyumerak Mountains)	Unnamed (in the Maiyumerak Mountains)	Cu	NT	D-1	67.7832	-162.0334	These occurrences are in an area of about 36 square miles approximately centered in the northern half of the Maiyumerak Mountains. The center is near the northwest corner of section 34, T. 28 N., R. R 15 W., of the Kateel River Meridian.

Boob Creek	Boob Creek	Au	OP	B-3	63.3312	-157.0029	Boob Creek is is a north-flowing tributary to Mastodon Creek. For this record, the site is plotted about 2.6 miles southeast of the site of Tolstoi, at the south boundary of sec. 8, T. 25 S., R. 10 E. The coordinates mark the approximate midpoint of placer mining along Boob Creek, near a cabin marked on the U.S. Geological Survey Ophir B-3 topographic map. Boob Creek is locality 2 of Cobb (1972 [MF 367]). The location is accurate.

Eldorado Basin; Moose Jaw Mountain	Eldorado Basin; Moose Jaw Mountain	Au	OP	C-1	63.5366	-156.006	The Eldorado Basin prospect is located in the headwaters of Eldorado Creek, which flows into Colorado Creek. The coordinates are for the midpoint of a 2200-meter-long, northeast-trending mineralized zone that crosses Eldorado Creek at an elevation of approximately 2000 feet. The location is accurate within 200 feet. This zone extends northeast into the Medfra quadrangle, where the Nerod East (MD020) and Bear Paw prospects are located. The

Red Bluff Bay	Red Bluff Bay	Cr	PA	D-3	56.8562	-134.7108	The Red Bluff Bay mafic-ultramafic complex forms an elliptical outcrop about 4 miles long that is exposed at the mouth and north of the mouth of Red Bluff Bay. The coordinates are at about the center of the body which is near the center of section 9, T. 58 S., R. 68 E.

Tuluksak River	Tuluksak River	Au	RM	A-3	61.0039	-159.9304	The Tuluksak River has been almost continuously mined by dredge and mechanized equipment for more than 8 miles downstream from the mouth of California Creek to about a mile upstream from the mouth of Granite Creek. Somewhat arbitrarily, the coordinates for the mine are placed near the center of the mining on the river near Nyac, which was the location of the headquarters town of the New York-Alaska Company that

California Creek	California Creek	Au	SH	D-2	66.9571	-156.6251	The California Creek placer deposit is on California Creek between Little Creek and Wonder Creek. The coordinates are for the mine symbol on Shungnak D-2 quadrangle. The deposit is in sections 14, 15, and 22, T. 18 N., R. 10 E., of the Kateel River Meridian. Cobb (1972, MF-448), location 16, and Mayfield and Grybeck (1978), location 34.

Unnamed (mouth of Stockley Creek)	Unnamed (mouth of Stockley Creek)	Ni	SH	D-2	66.99	-156.85	This occurrence is near the mouth of Stockley Creek, a tributary to upper Dahl Creek. The map site is in section 3, T. 18 N., R. 9 E., of the Kateel River Meridian. Cobb (1972, MF-448), location 2.

Unnamed (upper Wesley Creek area)	Unnamed (upper Wesley Creek area)	Au, Pb	SH	D-3	66.993	-157.016	The map site of this occurrence is at an elevation of about 2,200 feet on a ridge about midway between Wesley and Camp Creeks. The map site is in the N1/2 section 1, T. 18 N., R. 8 E., of the Kateel River Meridian. Cobb (1972, MF-448), location 1.

Unnamed (west of upper Indian River)	Unnamed (west of upper Indian River)	Cr, Fe, Ni	SI	A-4	57.0999	-135.3005	This occurrence is at an elevation of about 2,400 feet on the ridge west of upper Indian River, about 0.8 mile northeast of hill 2505. The occurrence is 0.1 mile southwest of the center of sec. 18, T. 55 S., R.64 E. It is location P-111 of Bittenbender and others (1999); location 53 of Cobb (1972, 1978); and MAS no. 0021140001 (U.S. Bureau of Land Management, 2002). The location is accurate within 0.5 mile.

Unnamed (east of Arrowhead Peak)	Unnamed (east of Arrowhead Peak)	Cr, Fe	SI	A-4	57.0691	-135.2069	This occurrence is near elevation 2245 at the east end of the east spur of Arrowhead Peak. The occurrence is in the NE1/4SE1/4 sec. 27, T. 55 S., R. 64 E. It location 56 of Cobb (1972, 1978). The location probably is accurate within about 0.2 mile.

Nataga Skyline	Nataga Skyline	Ag, Cu, Mo, Zn	SK	C-4	59.61	-136.29	This prospect is approximately 0.2 miles from the Alaska-British Columbia border and about 2.5 miles, N68E of the sharp bend in the border that occurs at Mount Seltat. It is shown as number 1 on sheet 1 of Still and others (1991).

Unnamed (near Slate Creek)	Unnamed (near Slate Creek)	Au	SO	D-6	64.896	-164.844	Slate Creek is a south tributary to the Pilgrim River. The mouth of Slate Creek is about 3.5 miles downstream from the head of the Pilgrim River on Salmon Lake. This location is on the west side of Slate Creek about 1.5 mile upstream from its mouth. It is locality 1 of Cobb (1972, MF 445; 1978, OF 78-181).

Lucky Six Creek	Lucky Six Creek	Ag, Au	SP	C-4	67.58	-154.88	This site is based on early descriptions (Schrader, 1904) of several mineral occurrences and minor placer gold production on Lucky Six Creek. The prospects were apparently not visited by Schrader, whose descriptions were based on reports of prospectors. Their exact location cannot now be determined. The site is arbitrarily located at about the midpoint of Lucky Six Creek, about 3.5 miles

Jerry Creek (BT claim group)	Jerry Creek (BT claim group)	Ag, Cu, Pb, Zn	SP	A-6	67.125	-155.957	The Jerry Creek (BT) prospect is at an elevation of about 3100 feet on a ridge northwest of Avaraart Lake. It is in the N1/2 of sec. 23, T. 20 N., R. 13 E., of the Kateel River Meridian. The location is accurate to within 1000 ft. The site corresponds to locality 58 of Grybeck and Nelson (1981).

Sun; Picnic Creek; Hot	Sun; Picnic Creek; Hot	Ag, Au, Cu, Pb, Zn	SP	A-5	67.0704	-155.0431	This site represents several prospects in an approximately 12-square-mile area northeast of Beaver Creek. The coordinates are for the center of the area in the SE1/4 of sec. 1, T. 19 N., R. 17 E., of the Kateel River Meridian. The location is accurate to within 2000 ft. The site corresponds to localities 68 and 69 of Grybeck and Nelson (1981).

Jonesy; Bald Eagle	Jonesy; Bald Eagle	Cu	SR	B-3	60.345	-147.7517	The mine is located 0.7 mile southeast of the head of Port Audrey on the west side of a ridge north of the east end of Drier Bay and is at an elevation of 1,000 feet. It is in the S1/2 section 17, T. 3 N., R. 10 E., of the Seward Meridian. This is location 103 of Cobb and Richter (1972), location 133 of MacKevett and Holloway (1977), location 222 of Cobb and Tysdal (1980), and location S-59 of Jansons and others (1984). This location is accurate to within 300 feet.

Lucky Girl; Murphy	Lucky Girl; Murphy	Cu	SR	A-3	60.0117	-148.0152	The prospect is located near tidewater on the southeast shore of Elrington Island. It is in the SE1/4 section 11, T. 2 S., R. 8 E., of the Seward Meridian. This is location 262 of Tysdal (1978 [MF-880-A]) and location S-21 of Jansons and others (1984). This location is accurate to within a quarter of a mile.

Bartels Mine; Cape Mountain; Canoe; Percy Lode	Bartels Mine; Cape Mountain; Canoe; Percy Lode	Sn	TE	C-6	65.587	-167.959	This is an area of lode cassiterite mineralization at an elevation of about 1,000 feet, that straddles the ridge separating the headwaters of Cape Creek (TE006) and Goodwin Gulch (TE004); it is the source area for most of the cassiterite in the Cape Creek (TE006) and Goodwin Gulch (TE004) placers (Mulligan, 1966, p. 22). Several different cassiterite-bearing zones in bedrock are present within an area of about 2,000 feet long in a north-south direction

Dalcoath Dike	Dalcoath Dike	Sn	TE	B-5	65.489	-167.147	The Dalcoath dike prospect is about 1 mile north of the Lost River Mine (TE048-TE051). It is on the south side of the ridge separating Crystal Creek and the headwaters of Cassiterite Creek, both east tributaries to Lost River in the York Mountains. The surface trace of the dike, which trends N 50 E and dips about 65 degrees north, has been mapped by Sainsbury (1969, plate 1) at elevations of 600 to over 1,000 feet. This location was not identified

Tin Creek (in Ear Mountain area)	Tin Creek (in Ear Mountain area)	Sn	TE	D-3	65.971	-166.196	Tin Creek, within the Bering Land Bridge National Preserve, drains the lower elevations of the north flank of Ear Mountain. Ear Mountain is an isolated upland reaching a maximum elevation of 2,329 feet in the north-central Teller D-3 quadrangle. This locality is at 525 feet elevation in the headwaters of Tin Creek, 0.9 miles northwest of the Ear Mountain landing strip. This is locality 53 of Cobb and Sainsbury (1972) and Cobb (1975)

Bryan Creek; Dick Creek	Bryan Creek; Dick Creek	Au	TE	D-1	65.826	-165.003	Bryan Creek is a northeast flowing drainage with some headwater tributaries on the northeast flank of the Kougarok Mountain upland. This location is at the confluence of Bryan Creek and its southeast tributary, Dick Creek. This confluence is at an elevation of about 275 feet on the eastern border of the Teller D-1 quadrangle. This is locality 65 of Cobb and Sainsbury (1972) and relevant references were summarized by

Ward	Ward	Cu	TE	C-1	65.747	-165.226	The Ward mine, which consists of 8 patented claims, is at an elevation of 1,160 feet on the northwest-trending ridgecrest, between the drainages of Bismark Creek and the headwater reach of the Serpentine River (Sainsbury and others,1969). This is in the north-central Teller C-1 quadrangle just south of the boundary with the Teller D-1 quadrangle. Cobb and Sainsbury (1972) show the Ward mine as locality 15 and

Kougarok	Kougarok	Nb, Sn, Ta	TE	C-1	65.7103	-165.2289	The Kougarok prospect is a 1.5 square mile area centered 2 miles north of the summit of Kougarok Mountain (2,870 feet elevation), the highest area in the Teller quadrangle outside the York Mountains. The prospect area is on the west flank of the north-south trending ridge crest from near the Kougarok Mountain summit downslope to elevations of about 1,000 feet in the southeast headwaters of Star Creek. Star Creek is a north-flowing headwater

Unnamed (southeast of Mount Watana)	Unnamed (southeast of Mount Watana)	Ag, Au, Cu	TK	C-3	62.7148	-148.097	This occurrence is 0.6 mile southeast of the summit of Mount Watana at an elevation of about 5,300 feet. The location is accurate to within 1/2 mile.

Unnamed (Asbestos Creek; Dreamland Creek)	Unnamed (Asbestos Creek; Dreamland Creek)	Asbestos	TN	D-2	65.77456	-150.66065	The location of this asbestos prospect is uncertain, and could be anywhere within a 10-square-mile area in the upper parts of Asbestos and Dreamland creeks. For this record, the site is arbitrarily placed at an elevation of about 2,900 feet, about 0.4 mile south-southwest of the center of section 15, T. 11 N., R. 15 W., of the Fairbanks Meridian. This location is about at the center of a 3-mile-long area of sample sites near Asbestos Creek. According to

Unnamed (Little Salt Creek)	Unnamed (Little Salt Creek)	Asbestos	TN	D-1	65.77567	-150.4532	This record represents a reported occurrence of asbestos on the divide between the Little Salt Creek and Dreamland Creek drainages (Saunders, 1957 [MR 48-5]). For this record, the site is at an elevation of about 2,550 feet, in the southwest quarter of section 15, T. 11 N., R. 14 W., of the Fairbanks Meridian. The location is accurate within about two miles.

Moose Creek (includes lower Boulder Creek; Value Creek)	Moose Creek (includes lower Boulder Creek; Value Creek)	Au	TN	A-3	65.13768	-151.25027	Mining claims were staked in the 1960's, followed by placer mining, along Moose Creek, lower Boulder Creek, and Value Creek (Alaska Kardex files). The discovery claim notice for Moose Creek states that one of the corner claim posts is 150 feet from L.E. Anderson's old cabin. This cabin is presumed to be the one at the junction of Moose and Boulder creeks. Mining claim location notices show 18 claims in this claim block. The site is in the

American Creek (includes California Gulch and Colorado Gulch)	American Creek (includes California Gulch and Colorado Gulch)	Au	TN	A-3	65.10077	-151.17323	For this record, the site representing the American Creek placer mine is on the creek at the intersection of a tractor trail, and adjacent to an airstrip, in the southeast quarter of section 10, T. 3 N., R. 18 W., of the Fairbanks Meridian. Placer mining along at least 3 miles of American Creek is marked by tailings in sections 10, 11, 16, and 21. This site also includes areas of placer gold mining on California Gulch and Colorado Gulch. The site corresponds

Trail Creek; Salt Creek; Dry Creek	Trail Creek; Salt Creek; Dry Creek	Au	TN	A-3	65.14817	-151.1584	This record represents placer gold prospects in the Boulder Creek drainage, chiefly its tributaries Trail Creek, Salt Creek, and Dry Creek, an unnamed branch of Trail Creek (Chapin, 1919). The site is at the junction of Salt Creek and Trail Creek, in the northwest quarter of section 26, T. 4 N., R. 18 W., of the Fairbanks Meridian. The location is accurate, but it was not plotted by Cobb (1972). The site roughly corresponds with the U.S. Bureau of Land Management

New York Gulch; New York Creek	New York Gulch; New York Creek	Au	TN	A-3	65.10309	-151.15792	The site of the New York Gulch placer mine is on the gulch at an elevation of about 550 feet, in the northwest quarter of section 11, T. 3 N., R. 18 W., of the Fairbanks Meridian. The site corresponds to location 21 of Cobb (1972), and roughly to the site for New York Gulch, U.S. Bureau of Land Management MAS number 0020480093, but the MAS site is approximately 0.5 mile downstream.

Unnamed (on Serpentine Ridge; Boulder)	Unnamed (on Serpentine Ridge; Boulder)	Cr	TN	A-3	65.13203	-151.07873	This site represents a chromite occurrence on locally-named Serpentine Ridge. For this record, the site is on a tractor trail at an elevation of about 1,500 feet, in the northeast quarter of section 31, T. 4 N., R. 17 W., of the Fairbanks Meridian. The location is accurate within a mile. This site is Cobb's (1972) location 4, and roughly corresponds with the U.S. Bureau of Land Management site for Boulder (MAS number 0020480001).

Woodchopper Creek	Woodchopper Creek	Au	TN	A-3	65.05156	-151.01221	This site represents about a square-mile area of placer mines, centered on the abandoned town of Woodchopper. For this record, the site is at the junction of Woodchopper Creek and Deep Creek, in the southeast quarter of section 28, T. 3 N., R. 17 W., of the Fairbanks Meridian. The site corresponds to location 25 of Cobb (1972), and to the site for Woodchopper Creek, U.S. Bureau of Land Management MAS number 0020480016.

Deep Creek and tributaries	Deep Creek and tributaries	Au	TN	A-2	65.06194	-150.98621	This site represents an approximately 1.5-mile-long area of placer mining that includes upper Deep Creek and the lower parts of its tributaries, Innesvale Gulch and Hokeley Gulch (Thomas, 1957). For this record, the site is at the junction of Deep Creek and Hokeley Gulch, in the northwest quarter of section 27, T. 3 N., R. 17 W., of the Fairbanks Meridian. The location is accurate. The site corresponds to location 26 of Cobb (1972, 1977), and roughly to U.S.

Patterson Creek	Patterson Creek	Au	TN	A-2	65.04318	-150.93405	This site represents an area of placer mining on or near Patterson Creek, near its junction with Sullivan and Cache creeks. For this record, the site is at the junction of Patterson, Sullivan, and Cache creeks, on the boundary of sections 35 and 36, T. 3 N., R. 17. W., of the Fairbanks Meridian. Cobb (1972) lists locations 25 to 33 as Patterson Creek, but the specific locations are tributaries to Patterson Creek. The location probably is

Miller Gulch	Miller Gulch	Au	TN	A-2	65.0693	-150.93143	The site of the Miller Gulch placer mine is at several cabins next to the creek at an elevation of about 500 feet, in the southwest quarter of section 24, T. 3 N., R. 17 W., of the Fairbanks Meridian. The site corresponds to location 27 of Cobb (1972).

Idaho Gulch	Idaho Gulch	Au	TN	A-2	65.07848	-150.91881	The site of the Idaho Gulch placer mine is in the gulch just downstream from a primitive road crossing, near the north boundary of section 24, T. 3 N., R. 17 W., of the Fairbanks Meridian. The site corresponds to location 28 of Cobb (1972), and roughly to the site for Idaho Gulch, U.S. Bureau of Land Management MAS number 0020480017.

Tofty Gulch	Tofty Gulch	Au	TN	A-2	65.08453	-150.89928	The site of the Tofty Gulch placer mine is at the mine symbol on the gulch, about 0.2 mile upstream from its junction with Sullivan Creek, at the western edge of section 18, T. 3 N., R. 16 W., of the Fairbanks Meridian. The site corresponds to location 29 of Cobb (1972), and roughly to the site for Tofty Gulch, U.S. Bureau of Land Management MAS number 0020480004.

Unnamed (Cache Creek area)	Unnamed (Cache Creek area)	Au	TN	A-2	65.093	-150.87927	This record represents a generalized area of lode occurrences of cassiterite, gold, and silver in the Tofty tin belt. The site is at the old town of Tofty, the midpoint of this 12-mile-long area, on the north boundary of section 18, T. 3 N., R. 16 W., of the Fairbanks Meridian.

Sullivan Creek	Sullivan Creek	Au	TN	A-2	65.09381	-150.87856	For this record, the site of the Sullivan Creek placer mine is on the creek at Tofty, at the north-central boundary of section 18, T. 3 N., R. 16 W., of the Fairbanks Meridian. The site represents at least a mile of placer workings on Sullivan Creek near Tofty (Cobb, 1972, location 30). This site very roughly corresponds with the site for Tofty tin belt, U.S. Bureau of Land Management MAS number 0020480032. The site for Sullivan Creek, MAS number

Harter Gulch	Harter Gulch	Au	TN	A-2	65.0928	-150.85164	The site of the Harter Gulch placer mine is on the gulch at an elevation of about 700 feet, in the north half of section 17, T. 3 N., R. 16 W., of the Fairbanks Meridian. The site corresponds to location 31 of Cobb (1972), and roughly to the site for Harter Gulch, U.S. Bureau of Land Management MAS number 0020480017.

Dalton Gulch	Dalton Gulch	Au	TN	A-2	65.09946	-150.84235	The site of the Dalton Gulch placer mine is at the approximate midpoint of the gulch, in the southeast quarter of section 8, T.3 N., R. 16 W., of the Fairbanks Meridian. The location is accurate within half a mile. The site corresponds to location 32 of Cobb (1972), and roughly to the site for Dalton Gulch, U.S. Bureau of Land Management MAS number 0020480019.

Cache Creek	Cache Creek	Au	TN	A-2	65.09986	-150.81568	The site of the Cache Creek placer mine is at the junction of Cache Creek and Ferguson Draw (TN098), just south of the center of section 9, T. 3 N., R. 16 W., of the Fairbanks Meridian. The location is probably accurate within half a mile. The site corresponds to location 33 of Cobb (1972), and roughly to the site for Gold Basin Creek, U.S. Bureau of Land Management MAS number 0020480020.

Ferguson Draw	Ferguson Draw	Au	TN	A-2	65.10057	-150.8133	The exact location of placer mining on Ferguson Draw is unknown. For this record, the site is at a sled-road crossing just upstream from its junction with Cache Creek, near the center of section 9, T. 3 N., R. 16 W., of the Fairbanks Meridian. The site corresponds to location 33 in Cobb (1972, 1977) and to location 8 in the Tanana quadrangle in Eberlein and others (1977). It also roughly corresponds to the site for Ferguson Draw, U.S. Bureau of Land

Tofty Ridge	Tofty Ridge	Ce, Nb, Y	TN	A-2	65.1159	-150.8102	The Tofty Ridge lode prospect is on a southeast-facing ridge between Cache Creek and Gold Basin Creek, 0.15 mile east of the center of section 4, T. 3 N., R. 16 W., of the Fairbanks Meridian. The site is the center of an area of recent lode exploration bounded on the west by Cache Creek and on the northeast and east by Irish Gulch and Killarney Creek. The location is accurate within 100 feet. This site corresponds approximately with site 'Tof' (Tof claims), U.S. Bureau of

Gold Basin Creek	Gold Basin Creek	Au	TN	A-2	65.11237	-150.7628	The site of the Gold Basin Creek placer prospect is at a sled road crossing on the creek, in the southwest quarter of section 2, T. 3 N., R. 16 W., of the Fairbanks Meridian. The site corresponds to location 34 of Cobb (1972).

Killarney Creek	Killarney Creek	Au	TN	A-2	65.11428	-150.74041	Killarney Creek drains the southeastern side of Roughtop Mountain. The site of this placer prospect is at a sled road crossing on Killarney Creek, just east of the center of section 2, T. 3 N., R. 16 W., of the Fairbanks Meridian. The location is accurate within half a mile. The site corresponds to location 35 of Cobb (1972), and roughly to the site for Killarney Creek, U.S. Bureau of Land Management MAS number 0020480021.

Tonawanda Creek	Tonawanda Creek	Au	TN	A-2	65.12185	-150.6661	Mining claims were staked in 1980, followed by placer mining along Tonawanda Creek (Alaska Kardex files). The discovery claim was on the creek at the northeast corner of section 6, T. 3 N., R. 15 W., of the Fairbanks Meridian, and claims extended above and below the discovery claim. The site is at the discovery claim. The location is accurate within about 500 feet. This site roughly corresponds with the site for Tonawanda Creek, U.S. Bureau of Land Management

Utah Creek	Utah Creek	Au	TN	A-2	65.12598	-150.60227	Mining claims were staked in the 1970's, followed by placer mining, on Utah Creek (Alaska Kardex files). Mining claim location notices show 3 claims along Utah Creek about 2 miles upstream from its junction with Baker Creek. The site is in the southeast quarter of section 33, T. 4 N., R. 15 W., of the Fairbanks Meridian. The location is accurate within about 1,000 feet. This site closely corresponds with the site for Utah Creek, U.S. Bureau of

Spirit Mountain	Spirit Mountain	Cu, Ni	VA	B-1	61.3056	-144.2645	This prospect is on the west side of upper Canyon Creek valley about 1.8 miles southwest of the west end of summit Lake and nine-tenths of a mile southeast of elevation 5,990. It is at an elevation of 4,000 feet near center of the east boundary of section 35, T. 6 S., R. 6 E., of the Copper River Meridian. This prospect is probably located to within one-quarter mile. It is locality 61 of Cobb and Matson (1972) and locality 52 of Winkler and others (1981 [OFR 80-892-

Unnamed (northwest of Colorado Creek)	Unnamed (northwest of Colorado Creek)	Ag, Cu, Sn, Zn	WI	B-6	67.405	-152.7667	This occurrence is located about 1.7 miles northwest of the junction of Colorado and Mettenpherg Creeks and about 5.8 miles east-northeast of the east end of Ernie Lake. The occurrence is at an elevation of about 1,100 meters, near the southeast corner of section 19, T. 30 N., R. 23 W., of the Fairbanks Meridian. The occurrence is the site of sample 224 in Dillon and others (1981 [AOF 133B]). The location is accurate.

The country rocks in the area of this site include Mesozoic marine clastic sedimentary strata, and Cretaceous granitic plutons, mainly on Roughtop Mountain, that intrude and contact metamorphose the sedimentary rocks (Mertie, 1934; Chapman and others, 1982; Reifenstuhl and others, 1998). The bedded rocks are also cut by diverse faults, including regional-scale, east-northeast-striking thrust faults (Reifenstuhl and	The country rocks in the area of this site include Mesozoic marine clastic sedimentary strata, and Cretaceous granitic plutons, mainly on Roughtop Mountain, that intrude and contact metamorphose the sedimentary rocks (Mertie, 1934; Chapman and others, 1982; Reifenstuhl and others, 1998). The bedded rocks are also cut by diverse faults, including regional-scale, east-northeast-striking thrust faults (Reifenstuhl and						

comm_other	ore	gangue	site_type	status	production	dep_model	geol_desc
Au	Azurite, bornite(?), chalcocite(?), chalcopyrite, gypsum, kaolin, malachite, pyrite	Calcite, epidote, quartz, sericite, serpentine	Mine	Inactive	Yes; small		Early Jurassic greenstone and minor interbedded sandstone and shale is intruded by numerous
Pb, Zn	Arsenopyrite, galena, sphalerite	Quartz	Prospect	Inactive	Yes; small	Chugach-type low-sulfide Au-quartz veins (Bliss, 1992; model 36a.1)	Late Cretaceous Valdez Group graywacke cut by many altered granite dikes and other bodies of Tertiary age. Resulting fissure
Cu	Tremolite		Occurrence	Inactive	No	Serpentine-hosted asbestos	Tremolite asbestos veinlets and Cu staining on fractures in serpentinite (Mayfield and

	Chalcopyrite, malachite, tremolite		Occurrence	Inactive	No	Serpentine-hosted asbestos	Tremolite asbestos in serpentinite and chalcopyrite and malachite in mafic rocks (Mayfield and Grybeck, 1978).

	Tremolite		Occurrence	Inactive	No	Serpentine-hosted asbestos	Veinlets of tremolite asbestos less than 0.5 in. (1 cm) wide containing fibers up to 2 in. (5 cm) long (Anderson, 1947, p. 16).

Asbestos	Chrysotile, nephrite (jade), tremolite		Mine	Inactive	Yes; small	Serpentine-hosted asbestos	2 sq. mi. (3.2 square km) area of highly serpentinized ultramafic rock contains residual inclusions of nephrite jade and schistose nephrite containing 0.25-0.5 in. (0.5 -1 cm) wide veinlets of chrysotile and tremolite asbestos; some slip - fiber chrysotile in fibers up to 5 in. (11 cm) long (Anderson, 1945, p. 22-25).

Asbestos?	Garnierite?		Occurrence	Inactive	No	Serpentine-hosted asbestos	Small amounts of garnierite coating or a related mineral in ultramafic rocks. Nephrite and asbestos mineralization reported in general area (Anderson, 1945, p. 24).

Ag, asbestos, Cu, jade	Asbestos, copper (native), nephrite, silver (native)		Mine	Inactive	Yes; small	Placer	Creek and bench placers. Creek gravels 1-3 ft. (0.3-1 m) deep in canyon; Au occurs in pockets in bedrock and lower 1 ft. (0.3 m) of gravel. Nephrite jade float along banks of river; nephrite and low-grade asbestos in greenstone and serpentine along river. Gold also occurs on false bedrock above Pleistocene till near confluence with Bismark Creek. Stream gravels are coarse, subangular with abundant boulders up to 3 ft. (1 m) in diameter.

Jade, magnesite	Chrysotile, nephrite	Magnesite, nemalite	Prospect	Inactive	No	Serpentine-hosted asbestos	Network of low grade cross-and slip-fiber chrysotile veinlets 0.5-2.0 in. (1-4 cm) wide in area of serpentine float 800 ft. (244 m) long, several hundred feet (60 m) wide and up to 8 ft. (2.5 m) deep. Nearby magnesite veinlets and asbestos as well as residual boulders of nephrite occurr over a wide area of serpentinized ultramafic rocks cutting schist (Heide and others, 1949, p.16-18).

Au, jade	Chrysotile, gold, jade, nephrite, tremolite		Prospect	Inactive	No	Serpentine-hosted asbestos/placer Au	Low grade chrysotile and tremolite asbestos veinlets less than 1.5 in. (3 cm) wide, along strike length of over 1 mi. (1.6 km). Small amounts of Au and minor nephrite reported in nearby creek gravels (Anderson, 1947, p. 15).

Jade, talc	Chrysotile, nephrite, talc, tremolite, quartz		Mine	Inactive	Yes; small	Serpentine-hosted asbestos	50 ft. (17 m) wide shear zone trending northeast and containing veins of slip-fiber tremolite, 6 in. to 2.5 ft. (12 cm to 0.66 m) thick; fibers up to 18-20 in. (36-40 cm) long, weak in tenacity, but relatively free of impurities. Veins plus residual fibers form lenticular ore bodies. Also present in area of mine are: 1) 0.25-4 in. (0.5-8 cm) seams of slip-fiber chrysotile and small veinlets of cross-fiber chrysotile; 2) small deposits of talc, soapstone and nephrite, 3) 6 in.

	Gold		Prospect	Inactive	Undet.	Placer	Fine gold found in prospect shaft in unfrozen ground.

	Gold		Mine	Inactive	Undetermined.	Placer Au (Cox and Singer, 1986; model 39a)	Weber and others (1978) described the bedrock as primarily quartzite, phyllite, schist, gneiss, slate, and marble of unknown age. Numerous Tertiary and Cretaceous granodiorite to quartz monzonite igneous bodies intrude the area. Weber and others (1978) infer an extension of the Shaw Creek Fault through the Serpentine Creek drainage. The Alaska Division of Mining Kardex file system records active claims on

W	Gold, scheelite		Occurrence	Inactive	Yes; small	Placer Au-PGE (Cox and Singer, 1986; model 39a)	Placer mining for gold took place here as early as 1903 (Brooks, 1904). Sainsbury and others (1969) show the lower 5,000 feet of Homestake Creek to have been placer mined. One-fourth mile upstream from the mouth, mining encountered 4 to 5 feet of muck over fine sand on bedrock (Collier and others, 1908). Some of the gold is coarse with a nugget worth $14.40 (0.8 ounces) being recovered by early operations (Collier and

W	Gold, scheelite		Mine	Inactive	Yes; small	Placer Au-PGE (Cox and Singer, 1986; model 39a)	Sainsbury and others (1969) show that 3,000 feet of upper Homestake Creek, starting about 2.2 miles upstream of its mouth, has been placer mined. Some of the gold recovered from Homestake Creek is coarse; a nugget worth $14.40 (0.8 ounces) was reported by early operators (Collier and others, 1908). Scheelite is reported to be present in the placer deposits here (Anderson, 1947; Moxham and West, 1953). Bedrock is extensively mantled by

Sn, W	Cassiterite, gold, scheelite		Mine	Inactive	Yes; small	Placer Au-PGE (Cox and Singer, 1986; model 39a)	Sainsbury and others (1969) show 9,000 feet of placer workings along the channel of Dick Creek in its headwater reaches. This location is across the continental divide (about 1,140 feet high here) and about 2.3 miles north of the placer workings on Mascot Gulch (BN044). Because there is indication that placer mining took place near the mouth of Dick Creek (locality TE070, Hudson, 1998), the area of mining here may be more extensive than

	Gold	Arsenopyrite, quartz	Prospect	Inactive	None	Gold-bearing quartz veins and schist	Midnight Mountain is composed of Lower Paleozoic metasedimentary rocks on its northwest side and polydeformed pelitic schist of possible Precambrian age elsewhere (Hudson, 1984; Till and others, 1986). Surface material in the prospect area is frost-riven rubble; outcrops are restricted to a few places at higher elevations on Midnight Mountain. White quartz veinlets and stringers are ubiquitous in the metasedimentary rocks of this

Cu, Zn		Iron-oxides, quartz	Occurrence	Inactive	None	Polymetallic veins developed peripheral to tin deposits	A linear altered zone in polydeformed metapelitic schist of possible Precambrian age (Till and others, 1986) trends about N 55 W across this spur. Sainsbury and others (1970) indicate that rusty graphitic schist and quartz vein fragments are present over a length of 2,000 feet. A sample of iron-stained fracture fillings contained 0.8 ppm Au, 700 ppm Ag, 10,000 ppm As, 1,500 ppm Cu, greater than 10,000 ppm Pb, 150 ppm Sb, and

Cu, Pb, Sn, Zn		Quartz	Occurrence	Inactive	None	Quartz veins in schist	Till and others (1986) show bedrock here to be part of a polydeformed metapelitic schist that may be Precambrian in age. Sainsbury and others (1970) indicate that rusty and quartz-veined metasedimentary rocks are present over parts of this ridge spur. This and other nearby altered zones (BN048, BN050, BN052) have been interpreted to be localized along normal faults (Sainsbury and others, 1970) that are structurally above

Cu, Sn		Clay minerals (?), iron oxides, quartz	Prospect	Inactive	None	Sulfide veining or impregnations in hornfels and granite dike	A very fine-grained granite dike trends N 80 W west and intrudes hornfels in the country rocks to the Oonatut Granite Complex here (Hudson, 1979). This dike and adacent country rocks have been altered and rust-stained soils, rock fragments, and small gossan fragments are localized along the trend of the dike. The presence of slickensided rock fragments in the soils suggests that the dike was emplaced along a fault that has had recurring movement.

Sn, Zn	Galena	Quartz	Occurrence	Inactive	None	Quartz and sulfide veins in schist	Sainsbury and others (1970, Table 2) give analytical data for several rock and pan concentrate samples from this locality. It is in an area of extensive tundra cover (Till and others, 1986) and only 2,500 feet southeast of another galena-bearing locality (BN052). The possibility exists that the samples reported from here are actually from the unnamed galena-bearing occurrence closer to Humbolt Creek (BN052). However, this occurrence is

Cu, Sn, Zn	Galena	Iron oxides, quartz	Occurrence	Inactive	No	Polymetallic quartz and sulfide-bearing veins and stringers along a fault zone in metasedimentary rocks	This occurrence is poorly exposed at the break in slope on the north side of the ridge overlooking the main west headwater tributary to Humbolt Creek. It appears to be associated with an altered fault zone that trends N 50 W and contains veins, veinlets, stringers and disseminations of quartz and iron oxide staining over a distance of at least 2,500 feet (Sainsbury and others, 1970; Hudson, 1979). The fault zone and related mineralization is in lower

	Cassiterite, gold	Hematite, magnetite, pyrite (abundant)	Mine	Inactive	Yes; small	Placer Au-PGE (Cox and Singer, 1986; model 39a)	The headwaters of Humbolt Creek are in an area southeast of the Oonatut Granite Complex (Hudson, 1979; Hudson and Arth, 1983). This area, consists of a Lower Paleozoic metasedimentary assemblage and a polydeformed, metapelitic schist of possible Precambrian age (Till and others, 1986); it is interpreted to be over buried extensions of the Oonatut Granite (Barnes and Hudson, 1977; Hudson, 1979). Cassiterite-rich

Ag, Au	Chalcopyrite, magnetite	Clinohumite, diopside, dolomite, idocrase, olivine, phlogopite, pyrite, serpentine	Prospect	Inactive	No	Magnesian iron skarn (Newberry and others, 1997; Cox and Singer, 1986; model 18d)	This magnetite-rich skarn prospect was discovered and core drilled by Placid Oil and Minerals in the mid-1970's. Although tundra cover is extensive in this area, the deposit is well expressed in aeromagnetic data. A large, positive, north-south trending aeromagnetic anomaly over this prospect is about 0.4 mile wide and 2 miles long. The deposit contains massive to brecciated magnetite in dolomite with blebs to stringers of pyrite and

Zn	Galena, sphalerite, tetrahedrite	Actinolite (?), calcite, limonite, manganese oxides (?), pyrite, quartz, siderite	Mine	Inactive	Yes; small	Massive to disseminated sulfide minerals along a deformed and faulted marble-schist contact. Polymetallic veins ? (Cox and Singer, 1986; model 22c ?)	This deposit is localized along a north-south trending marble-schist contact that is faulted and sheared. The contact dips steeply west and the marble is in the hanging wall. Mineralization has been traced laterally along this contact zone for 6,200 feet, and vertically to depths of 136 feet. On the 40 foot level, galena, sphalerite, tetrahedrite, and some pyrite are primarily in footwall schist although siderite bodies are reported to replace marble

	Chalcopyrite, galena, sphalerite	Actinolite, biotite, calcite, chlorite, epidote, garnet, mica, quartz	Prospect	Inactive	None	Zn-Pb skarn (Cox and Singer, 1986; model 18c)	This prospect is a sulfide-bearing skarn prospect (Hudson and Wyman, 1983). It is developed in impure carbonate layers in high grade metasedimentary rocks that are variably replaced by epidote and garnet. Alteration of the skarn includes development of mica, actinolite, and chlorite. Lenses and pods of galena and sphalerite also replace metacarbonate layers, but chalcopyrite seems to favor replacement of metaclastic, metavolcanic (?), or

Radioactive minerals	Cinnabar	Allanite, hydrogoethite, sphene, u-bearing secondary minerals, zircon	Occurrence	Inactive	No	Placer cinnabar concentration (?)	Moxham and West (1953) note cinnabar 'in concentrates panned from a shallow gully in the south side of the eastern fork of Hot Springs CreeK'. Hot Springs Creek is a tributary of the Serpentine River with headwaters in the Oonatut Granite Complex (Hudson, 1979). The location description suggests that the occurrence is in an area underlain by Oonatut Granite; the presence of cinnabar here has not been confirmed. In general, only the central, late-

	Asbestos, chalcopyrite	Quartz	Occurrence	Undetermined	None	Asbestos and chalcopyrite associated with a small ultramafic body.	The general area of this occurrence is underlain mainly by undivided Lower Cambrian and Proterozic rocks of the Tindir Group, which consists predominantly of carbonate, quartzite, argillite, and subordinate volcanic rocks (Dover, 1994). Geologic mapping by Doyon Limited (1987) delineated a small ultramafic body at the western end of a ridge of quartzite and phyllite. The ultramafic body contains minor chalcopyrite and asbestos. The

Ni	Chromite, magnetite	Serpentine	Occurrence	Inactive	None	Podiform chromite (Cox and Singer, 1986; model 8a)	This occurrence consists of chromite as an accessory mineral in mafic and ultramafic rocks (Foley, 1992). The rocks are part of the Caribou Mountain-Melozitna ultramafic belt which hosts chromite occurrences elsewhere. The rocks that define the belt consist of serpentinized dunite, peridotite, and gabbro. A serpentinite sample from a frost boil contains 700 ppm cobalt, 3,000 ppm chromium, and 500 ppm copper (Foley, 1992).

Zn	Chalcopyrite, pyrite, sphalerite	Actinolite, epidote, garnet	Occurrence	Inactive	None	Cu skarn deposits (Cox and Singer, 1986; model 18b)	The Pilgrim occurrence is one of four previously grouped occurrences which, in addition to Pilgrim, included Vicki (CH097), Cindy (CH098), and Mike (CH100) (DeYoung, 1978). Newberry and others (1986) described in general a group of skarn prospects in the Chandalar area that includes the Pilgrim occurrence. This group of skarns is northwest of a belt of Devonian(?) granitic rocks informally

As, Cr, Fe, Sb	Chromite, erlichmanite, ferroplatinum, iridosmine, magnetite, platiniridium, and several unnamed rhenium-arsenic-sulfur, rhenium-iron, platinum-antimony, and platinum-iridium-sulfur minerals	Diopside, hornblende, magnetite	Prospects	Active	None	PGE minerals associated with magnetite in pyroxenites of an Alaska-type mafic-ultramafic complex (Cox and Singer, 1986; model 9).	The Continental, Chevelle, and Cannery Creek prospects are in the Union Bay complex, the largest of numerous small, Cretaceous mafic-ultramafic intrusive bodies scattered in a belt along the length of southeastern Alaska (Ruckmick and Noble, 1959; Lanphere and Eberlein, 1966; Brew and Morell, 1983; Gehrels and Berg, 1992). Many of these plutons are concentrically zoned, an unusual characteristic that has led to their

As, Cr, Fe, Sb	Chromite, erlichmanite, ferroplatinum, iridosmine, magnetite, platiniridium, and several unnamed rhenium-arsenic-sulfur, rhenium-iron, platinum-antimony, and platinum-iridium-sulfur minerals	Diopside, hornblende, magnetite	Prospects	Active	None	PGE minerals associated with magnetite in pyroxenites of an Alaska-type mafic-ultramafic complex (Cox and Singer, 1986; model 9).	The Cobra East and West prospects are in the Union Bay complex, the largest of numerous small, Cretaceous mafic-ultramafic intrusive bodies scattered in a belt along the length of southeastern Alaska (Ruckmick and Noble, 1959; Lanphere and Eberlein, 1966; Brew and Morell, 1983; Gehrels and Berg, 1992). Many of these plutons are concentrically zoned, an unusual characteristic that has led to their classification as

As, Cr, Fe, Sb	Chromite, erlichmanite, ferroplatinum, iridosmine, magnetite, platiniridium, and several unnamed rhenium-arsenic-sulfur, rhenium-iron, platinum-antimony, and platinum-iridium-sulfur minerals.	Diopside, hornblende, magnetite	Prospect	Active	None	PGE minerals associated with magnetite in pyroxenites of an Alaska-type mafic-ultramafic complex (Cox and Singer, 1986; model 9).	The Mount Burnett Zone is in the Union Bay complex, the largest of numerous small, Cretaceous mafic-ultramafic intrusive bodies scattered in a belt along the length of southeastern Alaska (Ruckmick and Noble, 1959; Lanphere and Eberlein, 1966; Brew and Morell, 1983; Gehrels and Berg, 1992). Many of these plutons are concentrically zoned, an unusual characteristic that has led to their classification as 'Alaska-type,' or

As, Cr, Fe, Sb	Chromite, erlichmanite, ferroplatinum, iridosmine, magnetite, platiniridium, and several unnamed rhenium-arsenic-sulfur, rhenium-iron, platinum-antimony, and platinum-iridium-sulfur minerals	Diopside, hornblende, magnetite	Prospect	Active	None	PGE minerals associated with magnetite in pyroxenites of an Alaska-type mafic-ultramafic complex (Cox and Singer, 1986; model 9).	The Lexus prospect is in the Union Bay complex, the largest of numerous small, Cretaceous mafic-ultramafic intrusive bodies scattered in a belt along the length of southeastern Alaska (Ruckmick and Noble, 1959; Lanphere and Eberlein, 1966; Brew and Morell, 1983; Gehrels and Berg, 1992). Many of these plutons are concentrically zoned, an unusual characteristic that has led to their classification as 'Alaska-type,' or

As, Cr, Fe, Sb	Chromite, erlichmanite, ferroplatinum, iridosmine, magnetite, platiniridium, and several unnamed rhenium-arsenic-sulfur, rhenium-iron, platinum-antimony, and platinum-iridium-sulfur minerals	Diopside, hornblende, magnetite	Prospect	Active	None	PGE minerals associated with magnetite in pyroxenites of an Alaska-type mafic-ultramafic complex (Cox and Singer, 1986; model 9).	The North Zone prospect is in the Union Bay complex, the largest of numerous small, Cretaceous mafic-ultramafic intrusive bodies scattered in a belt along the length of southeastern Alaska (Ruckmick and Noble, 1959; Lanphere and Eberlein, 1966; Brew and Morell, 1983; Gehrels and Berg, 1992). Many of these plutons are concentrically zoned, an unusual characteristic that has led to their classification as 'Alaska-type,' or

As, Cr, Fe, Sb	Chromite, erlichmanite, ferroplatinum, iridosmine, magnetite, platiniridium, and several unnamed rhenium-arsenic-sulfur, rhenium-iron, platinum-antimony, and platinum-iridium-sulfur minerals	Diopside, hornblende, magnetite	Prospect	Active	None	PGE minerals associated with magnetite in pyroxenites of an Alaska-type mafic-ultramafic complex (Cox and Singer, 1986; model 9).	The Jaguar prospect is in the Union Bay complex, the largest of numerous small, Cretaceous mafic-ultramafic intrusive bodies scattered in a belt along the length of southeastern Alaska (Ruckmick and Noble, 1959; Lanphere and Eberlein, 1966; Brew and Morell, 1983; Gehrels and Berg, 1992). Many of these plutons are concentrically zoned, an unusual characteristic that has led to their classification as 'Alaska-type,' or

	Chalcopyrite, pyrite, pyrrhotite	Actinolite, calcite, chlorite, diopside, garnet, quartz	Prospects	Undetermined	None	Cu-Mo skarn (Cox and Singer, 1986; model 18b).	The Shellhouse and Miller prospects have been known since before 1909, but the early descriptions say little more than that the deposits consist of bodies of chalcopyrite and pyrrhotite in quartz-calcite gangue in limestone and siliceous schist (Wright, 1909; Chapin, 1918). Maas and others (1991) located several open cuts and an adit in dense vegetation. They describe the deposit as a 4-foot-thick sulfide lens with pyrite, pyrrhotite, and chalcopyrite in a

	Bastnaesite, eudialyte, euxenite, monazite, thalenite, zircon	Amphibole, feldspar, pyroxene, quartz	Occurrences	Active?	None	REE-bearing pegmatites and dikes peripheral to a syenite pluton.	Yttrium- and rare-earth-element (REE)-bearing pegmatites and pegmatitic dikes occur at numerous localities over a distance of about two miles from the the head of Dora Bay to Dora Lake (Barker and Mardock, 1990). The pegmatites and dikes are peripheral to a Jurassic syenite stock at the head of Dora Bay (Brew, 1996). The stock was formerly thought to intrude rocks of the Wales Group of Late Proterozoic and Cambrian age

Ag, As, Co, Cu, Sb	Galena, pyrite, sphalerite	Quartz, serpentine	Prospects	Active	None	Plutonic-related Pb-Zn?, Carbonate-hosted Zn? (Cox and Singer, 1986; model 32b)	Rock units in the prospect area are of Late Precambrian age and include a thick unit of basalt and redbeds with an interlayered sequence of massive carbonate rocks and conglomerate (DiMarchi and others, 1993). Carbonate rocks include the Pack Formation, a massive dolomite that lies unconformably over the Pleasant Creek Formation of dolomitic limestone, quartzite, and shale. Numerous facies changes

F, Ge, Pb, Zn	Columbite-tantalite, galena, REE minerals, sphalerite, uranothorite, zircon	Albite, quartz	Prospect	Probably inactive	None	U-Th-REE deposit associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE016 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several times using slightly different

	Uranothorite?	Albite, biotie, quartz	Prospect			U-Th-REE deposit associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 and DE17 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several times using slightly different

	Allanite, REE minerals		Prospect			U-Th-REE deposit associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015, DE016, and DE18 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several times using

	Uranothorite?	Albite, quartz	Prospect	Probably inactive	None	U-Th-REE deposit in a fault zone that cuts peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE 15 to DE017 and DE019 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

	Hematite, pyrite, uranothorite?	Aegirine, albite, quartz	Prospects	Probably inactive	None	U-Th-REE deposit associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE018 and DE020 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

Cb, REE, Th, Ti, U, Zr	REE minerals, uranothorite?	Albite, quartz	Prospects	Probably inactive	None	U-Th-REE deposit in pegmatite associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE019 and DE021 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

	Allanite, arsenopyrite, columbite-tantalite, REE minerals, uranothorite, uranothorianite, zircon	Albite, quartz	Prospect	Probably inactive	None	U-Th-REE deposit associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE020 and DE022 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

	Pyrite, uranothorite?	Albite, ilmenite, magnetite, quartz	Prospect	Probably inactive	None	U-Th-REE deposit in pegmatite at the margin of a peralkaline granite intrusion.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE021 and DE22 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several times using

Ce, Dy, Er, F, Gd, Ho, La, Nd, Pb, Y, Yb, Zn, Zr	Aeschynite, allanite, bastnaesite, brannerite, columbite-tantalite, euxenite-polycrase, fergusonite, fluorite, galena, monazite, parisite, phenacite, pyrite, samarskite, sphalerite, synchysite, tengerite, thalenite, thorite, unnamed REE fluorocarbonate, uranothorite, xenotime, zircon	Albite, quartz	Prospects	Probably inactive	None	U-th-REE deposit related to a peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE022 and DE024 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

	Brannerite?, davite?, uraninite, uranophane	Calcite, chlorite, fluorite, hematite, quartz	Prospect	Probably inactive	None	U-Th-REE deposit associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE023 and DE025 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

REE, Th	Bassetite, beta-uranophane, bornite, brannerite, chalcopyrite, coffinite, galena, gummite, novacekite, pyrite, pyrrhotite, sklodowskite, sphalerite, uraninite, uranothorite	Albite, quartz	Mine	Probably inactive	Yes; medium	U-Th-REE deposit associated with a peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE024 and DE026 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

	Fluorite		Prospect	Inactive	None	U-Th-F deposit associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE025 and DE027 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

	Aeschynite, allanite, bastnaesite, columbite-tantalite, euxenite-polycrase, fergusonite, fluorite, monazite, parisite, pyrite, samarskite, synchysite, tengerite, thalenite, thorite, unnamed REE fluorocarbonate, uranothorite, xenotime, zircon	Albite, quartz	Prospects			U-Th-REE deposit associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE026 and DE028 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

	Allanite (but also see DE027)	Albite, quartz	Occurrence	Probably inactive	None	U-Th-REE deposit in dikes associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE 027 and DE029 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several times using

	Allanite, hematite, magnetite, pyrite (but also see DE027)	Albite, quartz	Prospects			U-Th-REE deposit in dikes associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE028 and DE030 to DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several

Pb, Sn, Sr, Ta	Allanite?, pyrite REE minerals? (Also see DE027)	Albite, quartz	Occurrence			U-Th-REE deposit in dikes associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE029 and DE031) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several times using

	(See DE313)	Feldspar, quartz	Occurrences	Probably inactive	None	U-Th-REE deposit in dikes associated with peralkaline granite.	This and several other nearby uranium-thorium-REE deposits (DE015 to DE030) are spatially and genetically related to a stock of Jurassic, peralkaline granite about 2 miles in outcrop diameter centered on Bokan Mountain. It commonly is referred to as the Bokan Mountain peralkakline granite or Bokan Mountain complex. The intrusion and its deposits have been mapped in detail several times using slightly different

	Chromite	Serpentine	Occurrences	Inactive	None		Mount Sorensen is the largest ultramafic body in the Eagle quadrangle, and it is composed of partially serpentinized peridotite, dunite, and harzburgite (Foster and Keith, 1974). As much as 1 percent chromite is present in some of the least serpentinized rocks. Serpentinized dunite and harzburgite at Mount Sorensen were assayed using fire assay and spectrographic methods; they contain as much as 0.01 ppm platinum and up

Ir, Os, Pb, Rh, Ru, Zn	Galena, pyrite, sphalerite, sperrylite, stadiopalladinite ?	Actinolite, barite, chlorite, muscovite	Prospect	Inactive	None	Possibly Alaskan PGE (Cox and Singer, 1986; model 9?).	More than 97 separate, widely scattered occurrences of ultramafic rock were identified during reconnaissance geologic mapping of the Eagle quadrangle (Foster and Keith, 1974; Foster, 1976). These ultramafic bodies include pyroxenite, hornblende pyroxenite, pyroxene hornblendite, and hornblendite. Biotite is a common accessory mineral, but locally it may be a major constituent.

	Chrysotile	Antigorite	Prospect	Inactive	None	Serpentine-hosted asbestos (Cox and Singer, 1986; model 8d).	At least 60 serpentinized ultramafic bodies are known in the Eagle quadrangle (Dashevsky and others, 1986). Chrysotile asbestos is generally found in densely fractured and altered zones in tectonically emplaced serpentinized harzburgites. Serpentinized ultramafic bodies in the Eagle quadrangle are of either Mesozoic or Paleozoic age (Foster, 1976). The Slate Creek Asbestos prospect is an elongate mass

Au, Ag, Cd, Cu, Pb, Zn	Molybdenite, pyrrhotite, scheelite, wolframite	Biotite, calc-silicates, garnet, pyroxene, quartz, tremolite, wollastonite	Prospect	Inactive	None	W skarn or porphyry Mo (Cox and Singer, 1986; models 14a and 21b).	Scheelite and molybdenite are found in quartz veins,and molybdenite occurs in rubble of quartz-porphyry stockworks (Dashevsky and others, 1986). A multi-phase granitic pluton composed of granite, quartz monzonite, and lesser diorite, alaskite, quartz porphyry, and quartz lamprophyre is inferred to underlie the heavily vegetated region. On the ridges surrounding the valley, Paleozoic hornfelsed metasedimentary rocks crop out;

	Scheelite	Apatite, diopside, garnet, hornblende	Mine	Inactive	Yes; small	W skarn deposit (Cox and Singer, 1986; model 14a)	The following description of the Yellow Pup tungsten deposit is summarized from Robinson (1981). The rocks consist of a hornfelsed sequence of feldspar-quartz schist, biotite-muscovite-quartz schist, muscovite-quartz schist, calc-amphibolite, and marble. The tungsten-bearing beds occur in pelitic schists and quartzite that contain resorbed biotite and andalusite prophyroblasts that reflect hornfelsing caused by the intrusion of the

Asbestos	Chalcopyrite, galena, gold, pyrite, sphalerite	Carbonate, quartz	Prospect	Inactive	None	Polymetallic vein (Cox and Singer, 1986; model 22c)	A quartz-carbonate vein occurs in Pennsylvanian volcanic rocks that trends N5-8W and dips 67 West. It occurs between a hanging wall of serpentinized basalt or gabbro with chrysotile-calcite veinlets, and a footwall of tuff(?). Both walls of the vein are brecciated and iron stained. Slickensides and clay gouge with fragments of vein material indicate post-mineralization movement. The vein varies from 3 to 5 feet thick and is composed of locally brecciated,

Ni, Pt	Chromite, garnierite, pyrite	Serpentine	Occurrence	Inactive	None	Podiform chromite (Cox and Singer, 1986; model 8a)	The country rocks in the area of this occurrence are a tectonically mixed assembleges of Upper Devonian serpentinite, basalt, chert, and gabbro. The occurrence consists of talus blocks of serpentinite(?) containing pods of massive chromite. The blocks occur in an area underlain by serpentinite altered to quartz-carbonate rock containing disseminated pyrite and stained with garnierite. Samples comprising 95% chromite contain

Pd, Pt, Ni	Chromite	Serpentine	Occurrence	Inactive	None	Podiform chromite (Cox and Singer, 1986; model 8a)	The country rocks in the area of this occurrence are a tectonically mixed assemblages of Upper Devonian serpentinite, basalt, chert, and gabbro. The deposit consists of pods of massive chromite in serpentinite. Rock samples from the surface contained low chromium, palladium, and platinum values (Balen, 1990: OFR 34-90). The chromite probably was a mag,atic segregation on the ultramafic host rocks.

Au, Cr	Chromite, gold, platinum group metal (PGM) alloys		Prospect	Active	None	Alaskan PGE (Cox and Singer, 1986; model 9)	Red Mountain is a large, composite ultramafic pluton of Jurassic age (Hoare and Coonrad, 1978). It is dominantly dunite with a thin border zone assemblage of peridotite, clinopyroxenite, and hornblende-bearing rocks (Southwith, 1986; Southwith and Foley, 1986; Alaska Earth Sciences, 2000). This prospect is in dunite between the crest of Red Mountain and the eastern border zone of the pluton. It is defined by a soil-geochemistry anomaly that is 1,700 meters

As	Chromite	Serpentinite	Occurrence	Inactive	None	Dunitic Ni-Cu or Podiform Chromite (Cox and Singer, 1986; models 6a and 8b).	This occurrence is in serpentinized ultramafic rock of the Jurassic Dishna River ophiolite (Miller, 1990; Miller, Bundtzen, and Gray, 2005). Rubble crop near the base of the hill locally contains disseminated chromite. Grab samples contain up to 30.0 parts per million (ppm) silver, 2,000 ppm nickel, 2,000 ppm chromium, and anomalous arsenic (McGimsey and others, 1988). The chromium and nickel are probably in both spinel (chromite) and

Ag	Azurite, chalcopyrite, chrysocolla, magnetite, malachite, pyrite	Actinolite, calcite, epidote, garnet, quartz	Prospect	Probably inactive	Undetermined.	Iron skarn; possibly copper skarn (Cox and Singer, 1986, models 18d and 18b).	This prospect consists of skarn in mafic and intermediate volcanic rocks of the Jurassic Talkeetna Formation within a few hundred feet of the contact of the Jurassic Pilot Knob granodiorite (Richter and Herreid, 1965; Detterman and Reed, 1980). The skarn mainly comprises epidote, garnet, actinolite, quartz, magnetite, and chalcopyrite, and the oxidized minerals azurite, chrysocolla, and malachite. The chalcopyrite is

Fe	Azurite, chalcopyrite, chrysocolla, malachite, magnetite, pyrite	Actinolite, calcite, epidote, garnet, quartz	Prospect	Inactive	Yes; small	Fe skarn, Cu skarn (Cox and Singer, 1986; models 18d, 18b).	The Crevice Creek prospect is a linear skarn deposit (tactite of Richter and Herreid, 1965) along the contact between intermediate and basic volcanic rocks of the Jurassic Talkeetna Formation and chert and limestone of the Triassic Kamishak(?) Formation (Richter and Herreid, 1965; Detterman and Reed, 1980). The Kamishak(?) Formation generally strikes northeast and dips steeply northwest (Richter and Herreid, 1965,

	Gold		Prospect	Inactive	Undetermined.	Placer Au (Cox and Singer, 1986; model 39a)	The rocks in the general area are mainly Ordovician and Devonian to Triassic clastic units, mafic-intermediate volcanic rocks, and subordinate limestone. The bedded rocks are intruded and locally metamorphosed by Cretaceous granodiorite (Gehrels and Berg, 1994). The Alaska Kardex file 112-139 shows a gold placer claim at this location. If the location is correct it would be 1/2 mile downstream from the Bear Creek asbestos prospect

	Tremolite asbestos		Prospect	Probably inactive	None		This prospect is in amphibole-mica schist, and consists of a vertical layer, 18 inches thick of tremolite asbestos that strikes N. 45 W and can be traced on the surface for 60 feet (Race and Rose, 1967; Wells and others,1986). The deposit contains veins of cross-fiber asbestos 0.75 inch thick and 6 to 8 inches long (Cobb, 1978 [OFR 78-374]). Prior to 1930, the Alaska Asbestos Company, Inc. dug an opencut across the belt of tremolite schist, and

	Chalcopyrite, gold?, molybdenite, pyrrhotite, sphalerite	Quartz, skarn minerals	Prospect	Undetermined	None	Cu skarn (Cox and Singer, 1986; model 18b)	The country rocks in the area of the presumed site are porphyritic quartz monzonite and granodiorite of the Eocene Davis River Pluton (Smith, 1977; Berg and others, 1988). According to Buddington (1929, p. 111-112), the Commonwealth prospect(s) lie within a narrow belt of metamorphosed sedimentary rocks that form a roof pendant within the quartz monzonite. The metamorphosed strata are several hundred feet thick and include

PGM, chrysotile asbestos	Chromite, chrysotile, magnetite		Occurrences	Undetermined	None	Alaskan PGE (Cox and Singer, 1986; model 9)	The country rocks in the area of this site are hornblende gabbro and partly serpentinized dunite, probably of Cretaceous age (Berg, 1972). The occurrences consist of sparse, thin veinlets, and disseminated grains, of magnetite and chromite in massive dunite that also contains abundant thin seams of chrysotile (Berg, 1972, loc. 22; Karl, 1992, loc. 49a, b). Samples of the dunite contained up to 150 ppm Co, 2000 ppm

			Occurrence	Inactive	None	Unknown	Only indication of occurrence is report by U.S. Bureau of Mines (1995) as an asbestos deposit. The bedrock in the vicinity of the occurrence is Tertiary volcanic rocks. The rocks of this unit include: rhyolitic breccia, ash-flow tuff, flows, and intrusive rocks and subordinate mafic to intermediate flows (Nelson and others, 1983; unit Tv). Potassium-argon ages for this unit (Tv) range from 56.2 to 62.7 m.y. indicating a Tertiary age for these rocks

Cr, Sb	Chromite, gold, stibnite		Mine	Inactive	Yes; small	Placer gold deposit (Cox and Singer, 1986; model 39a).	Gold has been found in in the lower 3 feet of gravel and on bedrock (Overbeck, 1920, p. 181; Mertie, 1918). Bedrock is mainly chert but there is some granite at the mouth of the second tributary above Livengood Creek. Basalt porphyry is the bedrock at the head of the creek; there is limestone and argillite near the mouth (Mertie, 1918). Bench gravels were mined east of the creek in 1918, to a depth of 25 to 100 feet, above a pay streak of 40

Cr, Hg, REE, Sn	Cassiterite, chromite, cinnabar, gold, niobium-titanium-uranium-rare earth mineral		Mine	Inactive	Yes; small	Placer gold deposit (Cox and Singer, 1986; model 39a).	Placer mining was reported in 1918, 1934, and 1939. At the lower placer, some flakey gold was obtained just above bedrock. About 1,500 feet upstream, some fine gold is present in angular wash almost at the surface (Mertie, 1918). Minerals in samples from old placer dumps included limonite, hematite, magnetite, epidote, spinel, chromite, ilmenite, gold, cinnabar and cassiterite (Wedow and others, 1954). The bedrock in the basin is

	Chalcopyrite, malachite, pyrite	Serpentine	Prospect	Inactive	None	Vein	This prospect consists of a brecciated fault zone along the contact of altered Triassic limestone and granodiorite; the fault zone contains sparse amounts of pyrite, chalcopyrite, and malachite (Moffit and Mertie, 1923; Van Alstine and Black, 1946; MacKevett, 1976). The altered limestone is bleached and contains magnesite, dolomite, and seams of calcite. The fault zone also contains abundant serpentine

	Chromite(?)	Serpentine	Occurrence	Inactive	None	Podiform chromite (Cox and Singer, 1986, model 8a)	Small dikelike bodies of largely serpentinized ultramafic rock are emplaced in Upper Paleozoic metamorphic rocks. A sample contained, 150 parts per million (ppm) cobalt, 3,000 ppm chromium, 3,000 ppm nickel, and more than 10 percent magnesium (MacKevett, 1976).

Co	Chromite	Serpentine	Occurrence	Inactive	None	Podiform chromite (Cox and Singer, 1986; model 8a)	This occurrence consists of serpentinized ultramafic rocks with minor chromite and disseminated sulfide minerals. A sample contained 10 percent magnesium, 150 parts per million (ppm) cobalt, 3,000 ppm copper, and 2,000 ppm nickel (MacKevett, 1976). The host alpine-type ultramafic body which is about 1.5 mile long and 0.2 mile wide is within upper Paleozoic metamorphic rocks (MacKevett, 1978).

Bi, W	Allanite, gold, malachite, silver, scheelite	Kyanite, pyroxene, tremolite, zircon	Mine	Inactive	Yes	Copper-Gold skarn (Cox and Singer, 1986; model no. 18b)	The Whalen Shaft is mainly a tactite with gold-polymetallic mineral values. Ore from tactite contained the following: 25 percent biotite; 10 percent pyroxene; 10 percent tremolite; 10 percent carbonate; and 10 percent malachite (Herreid, 1966). The tactitie zone averaged: 1.24 ounces/ton gold, 2.9 ounces/ton silver, 1.11 percent copper, and 0.05 percent bismuth (Herreid, 1966). Age of mineralization is unknown, but probably related to the 68.0 Ma

Bi, Sb	Bornite, chalcocite?, chalcopyrite, magnetite, malachite, pyrite, pyrolusite, sphalerite, tetrahedrite?	Calcite, tremolite	Mine	Inactive	No	Copper skarn or tactite (Cox and Singer, 1986; model 18b).	The Francis Island occurrence is on the easternmost contact of a granitic intrusion of Cretaceous age. The intrusion is mostly underwater, but a substantial granitic mass, inferred to be part of the same pluton, is exposed on the south part of Marble Mountain across Whidbey Passage from Francis Island. The granitic rock is intruded into marble of Devonian and Silurian age (Brew and others, 1978; pl. IA). Mineral deposits occur

	Bornite, chalcopyrite, molybdenite	Calcite, epidote, garnet, paligorskite, quartz	Prospect	Inactive	No	Distal tactite, suspected intrusion not exposed.	The occurrence is in limestone of Paleozoic age which, elsewhere on Lemesurier Island, is cut by granitic intrusions. The mineral suite reported at the locality--quartz, garnet, epidote, pyroxene, calcite, molybdenite, chalcopyrite, and bornite--(Smith, 1942, p. 177) is a tactite suite, probably related to a nearby intrusion. An unusual asbestos-like mineral, paligorskite, called mountain leather, formed as replacement of limestone near copper-

Ag, Sn	Chalcopyrite, galena, pyrite, pyrrhotite, sphalerite	Actinolite, biotite, calcite, chlorite, quartz	Prospect	Inactive	None	Kuroko massive sulfide (Cox and Singer, 1986; model 28a).	The rocks for the Roberts No. 2 or McGinnis Glacier prospect are intensely deformed schists of Devonian or older age (Nokleberg and Aleinikoff, 1985; Aleinikoff and Nokleberg, 1985 [C 967]). They contain abundant mylonite zones and exhibit two periods of metamorphism and deformation: an older, lower amphibolite grade event, and a younger, lower greenschist grade event. At the prospect, massive sulfides occur in a 6-foot-

	Chrysotile (?)	Serpentine	Occurrence	Probably inactive	Undetermined.	Serpentine-hosted asbestos (Cox and Singer, 1986; model 8d).	Specimens from this occurrence have asbestos seams as much as three-quarters of an inch wide (Saunders, 1958). Saunders examined a hand specimen at Dot Lake village; he did not visit the location. The rocks at the occurrence are not described.

	Chromite	Olivine, serpentine	Occurrence	Active	None	Disseminated chromite in mafic-ultramafic rock.	This occurrence is in an Upper Triassic mafic intrusive complex (Nokleberg and others, 1991). Rose (1966 [ADMM GR 20, figure 3]) mapped the complex as diorite, quartz diorite, and gabbro. The occurrence consists of chromite disseminated in a serpentinized olivine cumulate inclusion in metagabbro. Sample 79NK242B contained more than 0.5 percent chromium (Nokleberg and others, 1991).

Pd, Pt	Chalcopyrite, chromite, magnetite, pentlandite, pyrrhotite	Olivine, serpentinite	Occurrence	Active	No	Disseminated chromite in layered mafic-ultramafic complex and Ni-Cu-PGE in differentiated mafic-ultramafic sill.	This occurrence is in Upper Triassic ultramafic and mafic rocks that are enclosed in a Tertiary to Cretaceous composite granitic to dioritic pluton (Nokleberg and others, 1991). Rose (1966 [ADMM GR 20, figure 3]) mapped dunite bodies within diorite, quartz diorite, and gabbro in this area. The Broxson Gulch thrust appears to form the hanging wall of the intrusive series, and it has been inferred that dunite bodies formed a well-

Pd, Pt	Chalcopyrite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	This occurrence is in the westernmost exposure of the Fish Lake ultramafic complex, a large layered lopolith of Late Triassic age considered to be comagmatic with the Upper Triassic Nikolai Greenstone (Nokleberg and others, 1991). This occurrence consists of sulfide minerals disseminated in the ultramafic complex. Chalcopyrite and pyrrhotite form about 5 to 7 percent of the olivine-clinopyroxene wehrlite. The wehrlite is about 100 feet

Co, Pt	Chalcopyrite, pentlandite, pyrrhotite		Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The Tres Equis prospect is in the Fish Lake ultramafic-mafic intrusive complex, a layered lopolith of Late Triassic age considered to be a comagmatic with lava flows of the Nikolai Greenstone (Nokleberg and others, 1991). The rocks at the Tres Equis prospect consist of layered wehrlite cut by irregular, mainly gabbroic dikes. A 50- to 100-foot-thick layer of taxitic gabbro overlies the wehrlite and is overlain in turn by a thick, massive peridotite of a

Au, Cr	Chalcopyrite, magnetite, pentlandite, pyrrhotite	Diopside, epidote, serpentine	Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The rock in the area of this prospect consists of Upper Triassic serpentinized peridotite and mafic gabbro interleaved with quartz diorite (Rose, 1966 {ADMM GR 20, figure 3]). The serpentinized rocks, informally called the Eureka ultramafic complex, occupy strands of the Broxson Gulch thrust fault (Nokleberg and others, 1991). Disseminated sulfide minerals are present in several ultramafic lithologies and in skarn of

	Chromite, magnetite	Calcite, chrysotile (brittle), opal, serpentine	Occurrence	Active	None	Disseminated and vein-like masses of chromite in a mafic-ultramafic sill-like body.	This occurrence is in an Upper Triassic sill-like body of serpentinized dunite that can be traced continuously for more than 5 miles (Rose, 1966 [ADMM GR 20, figure 3]). The body is the main unit of the informally named Eureka ultramafic complex that occupies strands of the Broxson Gulch thrust fault (Nokleberg and others, 1991; W.T. Ellis, unpublished data, 1996). The occurrence consists of veins and discontinuous lenses of opal,

Pd, Pt	Chalcopyrite, magnetite, pentlandite, pyrrhotite	Serpentine	Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The rock in the area of this prospect consists mainly of Upper Triassic serpentinized dunite that is part of a sill that can be followed for more than 5 miles (Rose, 1966 [ADMM GR 20, figure 3]). The sill is part of the informally named Eureka ultramafic complex (Nokleberg and others, 1991; W.T. Ellis, unpublished data, 1996). The mineral deposit consists of olivine melagabbro that contains as much as 7 percent

Cr, Cu	Chalcopyrite, chromite, magnetite, pentlandite, pyrrhotite	Serpentine	Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The rock in the area of this prospect consists mainly of Upper Triassic gabbro and serpentinized dunite that are part of a sill that can be followed for more than 5 miles (Rose, 1966 [ADMM GR 20, figure 3]). The sill is part of the informally named Eureka ultramafic complex (Nokleberg and others, 1991; W.T. Ellis, unpublished data, 1996). The mineral deposit consists of olivine melagabbro that contains as much as 7

Cu, Pb, Zn	Chrysotile	Serpentine	Occurrence	Inactive	None	Serpentinite-hosted asbestos (Cox and Singer,1986; model 8d). The base metal-bearing gossan in slate may be a sedimentary-exhalative deposit.	This record describes two mineral localities: asbestos in dunite, and base metals in slate near the dunite. The asbestos deposit is in an Upper Triassic serpentinized dunite sill that can be followed for more than 5 miles (Rose, 1966 [ADMM GR 20, figure 3]). The dunite is part of the informally named Eureka ultramafic complex that occupies strands of the Broxson Gulch thrust fault (Nokleberg and others, 1991; W.T. Ellis, unpublished

Pb	Chromite	Olivine, serpentine	Occurrence	Active	None	Chromite disseminated in layered mafic-ultramafic complex.	A fault-bottomed block of Upper Triassic cumulate gabbro and melagabbro overlies the Slana Spur Formation of Late Paleozoic age at this site (Rose, 1965, figure 2; Nokleberg and others, 1991). The olivine cumulate contains disseminated chromite. Sample 79NK009A of the cumulate assayed more than 5,000 parts per million chromium (Nokleberg and others, 1991, locality 46, table 2). Stream-sediment

	Chalcopyrite, pentlandite, pyrite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The Airstrip Fault (Rose 1965, figure 2) is subparallel to the gulch that hosts this occurrence. Rocks south of the fault include Upper Triassic melagabbro and peridotite. Float in the upper creek contains mineralized magmatic-breccia cobbles and boulders with dunite and gabbro clasts in a coarse-grained pyroxene-rich matrix (W.T. Ellis, unpublished data, 1996). A grab sample of breccia containing about 4 percent total sulfide assayed

Ag, Cr, Cu, Ni, V	Chalcopyrite, pyrite, sphalerite	Diopside, garnet (uvarovite), quartz	Prospect	Inactive	None	Skarn affiliated with mafic-ultramafic host rock.	The Green Wonder prospect is in an amphibolitized serpentine unit in contact with graywacke and meta-andesite of the Slana Spur Formation of Late Paleozoic age (Rose, 1965; Nokleberg and others, 1991). The serpentinized unit is part of the informally named Eureka ultramafic complex of Late Triassic age that is emplaced on strands of the Broxson Gulch thrust fault (W.T. Ellis, unpublished data, 1996). At the prospect site, the altered

	Chalcopyrite, malachite	Serpentine	Occurrence	Active	None	Cu in differentiated mafic-ultramafic sill.	The rock at this occurrence is mainly serpentinized dunite of the informally named Eureka ultramafic complex. This Upper Triassic complex occupies strands of the Broxson Gulch thrust fault (W.T. Ellis, unpublished data, 1996). At the site, a copper-stained limestone block occurs in association with a chalcopyrite-bearing, 5-foot-wide zone in serpentine. The chalcopyrite-bearing zone is iron-stained and trends N60W (Rose, 1965).

	Malachite		Prospect	Active	None	Copper-bearing float possibly derived from mafic or ultramafic rocks.	The rocks at this occurrence consist mainly of serpentine and limestone. Copper-stained and strongly iron stained rocks occur in float at the site, but copper-bearing bedrock has not been reported (Rose, 1965). The source of the float may be Upper Triassic mafic or ultramafic rocks that occur in the area (Nokleberg and others, 1982).

Pd, Pt	Chalcopyrite, magnetite, marcasite, pentlandlte, pyrite, pyrrhotite	Serpentine	Prospects	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	This deposit consists of sulfide lenses along the contact between peridotite and sheared serpentinized olivine cumulate, layered units of an Upper Triassic ultramafic intrusive complex (Rose, 1965, figure 2; Nokleberg and others, 1991). The deposit was discovered by Rose (1965), who described six lenses of massive sulfide in an area having a radius of 100 feet. The largest lens was 3 feet thick by 6 feet long. The massive sulfides

	Pentlandite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The Rainy ultramafic complex is a steeply north dipping dike-like body of dunite that varies from less than 100 feet thick to more than 6,000 feet thick and extends for more than 12 miles in length. A discontinuous marginal gabbro extends along most of the southern (lower) contact and is more discontinuous along the northern (upper) contact (W.T. Ellis, oral communication). The Rainy ultramafic/mafic complex of Late Triassic age intrudes the

	Chalcopyrite, magnetite, pentlandite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The Rainy mafic-ultramafic complex is a steeply north dipping dike-like body of dunite that varies from less than 100 feet thick to more than 6,000 feet thick and extends for more than 12 miles in length. A discontinuous marginal gabbro package extends along most of the southern (lower) contact and is more discontinuous along the northern (upper) contact (W.T. Ellis, oral communication, 2001). The Rainy complex of Late Triassic age intrudes the

Co	Chalcopyrite, magnetite, pentlandite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The East Peak (Rainy) occurrence is in an Upper Triassic ultramafic-mafic complex (the Rainy complex) that intrudes the Slana Spur Formation of Pennsylvanian age (Nokleberg and others, 1991). In this area a layered marginal gabbro sequence is as much as 1,500 feet thick. Prominent rock types are gabbronorites, clinopyroxene megacrystic melagabbro, and wherlite. The East Peak showing is in a melagabbro layer near the lower contact of

	Chalcopyrite, pyrite	Actinolite, epidote, magnetite	Prospect	Active	None	Uncertain, possible copper skarn (Cox and Singer, 1986; model 18b).	The rock at this prospect has been described either as amphibole 'serpentinite' by Rose (1965) or as metabasalt of the Nikolai Greenstone of Late Triassic age by Nokleberg and others (1991, locality 57). A thin section examined by Rose was composed mainly of olivine and amphibole with minor amounts of epidote, pyrite, and chalcopyrite. He also identified actinolite and glaucophane. The deposit consists of a copper-bearing

Co	Chalcopyrite, magnetite, malachite, pentlandite, pyrrhotite		Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	At the North Rainy occurrence a cluster of eight airborne electromagnetic anomalies marks a subcircular magnetic high (W.T. Ellis, oral communication, 2001). The rocks in this area are variably serpentinized dunite near a fine-grained gabbro intrusion. There is a well-developed breccia zone at the dunite-gabbro contact that is locally mineralized. The breccia consists of angular dunite clasts of various sizes (and at least

Cr, Pb, Pd, Pt	Chalcopyrite, pentlandite, pyrite, pyrrhotite, galena, sperrylite	Serpentine	Prospect	Active	Undetermined.	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	A tabular intrusive body of partly serpentinized ultramafic and gabbroic rocks that trends approximately east-west is exposed in a small creek on the north side of Ann Creek (Rose, 1965). North of the intrusion the rocks are dark, siliceous sedimentary rocks and light-colored tuff. To the south they are andesitic and dacitic volcanic rocks. The rocks are part of the Slana Spur Formation of Pennsylvanian age, but their differences on

Au, Co, Cr, Ir, Rh, Ru	Chalcopyrite, chromite, cobaltite, magnetite, malachite, pentlandite, pyrite, pyrrhotite, safflorite	Garnet, olivine, pyroxene, serpentine	Occurrences	Active	No	Ni-Cu-PGE in differentiated mafic-ultramafic sill; Disseminated chromite in a layered mafic-ultramafic complex; Cu skarn (Cox and Singer, 1986; model 18b).	The occurrences consist of several sulfide-bearing, garnet-pyroxene skarns in carbonate beds intruded by the Rainy ultramafic-mafic complex of Late Triassic age and of sulfide-bearing basalt, diorite, gabbro, and serpentinite (Foley, 1992). The mineralized mafic rock and skarn came from rubble near the southern contact of the Rainy complex. The sulfide minerals form disseminations and nearly massive pods of pyrite, pyrrhotite, magnetite, and chalcopyrite and

	Chromite	Olivine, serpentine	Occurrence	Active	None	Chromite disseminated in a layered mafic-ultramafic complex.	The occurrence is in the Fish Lake ultramafic complex, a lopolithic feeder of basaltic flows of the Nikolai Greenstone of Late Triassic age (Wrangellia terrane) (Nokleberg and others, 1991). The occurrence consists of chromite disseminated in serpentinized olivine-rich cumulate. Grab sample 79ZN031A contained more than 5,000 parts per million chromium (Nokleberg and others, 1991, table 2).

	Chalcopyrite, magnetite, pentlandite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The BM-75 occurrence is hosted by the Fish Lake mafic-ultramafic intrusive complex, which is of Late Triassic age and believed to be a lopolithic feeder of the Nikolai basalt flows (Nokleberg and others, 1991). The occurrence is in a pod of serpentinized peridotite in a gabbroic unit of the third magmatic cycle of the Fish Lake complex. The pod of serpentinized peridotite contains a few percent disseminated pyrrhotite, chalcopyrite,

	Chromite	Olivine, serpentine	Occurrence	Active	None	Chromite disseminated in layered mafic-ultramafic complex.	The rock at this occurrence is the Fish Lake mafic-ultramafic intrusive complex of Late Triassic age, which is believed to be a lopolithic feeder of the Nikolai basalt flows (Nokleberg and others, 1991). The occurrence consists of serpentinized olivine-pyroxene cumulate containing disseminated chromite. Grab sample 79ZN026A of this material contained more than 5,000 parts per million chromium (Nokleberg and others, 1992, table 2, locality

Pd, Pt	Chalcopyrite, pentlandite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The rock at this occurrence is the Fish Lake mafic-ultramafic intrusive complex of Late Triassic age, which is believed to be a lopolithic feeder of the Nikolai basalt flows (Nokleberg and others, 1991). A gabbroic unit of the third magmatic cycle of the complex hosts the occurrence, which consists of angular boulders and rubble composed of sulfide-bearing melagabbro and gabbro (W.T. Ellis, unpublished data, 1996). The melagabbro is

	Chromite	Olivine, serpentine	Occurrence	Active	None	Disseminated chromite in a layered mafic-ultramafic complex.	The rocks in the area of this occurrence are part of the Fish Lake mafic-ultramafic intrusive complex of Late Triassic age, which may be a lopolithic feeder of the Nikolai basalt flows of the Wrangellia terrane (W.T. Ellis, oral communication, 1998). Serpentinized olivine-pyroxene cumulate in the complex contains sparsely disseminated chromite. Grab samples contain 5,000 (or more) parts per million chromium (Nokleberg and others, 1991,

Pd, Pt	Chalcopyrite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The Antler occurrence is near the east end of the Fish Lake mafic-ultramafic intrusive complex of Late Triassic age. The occurrence was discovered by American Copper and Nickel Corporation (ACNC) geologists in 1995 and consists of disseminated pyrrhotite and chalcopyrite in wehrlite and in adjacent gabbro dikes that strike N45E and dip 75 SE. ACNC grab samples contain 0.14 percent nickel, 0.17 percent copper, 90 parts

Pd, Pt	Chalcopyrite, magnetite, pentlandite, pyrrhotite	Serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	The White Socks prospect is hosted by an Upper Triassic mafic-ultramafic intrusive complex that is comagmatic with the basalt flows of the Nikolai Greenstone (Nokleberg and others, 1991; L.D. Hulbert, oral communication, 2001). This complex may connect at depth with the Fish Lake complex at the base of the Amphitheater syncline (W.T. Ellis, oral communication, 2001). At the prospect, locally iron-stained and gossany float and rubble crop

	Chalcopyrite, pyrrhotite	Serpentine	Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	This occurrence consists of float of gabbro, gabbronorite, pyroxenite, olivine melagabbro, and dunite (W.T. Ellis, oral communication, 2001). The rocks are variably serpentinized, and some contain as much as 8 percent sulfide, chiefly in pyrrhotite and chalcopyrite. A sample of sulfide-bearing gabbro contained 0.18 percent nickel, 0.05 percent copper, 46 parts per billion (ppb) palladium, and 15 ppb platinum (W.T. Ellis, oral communication,

Ni, Pd, Pt	Pyrite, pyrrhotite	Olivine, serpentine	Occurrence	Active	No	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	This occurrence consists of disseminated pyrite and pyrrhotite in a serpentinized peridotite sill intruded by leucogabbro (W.T. Ellis, oral communication, 2001). A sample of the sulfide-bearing peridotite contained 0.12 percent nickel, 0.01 percent copper, 34 parts per billion (ppb) palladium, and 15 ppb platinum. A grab sample of pyritic, sheared, serpentinized, and iron-stained olivine cumulate near the gabbro contained 3,200 parts per million copper

Au	Pyrrhotite	Olivine, serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	Peridotite in a borrow pit on the side of the Denali Highway contains as much as 1 percent disseminated pyrrhotite and traces of platinum group elements (L.D. Hulbert, oral communication, 2001). The peridotite probably is part of the Tangle ultramafic-mafic complex of Late Triassic age. Two grab samples collected by MAN Resources respectively contained 0.11 percent nickel, 0.01 percent copper, 67 ppb palladium, and 146 ppb

	Pyrrhotite	Olivine, serpentine	Occurrence	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	Dunite Hill (as it is informally called) is underlain by partly serpentinized massive gray dunite that is part of the Tangle mafic-ultramafic intrusive complex (W.T. Ellis, oral communication, 2001). The complex may be a lopolithic feeder of the Nikolai basalt flows of the Wrangellia Terrane. A grab sample reported by MAN Resources contained 0.16 percent nickel, 0.22 percent copper, 101 parts per billion (ppb) palladium,

	Bornite, chalcopyrite, chrysocolla	Actinolite, epidote, quartz	Occurrence	Inactive	None	Basaltic Cu (Cox and Singer, 1986; model 23).	At this locality bornite-chalcopyrite quartz veins several inches or less thick cut vesicular metabasalt of Nikolai Greenstone of Late Triassic age (Rose and Saunders, 1965). The veins strike N85W and dip 75N. Chrysocolla occurs nearby in vesicles in epidotized basalt. Asbestiform actinolite occurs in one vein.

Au, Co, Ir, Os, Rh	Bornite, chalcopyrite, garnierite, malachite, pentlandite, pyrite, pyrrhotite	Serpentine	Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	This prospect consists of a sheared and mineralized gabbronorite dike and serpentinized peridotite (Barker, 1988). The rocks are adjacent to the Broxson Gulch Fault near its intersection with the Denali Fault (Barker, 1988). The ore minerals occur as disseminations and lenses of pyrrhotite, pentlandite, chalcopyrite, bornite, garnierite, and pyrite in serpentinized gabbronorite and peridotite. The copper minerals are

Au, Co, Ir, Os, Rh	Chalcopyrite, pentlandite, pyrite, pyrrhotite	Quartz, serpentine	Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill; Porphyry Cu (?) (Cox and Singer, 1986; model 17).	The prospect is in a roof pendant of Upper Triassic serpentinized peridotite and melagabbro in a stock of Cretaceous(?) quartz diorite (Rose, 1965). Pyrrhotite, chalcopyrite, and pentlandite occur in a narrow zone along the contact between the peridotite and gabbro, and chalcopyrite and pyrite are disseminated in the quartz diorite (Barker, 1988). The gabbro locally contains lenses composed of 20 to 50 percent pyrrhotite; chalcopyrite and

	Chalcopyrite, magnetite, malachite, pentlandite, pyrite, pyrrhotite	Serpentine	Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	At this prospect disseminated pyrrhotite, pyrite, and traces of chalcopyrite and pentlandite are in feldspathic peridotite near the base of the Canwell mafic-ultramafic intrusive complex of Late Triassic age (W.T. Ellis, oral communication, 1998). The peridotite is cut by high-angle shears containing copper-stained magnetite seams as much as 1 inch thick. The complex is a 2.5-mile-long by 0.5-mile-wide sill that dips southwest and is intruded by a 6-mile-long

Os, Rh, Ru	Chalcopyrite, malachite, pentlandite, pyrrhotite	Chrysotile, serpentine	Prospect	Active	None	Ni-Cu-PGE in differentiated mafic-ultramafic sill.	At this prospect, disseminations and massive segregations of pyrrhotite, chalcopyrite, and pentlandite, with associated cobalt, platinum group element (PGE) minerals, and gold, are in serpentinite, gabbronorite dikes and sills, and contact-related deposits (Foley and others, 1989). The sulfides are also disseminated in mafic gabbro at the base of the mafic and ultramafic rocks of the Canwell complex of Late Triassic age, a 2.5-mile-long by 0.5-mile-wide southwest-

Fe	Chrysotile, magnetite		Occurrence	Inactive	No	Low-grade deposit of cross-fiber asbestos (chrysotile) and disseminated magnetite in layered mafic-ultramafic complex.	The host rock at this occurrence is dunite in a composite ultramafic body that also contains peridotite, pyroxenite, and hornblendite (Rose, 1967). Thin veinlets of cross-fiber chrysotile cut the dunite. Boulders of hornblendite near the site contain as much as about 10 percent magnetite. No analyses are reported from the area.

	Azurite, chalcopyrite, malachite, pyrite	Actinolite, albite, chlorite, epidote, potassium feldspar, quartz, sericite	Occurrence	Undetermined	None	Probably Porphyry Cu (Cox and Singer, 1986; model 20c).	This occurrence is in dacite porphyry of Early Permian age. The dacite intrudes the lower part of the Slana Spur Formation of Pennsylvanian to Early Permian age; the Slana Spur Formation is mainly composed of dacite agglomerate. Locally, the dacite porphyry is intensely altered to a rock composed of actinolite, albite, chlorite, epidote, potassium feldspar, and sericite. This occurrence is a dacite porphyry that contains disseminated pyrite and

Ag, Cu, Pb	Arsenopyrite, chalcopyrite, galena, gold, magnetite, pyrite, pyrrhotite, sphalerite	Actinolite, carbonate, chlorite	Occurrence	Probably inactive	None	Kuroko massive sulfide (Cox and Singer, 1986; model 28a).	The Trio West occurrence is a 2- to 3-foot-thick massive sulfide body that crops out discontinuously on a talus-covered hillside for approximately 60 feet. The massive sulfide contains quartz (exhalite?) fragments as much as 8 inches long; it has an upper pyrrhotite-chalcopyrite-rich zone and a lower pyrrhotite-sphalerite-galena-rich zone. The massive sulfide is everywhere underlain by an 8-inch- to 1-foot-thick quartz exhalite that is

Au, Cu	Arsenopyrite, chalcopyrite, galena, gold, magnetite, pyrite, pyrrhotite, sphalerite	Actinolite, chlorite, quartz	Prospect	Active	None	Kuroko massive sulfide (Cox and Singer, 1986; model 28a).	The Rum South prospect is in a west-northwest-trending, steeply south dipping sequence of metavolcanic and metasedimentary rocks that have been intruded by gabbroic sills in the central and basal part of the Drum sequence. The Rum North (MH342) occurrence is about 1,000 feet away from this prospect (R.A. Blakestad and others, unpublished Resource Associates of Alaska Inc. report, 1978). The Drum unit that hosts the Rum prospects

Cu, Pb	Chalcopyrite, galena, sphalerite	Actinolite, garnet, quartz, tremolite	Occurrence	Inactive	None		The country rocks in the area of this occurrence are mainly quartz-feldspar schist and quartzite of the upper Precambrian Birch Creek Schist (Bundtzen, 1981; Thornsberry, McKee, and Salisbury, 1984, v. 2, occurrence 54). Outcrop is poor. The occurrence consists of a boulder of quartz-garnet-actinolite (tremolite) schist that contains abundant sphalerite and lesser amounts of galena and chalcopyrite. Soil samples

Mn, Pb, Zn	Arsenopyrite, chalcopyrite, galena, limonite, pyrite, pyrolusite(?), pyrrhotite, sphalerite	Calcite, clinozoisite, garnet, idocrase, quartz, serpentine	Occurrence	Inactive	None	Cu skarn deposit (Cox and Singer, 1986; model 18b).	This occurrence consists of approximately stratiform tactite in marble of the Spruce Creek sequence. The marble is part of a quartzite unit that structurally underlies quartz-feldspar schist and gneiss (Thornsberry, McKee, and Salisbury, 1984, v. 2, occurrence 19). The tactite is banded and consists mostly of garnet, clinozoisite, and idocrase, along with sparsely disseminated chalcopyrite, pyrite, and pyrrhotite. It is partly oxidized and stained with limonite and a black oxide,

Ni	Chromite, garnierite?		Occurrence	Inactive	No	Lode; podiform chromite	Chromite, along with a greenish mineral tentatively identified as garnierite, occurs in discontinuous bands less than an inch (25.4 mm) wide, small pods, and disseminations in part of a large serpentinized dunite-peridotite body. Misheguk Mountain is part of an ultramafic body approximately 32 miles long in a northeastern direction and about 13 miles wide. It is part of an ophiolite complex composed of a central core of the

	Chromite		Occurrence	Inactive	No	Lode; podiform chromite	Rubble sample of serpentinite containing bands and disseminations of chromite, presumably from underlying mafic-ultramafic complex

	Asbestos	Serpentine	Prospect	Probably inactive	None	Serpentine-hosted asbestos (Cox and Singer, 1986; model 8d)	A thin belt of serpentinite extends west-northwest from near Stratton Creek to north of Mentasta Lake (Richter, 1967, 1976). Mining claims for asbestos have been located near the east end of this belt (U. S. Bureau of Mines, 1995; Kardex location MILS 0020780090). The serpentinite locally contains rodingite inclusions with thin nephritic rims and lenses of magnesite-dolomite-silica rock (Richter, 1976). This alpine-type ultramafic body

	Nephrite	Chlorite, serpentine	Prospect	Probably inactive	Undetermined.	Serpentine-hosted asbestos (Cox and Singer, 1986; model 8d)	A thin band of serpentinite in Devonian metasedimentary rocks was prospected for asbestos in the 1950s by L. L. Patten (Richter, 1967). A dense, slightly schistose, and hard rock from one of the prospect pits was found to contain nephrite (jade). The nephrite is associated with roddingite inclusions and ranges in color from dark to light green with some apple-green zones. The deposit has produced a number of pounds of semiprecious

Cu	Chalcopyrite, gold, marcasite, pyrite, pyrrhotite		Prospect	Inactive	Undetermined.	Cu skarn (Cox and Singer, 1986; model 18b)	A surface exposure of massive pyrrhotite with some pyrite and late marcasite was discovered at this prospect in 1940 (Wayland, 1943). The massive pyrrhotite was exposed over a length of 52 feet, a vertical distance of 34 feet, and a width of 19 feet. The pyrrhotite is coarse grained; some crystal are 2 inches in diameter. The pyrrhotite also forms crystals in vugs and Wayland (1943) observed minor chalcopyrite and late marcasite under the

	Chalcopyrite, pyrrhotite	Actinolite, garnet	Occurrence	Inactive	None	Cu skarn (Cox and Singer, 1986; model 18b)	Large boulders up to 6 feet or more in diameter of massive pyrrhotite, chalcopyrite, actinolite, and garnet occur at this locality (Richter and others, 1975). The source of these boulders is unknown. Quaternary deposits cover much of the lower areas of this drainage but a Cretaceous hornblende quartz diorite and diorite stock that intrudes upper Paleozoic metavolcanic rocks makes up most of the bedrock in the headwaters of the drainage

	Chromite		Prospect	Probably inactive	None	Podiform chromite (Cox and Singer, 1986; model 8a)	At this prospect, chromite is disseminated in serpentinized peridotite), which is part of a gabbro, anorthosite, and ultramafic complex that extends for over 4 miles along the south side of the Carden Hills (Richter, 1976; Foley and others, 1985; U. S. Bureau of Mines, 1994; MILS #0020780128). The serpentine replaces peridotite and dunite located on the northeast side of the complex.

Ag, Au, Mo	Chalcopyrite, magnetite, pyrite	Actinolite, potassium feldspar, quartz	Prospect	Inactive	None	Porphyry Cu-Mo (Cox and Singer, 1986; model 21a)	At the Horsfeld prospect, pyrite and chalcopyrite occur in quartz veinlets and as disseminations in monzonite and monzonite porphyry of the mid-Cretaceous, Klein Creek pluton (Richter and others, 1973; 1975). This porphyry copper and molybdenum deposit has a central 200- by 700-meter zone of potassium feldspar, actinolite, and magnetite alteration, and a 800- by 1,500-meter outer zone of unspecified hydrothermal alteration. Surface

Ag, Au, Mo	Chalcopyrite, pyrite	Albite, actinolite, quartz, sericite	Prospect	Inactive	None	Porphyry Cu-Mo (Cox and Singer, 1986; model 21a)	At the Baultoff prospect, disseminated pyrite and chalcopyrite occur in hornblende diorite and quartz porphyry of the mid-Cretaceous, Klein Creek pluton (Matson and Richter, 1971 [OFR 71-202]: Richter and others, 1975; Hollister and others, 1975). A 400- by 1,000-meter central altered zone is characterized by albite, chlorite, sericite and late anhydrite veins. It is within a 2,000- by 3,000-meter outer zone marked by abundant

Ag, Pb, W, Zn	Argentojarosite, beudantite, chalcocite, chalcopyrite, covellite, jarosite, molybdenite, native Cu, pyrite, pyrrhotite, sphalerite	Actinolite, andalusite, anhydrite, calcite, chalcedonic quartz, chlorite, epidote, garnet, goethite, hematite, hydrothermal white mica, jarosite, kaolinite, limonite, montmorillonite, potassium feldspar, quartz, siderite	Prospects	Undetermined	None	Porphyry Cu-Mo, and skarn with stockworks and gossans, disseminated (Cox and Singer, 1986; model 21a)	The Round Top porphyry Cu-Mo deposit was discovered in 1980 during a reconnaissance exploration program by Anaconda Minerals Company (Harris, 1985). Harris completed a Masters thesis at the University of Colorado on the Round Top prospect in 1985 and the following information is from that thesis, unless stated otherwise. The country rocks in the area of the Round Top prospect consist of greenschist and amphibolite, locally

Zn	Chalcopyrite, pyrite		Occurrence	Inactive	None	Minor chalcopyrite in serpentine of a mafic-ultramafic complex.	Minor amounts of pyrite and chalcopyrite occur widely over an area of about 36 square miles in this part of the Asik Mountain mafic-ultramafic complex which is as much as 60 miles long and 25 miles wide (Degenhart and others, 1978). Serpentine and dark green to black basalt with amygdules filled with calcite and epidote are the most common rock types. The serpentine commonly contains small amounts of fine-grained pyrite as disseminations and fracture

Ag, Hg, Pt, Sn	Cassiterite, cinnabar, gold, magnetite, platinum, pyrite	Garnet, quartz	Mine	Active	Yes; small	Placer Au-Pt (Cox and Singer, 1986; model 39 a)	The country rocks in the Boob Creek area consist of Cretaceous sandstone and shale, Jurassic greenstone and cherty tuff, Paleozoic limestone and metamorphic rocks, Cretaceous or Tertiary monzonite intrusions, and an ultramafic complex at Mt. Hurst (Chapman and others, 1985; Roberts, 1984; Hawley and others, 1991; Bundtzen and Miller, 1997). The layered ultramafic rocks exposed at Mt. Hurst may be present in the

Cu, Sb	Arsenopyrite, chalcopyrite, stibnite	Actinolite, epidote, quartz	Prospect	Active	None	Epithermal Au? (Cox and Singer, 1986; model 25b, 25c?)	The rocks in the vicinity of Eldorado Creek consist of intermediate to mafic volcanic and volcaniclastic rocks, and of Cretaceous Kuskokwim Group black shale, limestone, graywacke, and conglomerate intruded by Cripple Mountain monzonite (McGinnis, 1997; Avalon Development Corp., 1998; Duncan, 1999). The headwaters of Eldorado Creek contain limonite-stained, gossanous breccia (Avalon Development

	Chromite		Prospects	Inactive	None	Chromite in Alaska-type ultramafic complex.	The Red Bluff Bay ultramafic complex forms an elliptical outcrop about 4 miles long that consists mainly of partly serpentinized, dunite and wehrlite in gradational contact (Guild and Balsley, 1942; Holdsworth and Williams, 1953; Himmelberg and Loney, 1995). Irregular masses of clinopyroxenite in sharp contact with the dunite and wehrlite make up a large part of the northwest portion of the complex. The complex is surrounded by

Pt	Gold		Mine	Undetermined	Yes; medium	Placer Au (Cox and Singer, 1986; model 39a).	Gold was first discovered in the Nyac district on Bear Creek (RM032)-- a tributary of the Tuluksak River-- near the mouth of Bonanza Creek in 1907 or 1908 and soon after gold was discovered on the Tuluksak River. Dredging began on the Tuluksak River in 1936 and for many years the mining in the district, which was mainly on the Tuluksak River, was carried out by the New York-Alaska Company and its successor the New York-Alaska Gold Dredging

Asbestos, nephrite	Gold		Mine	Inactive	Yes; small	Placer Au-PGE (Cox and Singer, 1986; model 39a).	At California Creek, placer gold occurs in the lower 5 feet of creek gravels, but not in bedrock crevices. The gold is smooth, flat and coarse; about half of it was nugget size. It was worth about $17.20 per ounce in 1931. The grade of the deposit was said to average $0.81 per cubic yard up to and including production from 1930. In 1931 the ground averaged about $0.385 per cubic yard (gold at $20.67/ounce). Both creek and bench deposits were auriferous.

Asbestos			Occurrence	Inactive	None	Nickel in asbestiform minerals in stream float.	This occurrence consists of nickel in asbestiform minerals in stream float (Anderson, 1945). A specimen of chrysotile and antigorite taken from the mouth of Stockley Creek was submitted to the U.S. Bureau of Mines for analysis. The samples returned good tests for nickel.

Asbestos, nephrite	Galena, gold	Quartz	Occurrence	Inactive	None	Polymetallic veins (Cox and Singer, 1986; model 22c) and placer gold (Cox and Singer, 1986: model 39a).	This occurrence consists of (a) galena-bearing quartz veins that cut mid-Paleozoic dolomite west of Wesley Creek, and (b) fine, placer gold in unminable quantities in the gravel of Wesley Creek (Reed, 1931). Prospect shafts on the placer failed to reach bedrock. Tremolite asbestos and gem-quality nephrite jade have been found near the head of Wesley Creek (Anderson, 1945).

	Chromite, magnetite	Serpentine	Occurrence	Probably inactive	None	Minor magnetite and chromite in serpentine.	This occurrence consists of magnetite and chromite in serpentine. Loney and others (1963, 1975) map this small Mesozoic serpentinite body (sliver?) in rocks of the Jurassic and Triassic, Kelp Bay Group which consists of phyllite, greenschist, greenstone, graywacke, and semischist that has been cataclastically deformed. There is no indication that the magnetite and chromite are other than normal trace minerals in the serpentine.

	Chromite, magnetite	Serpentine	Occurrence	Probably inactive	None	Accessory magnetite and chromite in serpentine.	This occurrence is near the contact of two similar units of Jurassic and Triassic age (Loney and others, 1975). The Khaz Formation consists of graywacke, greenschist, metachert, phyllite, and minor limestone. The Kelp Bay Group consists of quartzite, greenschist, greenstone, graywacke and semischist, all of which are subject to intense cataclasis. The occurrence consists of magnetite and chromite in serpentine,

	Arsenopyrite, chalcopyrite, ferrimolybdite, galena, magnetite, molybdenite, pyrite, pyrrhotite, scheelite, sphalerite	Actinolite, diopside, epidote, garnet, quartz	Prospect	Probably inactive	Undetermined.	Polymetallic skarn (Cox and Singer, 1986; model 18b or 18c).	Still and others (1991) report that a 40-foot adit and several prospect pits at this site that were driven on sphalerite-rich skarn were probably developed before World War II. An open cut was dug into highly weathered gossan which contains abundant arsenopyrite. The following description is summarized from Still and others (1991) who attribute the information to a personal communication from A. H. Clough (1989). The

	Gold	Calcite, kaolin, quartz, sericite	Prospect	Probably inactive	None	Auriferous carbonate and quartz-carbonate veins and replacements in felsic (?) dikes.	Greenstone is cut by altered, fine-grained, felsic (?) dikes in this area; the feldspars in the dikes has been replaced by sericite and kaolin. A 3-foot-wide altered dike contains ferruginous calcite in fracture fillings and replacements that are in turn cut by quartz-calcite veinlets; free gold has been panned from crushed vein material (Chapin, 1914). Another 10-feet-wide dike nearby contains quartz, epidote, chlorite, albite, calcite, and tremolite(?).

Graphite	Placer gold		Mine	Inactive	Yes; small	Stream placer (Cox and Singer, 1986; model 39a)	A few ounces of coarse placer gold was reported by Schrader (1904) to have been produced prior to 1913 from Lucky Six Creek. A small lens of high-grade silver ore and graphite was reported by prospectors prior to World War I (Smith, 1913). However, there is no more recent substantiation of any of these deposits and no new information.

	Chalcopyrite, galena?, pyrite, sphalerite	Actinolite, calcite, epidote, garnet, quartz	Prospect	Inactive	None	Kuroko massive sulfide (Cox and Singer, 1986; model 28a)	The Jerry Creek (BT) deposit consists of stratiform, fine-grained, weakly disseminated pyrite, sphalerite, and chalcopyrite that occur over a strike distance of at least 3600 ft. The BT claim group covers three fault-bounded blocks of pelitic, volcanic, and carbonate strata which have under gone two major folding events accompanied by synkinematic metamorphism. The northern fault block consists of pelitic schist that grades upward to calcareous

	Arsenopyrite, bornite, chalcopyrite, enargite, galena, sphalerite	Actinolite, barite, cymrite, ferroan calcite, ferroan dolomite, ferrostilpnomelane, muscovite, quartz, tremolite	Prospects	Active	None	Kuroko massive sulfide (Cox and Singer, 1986; model 28a).	The Sun deposit consists of stratiform, banded, massive to semi-massive sulfides in a series of elongate, southwest-plunging, lenticular bodies along three distinct mineral horizons. An upper horizon is silver, lead, and zinc rich, a middle horizon is copper rich, and a lower horizon is copper and zinc rich. According to Zdepski (1980), the Sun prospect is in a 5,000-foot-thick sequence of Devonian felsic to andesitic volcanic, volcaniclastic

	Chalcopyrite, pyrrhotite	Actinolite, chlorite, quartz	Mine	Inactive	Yes; small	Cyprus massive sulfide (Cox and Singer, 1986; model 24a)	The mine workings follow a 60-foot-wide shear zone in massive greenstone and chlorite schist. The zone strikes N-S and dips steeply east (Kurtak and Jeske, 1986). Nelson and others (1985) mapped the greenstone and schist as Orca Group of early Teriary age. Post-mineralization basalt dikes are present; these are unmetamorphosed and appear unrelated to mineralization (Kurtak and Jeske, 1986). The age of the dikes is

Asbestos	Chalcopyrite, pyrite, pyrrhotite	Asbestos, calcite, quartz	Prospect	Inactive	None	Besshi massive sulfide (Cox and Singer, 1986; model 24b)	Grant and Higgins (1909) described the prospect as a 370-foot-long adit that followed quart-calcite veins in greenstone and slate. The veins contained pyrite, pyrrhotite, chalcopyrite, quartz, and asbestos (Tysdal, 1978 [MF-880-A]; Grant and Higgins, 1909). Some of the veins were 3 inches thick, and asbestos was perpendicular to the wall of the veins. Bedrock in this area is Orca Group of early Teriary age (Nelson and others, 1985).

	Cassiterite	Arsenopyrite, clay, feldspar, fluorite, muscovite, pyrite, quartz, tourmaline	Mine	Inactive	Yes, small	Cassiterite-bearing veins and pods in marble, at marble/granite contacts, and in granite. Some pegmatite characteristics may be present. Generally related to tin vein model (Cox and Singer, 1986; model 15b)	The Bartel Mine area contains the most significant lode cassiterite mineralization known in the Cape Mountain area; it is the source area for the Cape Creek and Goodwin Gulch placers that produced about 1,670 short tons of tin. The only lode production (6 short tons) from the Cape Mountain area is from the Bartel Mine. The mineralized area straddles the contact of the Late Cretaceous Cape Mountain biotite granite (78.8 +/- 2.9 my; Hudson and Arth, 1983, p.

	Cassiterite	Arsenopyrite, chlorite, danburite, pyrite, tourmaline, white mica	Prospect	Inactive	None	Alteration and mineralization along lamprophyre dike in Ordovician limestone. Deposit analog is not clear; possibly tin vein model (15b), or at depth, tin skarn, replacement, or greisen models(14b, 14c, and 15c) after Cox and Singer (1986).	The 2- to 3-foot wide, Dalcoath dike has been mapped for over a mile of length and is highly altered for about 2,000 feet of this length. It intrudes Ordovician limestone and is one of the set of lamprophyre dikes locally present throughout the Lost River area. Faulting has deformed limestone, dike rock, and altered rocks; fault gouge is well developed in some places. The dike may have originally been emplaced along a fault but some movement has

	Cassiterite		Occurrence	Inactive	None	Alluvial tin placer (Cox and Singer, 1986; model 39e)	The Ear Mountain upland is cored by a Late Cretaceous (76.7 +/- 2.8 my) composite biotite granite stock (Sainsbury, 1972; Hudson and Arth, 1983). Country rocks to this stock are an impure and schistose carbonate sequence of unknown but probable Paleozoic age. Tin Creek does not have headwaters that cross the contact zone of the Ear Mountain granite stock directly although tundra-mantled slopes above the headwater

Sn, W	Cassiterite, gold, scheelite		Mine	Probably inactive	Yes	Alluvial Au placer (Cox and Singer, 1986; model 39a)	Dick Creek is a north-flowing tibutary to Bryan Creek that has been placer mined for its gold content. Bryan Creek, the only placer mine in the Serpentine district, is almost all in the Bendeleben quadrangle. Only a small part of this mine, at the confluence of Dick Creek and Bryan Creek, may be in the Teller quadrandle. A dredge may have worked on the creek early on but most of the mining has been by dozer and sluice methods.

	Azurite, possibly bornite, minor chalcopyrite, malachite	Quartz	Mine	Inactive	Yes, small	Copper-bearing mineralization in silica-rich zones at base of marble overlying metapelitic schist.	The lode deposit at the Ward mine is a type of mineral occurrence that is repeated at many locations along a north-trending marble belt that extends southward from this location to the Iron Creek and Casadepaga River areas of southern Seward Peninsula. It has been described as a zone of silicification in marble above a thrust contact with underlying metapelitic schist (Sainsbury and others, 1969; Sainsbury, 1975, p. 90-94).

	Arsenopyrite, cassiterite, columbite-tantalite, pyrrhotite	Fluorite, quartz, topaz, tourmaline, white mica	Prospect	Active	None	Tin greisen including exogreisen and endogreisen (roof) deposits (Cox and Singer, 1986, model 15c)	A Late Cretaceous composite granite complex intrudes metapelitic schist in the Kougarok prospect area. The metapelitic schist is a highly deformed mica-quartz schist characterized by isoclinally folded quartz boudins and segregations that may be Precambrian in age (Gardner and Hudson, 1984). It is thermally metamorphosed to biotite-bearing hornfels within several hundred feet of the granite contact. Boron-rich

Ba, Ni	Arsenopyrite, asbestos, malachite, pyrite, pyrrhotite	Calcite, quartz, serpentine	Occurrence	Inactive	None	Basaltic copper, Serpentine-hosted asbestos, Layered mafic intrusion? (Cox and Singer, 1986; model 23, 8d, 5a?)	The rocks in the Mount Watana area are mostly by Pennsylvanian to Lower Permian basaltic to andesitic metavolcanic rocks, with local ultramafic rocks, chert, and marble (Csejtey and others, 1978). Pyrite and pyrrhotite are disseminated in mafic dikes; pyrite and arsenopyrite occur in andesitic metatuff. Quartz-carbonate veins cut the metabasalt and malachite coats some outcrops. Serpentinized ultramafic rocks, locally cut by

	Chrysotile asbestos		Prospect	Inactive	None	Serpentine-hosted asbestos (Cox and Singer, 1986; model 8d).	Chapman and others (1982) map the Asbestos Creek area as Rampart Group, Mississippian to Jurassic sedimentary and mafic volcanic rocks, along with abundant gabbro and sparse ultramafic rocks. Serpentine is common in the mafic and ultramafic rocks, many of which are highly magnetic (Thomas, 1958 [Dreamland Creek asbestos]). A prospect in the Dreamland Creek area reportedly contains commercial-

	Asbestos		Occurrence	Inactive	None	Serpentine-hosted asbestos (Cox and Singer, 1986; model 8d).	Chapman and others (1982) map the Salt Creek area as Rampart Group, Mississippian to Jurassic sedimentary and mafic volcanic rocks, along with abundant gabbro and sparse ultramafic rocks. The ridge on which the asbestos is reported is composed of Devonian or Carboniferous greenstone interbedded with thin beds of slate, chert, and limestone (Eakin, 1916; Saunders, 1957 [MR 48-5]). Information about this asbestos

	Gold		Mines	Probably inactive	Yes; small	Placer Au (Cox and Singer, 1986; model 39a).	The Moose Creek area is underlain mainly by Jurassic or Cretaceous clastic sedimentary rocks, and by Paleozoic limestone, dolomite, greenstone, and chlorite schist (Chapman and others, 1982). Serpentine Ridge, 1.5 miles to the south, consists of serpentinite and of mafic intrusive rocks that cut Mesozoic, predominantly marine sedimentary rocks. Eighteen or nineteen mining claims were staked between

Cr	Barite, chromite, gold, hematite, ilmenite, magnetite, pyrite		Mine	Active?	Yes; small	Placer Au (Cox and Singer, 1986; model 39a).	American Creek drains the south side of Serpentine Ridge, and has been placer mined both above and below its junction with New York Gulch (TN077). The valley has an asymmetrical shape for much of its length, where the creek flows along the strike of bedding in bedrock. Serpentine Ridge consists of serpentinite and mafic intrusive rocks that apparently intrude Mesozoic, predominantly marine sedimentary rocks, through

			Mines	Inactive	Yes; small	Placer Au (Cox and Singer, 1986; model 39a).	The Salt Creek-Dry Creek area is underlain by Jurassic or Cretaceous clastic sedimentary rocks and by Paleozoic limestone, dolomite, greenstone, and chloritic schist, with minor amounts of phyllite, quartzite, and quartz mica schist (Chapman and others, 1982; Reifenstuhl and others, 1998). Serpentine Ridge, 1.5 miles to the south, consists of serpentinite and mafic intrusive rocks that intrude Mesozoic,

	Gold		Mine	Inactive	Yes; medium	Placer Au (Cox and Singer, 1986; model 39a).	New York Gulch is in the Hot Springs mining district, approximately 15 miles west of the old town of Tofty. It drains the south side of Serpentine Ridge, and flows into American Creek (TN075). Serpentine Ridge consists of serpentinite and mafic intrusive rocks that apparently intrude Mesozoic, predominantly marine, sedimentary rocks, through which the stream channel cuts (Chapman and others, 1982). There is little in the public record

	Chromite		Occurrence	Inactive	None	Podiform chromite (Cox and Singer, 1986; model 8a) or (metamorphosed) Bushveld Cr(?) (Cox and Singer, 1986; model 2a).	The Boulder Creek area is underlain by Jurassic or Cretaceous clastic sedimentary rocks, which are intruded and contact metamorphosed by the Cretaceous monzodiorite and granite Roughtop Mountain pluton (Chapman and others, 1982; Reifenstuhl and others, 1998). Serpentine Ridge, on the south side of the creek, is upper Cretaceous(?) serpentinite, diabase, and gabbro that is in thrust-fault contact with the clastic

Ag, Sn	Cassiterite, gold, ilmenite, magnetite, pyrite, silver		Mine	Probably inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Woodchopper Creek placer mine marks the western end of the Tofty tin belt, a 12-mile long area of cassiterite- and gold-bearing placer deposits that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma)

Ag, Cr, Nb, REE, Sn, W	Aeschynite, cassiterite, chromite, columbite, ellsworthite, gold, ilmenite, magnetite, monazite, picotite, pyrite, rutile, scheelite, unknown silver mineral, zircon		Mine	Inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The placer mines on Deep Creek and its tributaries are part of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62

Ag, Sn	Cassiterite, gold, unknown silver mineral		Mine	Inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Patterson Creek placer mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

Ag, Ce, Nb, Sn	Cassiterite, columbite, gold		Mine	Probably inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Miller Gulch mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons (Chapman and

Ag, REE, Sn	Cassiterite, columbite, gold, monazite, unknown silver mineral		Mine	Inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Idaho Gulch mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons (Chapman and

Ag, Cr, Sn	Cassiterite, chromite, gold		Mine	Probably inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Tofty Gulch mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons (Chapman and

Ag, Sn	Cassiterite, gold, pyrite	Fluorite, quartz, tourmaline	Occurrences	Inactive	None	Sn-polymetallic veins(?) (Cox and Singer, 1986; model 20b).	The Tofty tin belt is a group of cassiterite ('tin')- and gold-bearing placer deposits in a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons (Chapman and others, 1982). The plutons

Ag, Cr, Cu, Pb, REE, Sn	Cassiterite, chromite, galena, gold, ilmenite, magnetite, monazite, native copper, pyrite, xenotime		Mine	Probably inactive	Yes; medium	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Sullivan Creek mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

Sn	Cassiterite, gold		Mine	Inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Harter Gulch mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

Sn	Cassiterite, gold		Mine	Inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Dalton Gulch mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

Ag, Cr, REE, Sn	Aeschynite, barite, cassiterite, chromite, gold, ilmenite, magnetite, pyrite		Mine	Probably inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Cache Creek mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

Sn	Cassiterite, gold		Mine	Inactive	Yes; small	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Ferguson Draw placer mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

Ag, REE, U	Aeschynite, arsenopyrite, chalcopyrite, euxenite, gold, magnetite, pyrite, zircon		Prospect	Active?	None	Carbonatite deposits (Cox and Singer, 1986; model 10).	The Tofty Ridge prospect is near a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons (Chapman and

Sn	Cassiterite, gold		Prospect	Inactive	Undetermined.	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Gold Basin prospect is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons (Chapman and

Sn	Cassiterite, gold		Prospect	Inactive	Undetermined	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Killarney Creek prospect is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

Sn?			Mine	Undetermined	Undetermined.	Placer Au(-Sn) (Cox and Singer, 1986; model 39a).	The Tonawanda Creek mine is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

			Prospect	Probably inactive	Undetermined.	Placer Au (Cox and Singer, 1986; model 39a).	The Utah Creek placer prospect is one of a group of cassiterite- and gold-bearing placer deposits known as the Tofty tin belt, a 12-mile-long area that trends east-northeast, between Roughtop Mountain to the north and Hot Springs Dome to the south (Thomas, 1957). Roughtop Mountain and Hot Springs Dome respectively are underlain by Cretaceous (K-Ar age date of 92 +/- 5 Ma) and Tertiary (K-Ar age date of 62 +/- 3 Ma) granitic plutons

Ag, Co, PGE, Zn	Bravoite, chalcopyrite, limonite, magnetite, pentlandite, pyrite, pyrrhotite, sphalerite	Antigorite, chlorite, epidote, hornblende, serpentine, talc, tremolite	Prospect	Inactive	None	Duluth Cu-Ni-PGE? (Cox and Singer, 1986; model 5a)	Mafic and ultramafic sill-like bodies that intrude metasedimentary rocks of the Haley Creek terrane contain disseminations and segregations of bravoite, chalcopyrite, pentlandite, pyrite, pyrrhotite, and sphalerite (Kingston and Miller, 1945; Herried, 1970; Winkler and others, 1981 [OFR 80-892-B]; Winkler and others, 1981ÿ[OFR 80-892-A]). The principal mineralization is in altered peridotite and a nearby hornblendite

B, Be, Bi, Cd	Azurite, cassiterite, malachite, and unspecified sulfides	Calcite, diopside(?), epidote, garnet, tourmaline, tremolite	Occurrence	Inactive	None	Sn skarn deposit (?) (Cox and Singer, 1986; model 14b)	This occurrence consists of cassiterite, secondary copper minerals, and unspecified sulfides at or near the contact between Proterozoic(?) leucogranite and graphic granite, and marble (Dillon and others, 1981, samples 224 and 288 [AOF 133B]). Samples collected by Dillon and others (1981) include azurite- and malachite-stained granitic rock containing unspecified sulfides (sample 224) and skarn with disseminated cassiterite(?)

work_expl	comments	reference	ARDF_num	rept_names	rept_date	MRDS_num	age
The gypsiferous material averages 25 to 30 percent gypsum, with a maximum of 50 percent. The		Brooks, 1913; Martin and Mertie, 1914; Brooks, 1915; Capps, 1927; Eckhart, 1953; Rutledge and	AN080	D.P. Bickerstaff (USGS contractor); S.W. Huss (USGS)	7/30/1998	A011649	Jurassic or younger; mineralization hosted by an Early Jurassic greenstone.
Johnson (1915) reports that in 1914, 250 ft of tunnels and 2 shallow shafts were reported to have been driven on the veins about 100		Johnson, 1914; Johnson, 1915; Cobb, 1972, MF-409; MacKevett and Holloway, 1977; Cobb, 1979, OFR 79-1095; Jansons and others.	AN115	D.P. Bickerstaff (USGS contractor); S.W. Huss (USGS)	7/30/1998	A011658	Tertiary or younger; veins cut Late Cretaceous Valdez Group graywacke and altered granite dikes of Tertiary age.
	Located within the Kobuk Valley National Park and probably not an economically exploitable	Mayfield and Grybeck, 1978.	AR002	K.R. Leonard (USGS), R. L. Elliott (USGS), J.M. Schmidt (USGS)	10/26/1992	A011860	

	Located within Kobuk Valley National Park and not considered an exploitable resource.	Mayfield and Grybeck, 1978.	AR003	K.R. Leonard (USGS), R.L. Elliott (USGS), J.M. Schmidt (USGS)	10/26/1992	A011859	

	Located within Kobuk Valley National Park.	Anderson, 1947; Mayfield and Grybeck, 1978.	AR004	K.R. Leonard (USGS), R.L. Elliott (USGS), J.M. Schmidt (USGS)	10/26/1992	A011858	

Short tunnel driven on asbestos veins many years prior to USBM study (Heide and others, 1949).	There also has been minor production of nephrite jade from stream gravels of Jade Creek.	Anderson, 1945; Anderson 1947; Heide and others, 1949; Mayfield and Grybeck, 1978.	AR006	K.R. Leonard (USGS), R.L. Elliott (USGS), J.M. Schmidt (USGS)	10/26/1992	A011862	

		Smith and Mertie, 1930; Anderson, 1945; Mayfield and Grybeck, 1978.	AR007	K.R. Leonard (USGS), R.L. Elliott (USGS), J.M. Schmidt (USGS)	10/26/1992	A011863	

Most of gravel is not frozen, in benches up to 25 ft. (9 m) above the river; prospect pits in gravel downstream from canyon did not reach bedrock; 40 ft. (13 m) drill hole in gravels below canyon did not reach bedrock (Reed, 1931, p. 15)	Concentrates mainly magnetite along with rare nuggets of copper and silver (Anderson, 1945, p. 24-46).	Smith and Eakin, 1911; Smith, 1913; Reed,1931; Anderson, 1945; Anderson, 1947; Fritts, 1970; Mayfield and Grybeck, 1978.	AR009	K.R. Leonard (USGS), R.L. Elliott (USGS), J.M. Schmidt (USGS), S.W. Nelson (USGS retired)	5/6/1997	A011867	

4 or 5 surface trenches dug by USBM circa WW II. Small test shipment made during World War ll but no production (Anderson, 1945, p. 19-20).		Anderson, 1945; Heide and others, 1949; Mayfield and Grybeck, 1978.	AR010	K.R. Leonard (USGS), R.L. Elliott (USGS), J.M. Schmidt (USGS), S.W. Nelson (USGS retired)	5/6/1997	A011866	

Four trenches dug by USBM (Heide and others, 1949, p. 21-22) to obtain samples for testing.		Reed, 1931; Anderson, 1945; Anderson, 1947; Heide and others, 1949; Mayfield and Grybeck, 1978.	AR011	K.R. Leonard (USGS), R.L. Elliott (USGS), J.M. Schmidt (USGS), S.W. Nelson (USGS retired)	5/4/1997	A011868	

Surface and underground. Explored by several trenches and a 229 ft. (76 m) adit.		Reed, 1931; Anderson, 1945; Anderson, 1947; Heide and others, 1949; Fritts, 1970; Mayfield and Grybeck, 1978.	AR016	K.R. Leonard (USGS), R.L. Elliott (USGS), J.M. Schmidt (USGS), S.W. Nelson (USGS retired)	4/30/1997	A011876	

Type of workings: Surface and underground. 40 ft (13 m) prospect shaft did not reach bedrock; several prospect pits in vicinity.	Low-grade placer gold deposit: insignificant production.	Mayfield and Grybeck, 1978.	AR021	K.R. Leonard (USGS), R.L. Elliott, (USGS), J.M. Schmidt (USGS)	10/26/1992	A011878	

The Alaska Division of Mining Kardex file system records active claims on Serpentine Creek as recent as 1986.		Foster and others, 1978; Weber and others, 1978.	BD037	Cameron S. Rombach (ADDGS)	4/26/1999		Quaternary

Sainsbury and others (1969) show the lower 5,000 feet of the channel of Homestake Creek to have been placer mined.		Brooks, 1904; Collier and others, 1908; Anderson, 1947; Moxham and West, 1953; Sainsbury and others, 1969; Cobb, 1972 (MF 417); Cobb, 1975 (OFR 75-429); Till and others, 1986.	BN037	Travis L. Hudson (Applied Geology)	3/15/1999	D002563	Quaternary; placer deposits on the active floodplains of the area are probably the result of at least two cycles of erosion and placer developement.

Sainsbury and others (1969) show that 3,000 feet of the upper part of the creek, starting about 2.2 miles upstream from the mouth, has been open-cut placer mined.		Collier and others, 1908; Anderson, 1947; Moxham and West, 1953; Sainsbury and others, 1969; Cobb, 1972 (MF 417); Cobb, 1975 (OFR 75-429); Till and others, 1986.	BN038	Travis L. Hudson (Applied Geology)	3/15/1999	A012708	Quaternary

Sainsbury and others (1969) show 9,000 feet of placer workings in the headwater reaches of Dick Creek. However, because mining is also indicated near the mouth (locality TE070, Hudson, 1998) and because there is a long history of mining of this creek (including dredging, Cobb, 1975), the area of placer mine workings may be more extensive than that shown by Sainsbury and others (1969).		Hess, 1906; Collier and others, 1908; Anderson, 1947; Sainsbury and others, 1969; Cobb, 1972 (MF 417); Cobb, 1973 (B 1374); Cobb, 1975 (OFR 75-429); Till and others, 1986.	BN046	Travis L. Hudson (Applied Geology)	3/15/1999	A012732; D002562	Quaternary

There are no workings on this prospect.		Barnes and Hudson, 1977; Hudson, 1979; Hudson and Arth, 1983; McDermott, 1983; Hudson, 1984; Till and others, 1986; Miller and Hudson, 1991; Ford, 1993; Apodoca, 1994; Hudson, 1994; Ford and Snee, 1996; Goldfarb and others, 1997.	BN047	Travis L. Hudson (Applied Geology)	3/15/1999	10307267	The epigenetic mineralization here is probably mid- to Late Cretaceous in age. Lode gold deposits in the upper Kougarok River area, including this prospect on Midnight Mountain, may be associated with emplacement and crystallization of the Oonatut Granite Complex. The Midnight Mountain prospect is 4 to 4.5 miles south of outcrops of the Oonatut Granite Complex (Hudson, 1979). Regional gravity data show that

Shallow hand-dug prospect pits may be present.		Sainsbury and others, 1970; Hudson, 1979; Hudson and Arth, 1983; Till and others, 1986.	BN048	Travis L. Hudson (Applied Geology)	3/15/1999	10307268	Probably Late Cretaceous; this occurrence may be associated with emplacement and crystallization of the Oonatut Granite Complex. K/Ar ages for the Oonatut Granite Complex are about 70 my (Hudson, 1979).

Shallow hand-dug prospect pits may be present.		Sainsbury and others, 1970; Hudson, 1979; Hudson and Arth, 1983; Till and others, 1986.	BN049	Travis L. Hudson (Applied Geology)	3/15/1999	10307269	Probably Late Cretaceous; this occurrence may be associated with emplacement and crystallization of the Oonatut Granite Complex. K/Ar ages for the Oonatut Granite Complex are about 70 my (Hudson, 1979).

Shallow hand-dug prospect pits may be present.		Sainsbury and others, 1970; Hudson, 1979; Hudson and Arth, 1983.	BN050	Travis L. Hudson (Applied Geology)	3/15/1999	10307270	Probably Late Cretaceous; this occurrence is thought to be related to emplacement and crystallization of the Oonatut Granite Complex. K/Ar ages for the Oonatut Granite Complex are about 70 my (Hudson, 1979).

Shallow hand-dug prospect pits may be present.		Sainsbury and others, 1970; Hudson, 1979; Hudson and Arth, 1983; Till and others, 1986.	BN051	Travis L. Hudson (Applied Geology)	3/15/1999	10307271	Probably Late Cretaceous; this occurrence may be related to emplacement and crystallization of the Oonatut Granite Complex. K/Ar ages for the Oonatut Granite Complex are about 70 my (Hudson, 1979).

Shallow hand-dug prospect pits are present.		Sainsbury and others, 1970; Cobb, 1972 (MF 417); Cobb, 1975 (OFR 75-429); Hudson, 1979; Hudson and Arth, 1983; Till and others, 1986.	BN052	Travis L. Hudson (Applied Geology)	3/15/1999	A012728	Probably Late Cretaceous; this occurrence is probably related to emplacement and crystallization of the Oonatut Granite Complex. K/Ar ages for the Oonatut Granite Complex are about 70 my (Hudson, 1979).

About 5,000 feet of placer gold mine workings are present along the main channel of Humbolt Creek. Some test pits and shafts are present in unmined areas.		Knopf, 1908; Brooks and Martin, 1921; Sainsbury and others, 1968; Cobb, 1972 (MF 417); Cobb, 1975 (OFR 75-429); Barnes and Hudson, 1977; Hudson, 1979; Hudson and Arth, 1983; Till and others, 1986.	BN053	Travis L. Hudson (Applied Geology)	3/15/1999	A012729; W000018	Quaternary

The general area is extensively mantled with tundra; the prospect was initially explored by core drilling. Some core may still be stored at Independence (BN076).		Hudson and others, 1977; Newberry and others, 1997.	BN075	Travis L. Hudson (Applied Geology)	3/15/1999	A012684	Cretaceous; this deposit is in the east contact zone of the Kugruk pluton, which has yielded a K/Ar age of 94.9 +/- 2.9 Ma (Till and others, 1986, p. A-15).

Exploration and production workings include surface dozer trenches, three shafts, and two levels of short drifts. The main shaft, 136 feet deep, was sunk on outcropping mineralization near the Kugruk River (about 250 feet elevation). Two drifts driven from this shaft included one at 36 feet depth (referred to as the 40 foot level) that trended southerly for 260 feet and northerly for 15 feet along structure and another at 136 feet depth (referred to as the 140 foot level) that	Descriptions vary widely with respect to ore mineralogy, grade, and ore body dimensions.	Levensaler, 1941; Cobb, 1972 (MF 417); Cobb, 1975 (OFR 75-429); Till and others, 1986.	BN076	Travis L. Hudson (Applied Geology)	3/15/1999	A012683	If the deposit is epigenetic, it is probably Cretaceous as epigenetic mineralization in metamorphic rocks of Seward Peninsula is primarily of this age. If the deposit is stratabound, it may be the same age as the sedimentary host rocks which are Paleozoic (Ordovician to Devonian).

Mining claims have existed on this propect (Hudson and others, 1977). Work has consisted of surface observations and shallow, hand-dug prospecting pits.		Hudson and others, 1977; Hudson and Wyman, 1983; Till and others, 1986.	BN110	Travis L. Hudson (Applied Geology)	3/15/1999	A012771	Cretaceous; this occurrence is probably related to emplacement of the Pargon pluton which is assumed to be Cretaceous in age.

None.		Moxham and West, 1953; Cobb, 1972 (MF 417); Cobb, 1975 (OFR 75-429); Hudson, 1979; Hudson and Arth, 1983.	BN114	Travis L. Hudson (Applied Geology)	3/15/1999	A012730	Not known; the Oonatut Granite is Late Cretaceous (about 70 my, Hudson, 1979) but if cinnabar is present it may be different in age.

		Doyon Limited, 1987; Dover, 1994.	BR002	K.H. Clautice (Alaska Division of Geological and Geophysical Surveys)	3/15/2002		

Only surface sampling.	See also: Caribou Mountain (BT011).	Patton and Miller, 1970; Foley and McDermott, 1983; Foley and others, 1985; Barker and Foley, 1986; Foley, 1992; Kurtak and others, 1999; Kurtak and others, 2002.	BT017	J.M. Britton (Anchorage)	8/1/2002		

Claims located in 1972.	See also: Mike (CH100), Vicki (CH097), Evelyn Lee (CH059), Luna (CH101), Victor (CH064), and Ginger (CH060). In early reports (DeYoung, 1978) the Pilgrim prospect is grouped with the Cindy, Mike, and Vicki prospects.	DeYoung, 1978; Newberry and others, 1986; Newberry and others, 1997; Ventures Resource Corporation, 1998.	CH099	J.M. Britton (Anchorage)	11/17/1999		Devonian(?) based on reported Early Devonian Pb/Pb zircon ages from the associated Baby Creek batholith and Horace Mountain plutons (Dillon and others, 1996).

Only surface sampling and limited channel sampling.		Ruckmick and Noble, 1959; Noble and Taylor, 1960; Taylor and Noble, 1960; Lanphere and Eberlein, 1966; Wyllie, 1967; Jackson and Thayer, 1972; Brew and Morell, 1983; Gehrels and Berg, 1992; Himmelberg and Loney, 1995; Maas and others, 1995; Van Treeck and Newberry, 2003.	CR005	D.J. Grybeck (Applied Geology)	1-May-04		The PGE deposits are in a Cretaceous mafic-ultramafic complex and they are probably related to its emplacement.

Apparently only surface sampling.		Ruckmick and Noble, 1959; Noble and Taylor, 1960; Taylor and Noble, 1960; Lanphere and Eberlein, 1966; Wyllie, 1967; Jackson and Thayer, 1972; Fischer, 1975; Brew and Morell, 1983; Gehrels and Berg, 1992; Himmelberg and Loney, 1995; Maas and others, 1995; Van Treeck and Newberry, 2003.	CR006	D.J. Grybeck (Applied Geology)	1-May-04		The PGE deposits are in a Cretaceous mafic-ultramafic complex and they are probably related to its emplacement.

Extensive surface sampling and at least 2 diamond drill holes in 2001.		Ruckmick and Noble, 1959; Noble and Taylor, 1960; Taylor and Noble, 1960; Lanphere and Eberlein, 1966; Wyllie, 1967; Jackson and Thayer, 1972; Fischer, 1975; Brew and Morell, 1983; Gehrels and Berg, 1992; Himmelberg and Loney, 1995; Maas and others, 1995; Van Treeck and Newberry, 2003.	CR007	D.J. Grybeck (Applied Geology)	1-May-04		The PGE deposits are in a Cretaceous mafic-ultramafic complex and they are probably related to its emplacement.

Apparently only surface sampling.		Ruckmick and Noble, 1959; Noble and Taylor, 1960; Taylor and Noble, 1960; Lanphere and Eberlein, 1966; Wyllie, 1967; Jackson and Thayer, 1972; Fischer, 1975; Brew and Morell, 1983; Gehrels and Berg, 1992; Himmelberg and Loney, 1995; Maas and others, 1995; Van Treeck and Newberry, 2003.	CR010	D.J. Grybeck (Applied Geology)	1-May-04		The PGE deposits are in a Cretaceous mafic-ultramafic complex and they are probably related to its emplacement.

Extensive surface sampling and at least 4 diamond drill holes.		Ruckmick and Noble, 1959; Noble and Taylor, 1960; Taylor and Noble, 1960; Lanphere and Eberlein, 1966; Wyllie, 1967; Jackson and Thayer, 1972; Fischer, 1975; Brew and Morell, 1983; Gehrels and Berg, 1992; Himmelberg and Loney, 1995; Maas and others, 1995; Van Treeck and Newberry, 2003.	CR011	D.J. Grybeck (Applied Geology)	1-May-04		The PGE deposits are in a Cretaceous mafic-ultramafic complex and they are probably related to its emplacement.

Extensive surface sampling and at least 2 diamond drill holes.		Ruckmick and Noble, 1959; Noble and Taylor, 1960; Taylor and Noble, 1960; Lanphere and Eberlein, 1966; Wyllie, 1967; Jackson and Thayer, 1972; Fischer, 1975; Brew and Morell, 1983; Gehrels and Berg, 1992; Himmelberg and Loney, 1995; Maas and others, 1995; Van Treeck and Newberry, 2003.	CR012	D.J. Grybeck (Applied Geology)	1-May-04		The PGE deposits are in a Cretaceous mafic-ultramafic complex and they are probably related to its emplacement.

The only workings on the property are several open cuts and an adit that probably date to before WW I.	This prospect is on land that has been conveyed to the Sealaska Corporation, who hold the surface and subsurface rights, or the land is under application for transfer to them.	Wright, 1909; Chapin, 1918; Cobb, 1978; Eberlein and others, 1983; Glavinovich, 1987; Maas and others, 1991; Hedderly-Smith, 1991 (1990 season); Hedderly-Smith, 1992 (1991 season); Maas and others, 1995; Brew, 1996; Hedderly-Smith, 1999 (Inventory).	CR139	D.J. Grybeck (Applied Geology)	1-May-04	A010151; A010166	This skarn deposit is probably related to altered granodiorite. Its age is uncertain, but similar intrusions in the area have been variously dated as Mesozoic or Paleozoic, or Cretaceous (Eberlein and others, 1983; Brew, 1996).

None beyond extensive sampling by government and private geologists. (The area was logged in the 1980's and considerable outcrop was exposed or blasted out along the many logging roads.)		Eberlein and others, 1983; Barker and Mardock, 1990; Maas and others, 1992; Hedderly-Smith, 1992 (1991 season); Hedderly-Smith, 1993 (1992 season); Philpotts and others, 1993; Maas and others, 1995; Brew, 1996; Hedderly-Smith, 1999 (Inventory).	CR172	D.J. Grybeck (Applied Geology)	1-May-04		Genetically and spatially related to the Jurassic syenite stock at the head of Dora Bay.

Soil sampling, rock sampling, and geologic mapping programs have been conducted at the Pleasant Creek prospects (DiMarchi and others, 1993).	This property lies on Doyon, Limited selected or conveyed land. For more information, contact Doyon, Limited. This site is within the Yukon-Charley Rivers National Preserve.	Andrews and others, 1977; Schmidt, 1997; DiMarchi and others, 1993.	CY024	C.E. Cameron (ADGGS)	4/7/2000	10307408	

Only a few prospect pits.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE015	D.J. Grybeck (Applied Geology)	9/1/2003	A010281	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only a few surface prospect pits.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE016	D.J. Grybeck (Applied Geology)	9/1/2003		Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Two short trenches and a small prospect pit.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE017	D.J. Grybeck (Applied Geology)	9/1/2003		Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

A shallow trench and a few small prospect pits.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE018	D.J. Grybeck (Applied Geology)	9/1/2003	A010278	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only a few shallow prospect pits.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE019	D.J. Grybeck (Applied Geology)	9/1/2003	A010273; A010277	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only a few prospecting pits.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE020	D.J. Grybeck (Applied Geology)	9/1/2003	A010280	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only a few small prospect pits.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE021	D.J. Grybeck (Applied Geology)	9/1/2003	A010274; A010275	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only limited surface prospecting by private parties; considerable sampling and magnetometer surveys by government geologists.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE022	D.J. Grybeck (Applied Geology)	9/1/2003		Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

The prospects have been explored by numerous pits and trenches, and in 1977 were drilled to a depth of 260 feet.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE023	D.J. Grybeck (Applied Geology)	9/1/2003	A010272	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only a few hand-dug pits and trenches.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE024	D.J. Grybeck (Applied Geology)	9/1/2003	A010279	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

The ore deposit is an irregularly-shaped pipelike body about 800 feet long and 20 to 100 feet in diameter, inclined to the south. The body is gently inclined at its north end where it was mined from an open pit . The southern two-thirds inclines to a plunge of about 40 degrees to the south. This southern portion was mined over a vertical extent of about 450 feet from two haulage levels.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1959; MacKevett, 1963; Lanphere and others, 1964; Eakins, 1970; Stephens, 1971; Eakins, 1975; Cobb, 1978; Staatz, 1978; Anonymous, 1980; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989;	DE025	D.J. Grybeck (Applied Geology)	9/1/2003	A010276; A010684	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only a few pits and trenches.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1992; Maas and others, 1995; Philpotts and others, 1996;	DE026	D.J. Grybeck (Applied Geology)	9/1/2003	A010271	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only prospect pits.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE027	D.J. Grybeck (Applied Geology)	9/1/2003	A010270	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only sampling by government geologists.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE028	D.J. Grybeck (Applied Geology)	9/1/2003		Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only a few prospect pits.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE029	D.J. Grybeck (Applied Geology)	9/1/2003	A010269	Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only surface sampling by government geologists.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE030	D.J. Grybeck (Applied Geology)	9/1/2003		Genetically related to the Jurassic, Bokan Mountain peralkaline granite.

Only surface sampling by government geologists.		Denny, 1962; Freeman, 1963; Matzko and Freeman, 1963; MacKevett, 1963; Lanphere and others, 1964; Cobb, 1978; Staatz, 1978; Thompson and others, 1980; Collett, 1981; Thompson and others, 1982; Saint-Andre and others, 1983; Armstrong, 1985; Thompson, 1988 (FIR); Thompson, 1988 (OGR); Warner and Barker, 1989; Gehrels, 1992; Maas and others, 1995; Philpotts and others, 1996; Thompson, 1997.	DE031	D.J. Grybeck (Applied Geology)	9/1/2003		Associated with dikes that are genetically related to the Jurassic, Bokan Mountain peralkaline granite.

		Keith and Foster, 1973; Foster and Keith, 1974.	EA001	M.B. Werdon	5/1/2002		

More than 97 separate, widely scattered, occurrences of ultramafic rock were identified during reconnaissance geologic mapping of the Eagle quadrangle (Foster and Keith, 1974; Foster, 1976). Anomalous platinum and palladium values in samples from the Butte Creek prospect were reported by Keith and Foster (1973) and Foster (1975). Additional samples were collected in 1975 from biotite clinoproxenite		Keith and Foster, 1973; Foster and Keith, 1974; Foster, 1975; Foster, 1976; Keith and others, 1987; Foley and others, 1989; Newberry and others, 1996.	EA042	R.L. Flynn; M.B. Werdon	5/1/2002		Hornblende from a biotite hornblendite collected at the Butte Creek prospect gives a 40Ar/39Ar plateau age of 181 +/- 0.7 Ma (Newberry and others, 1996).

The Slate Creek asbestos prospect was discovered in 1968 during geochemical sampling and geologic reconnaissance in connection with the U.S. Geological Survey's heavy metals program (Foster, 1969 [C 611]). In 1976, Asarco conducted mapping, drilling, and a ground magnetic survey at the prospect but did not discover the main deposit (Dashevsky and others, 1986). The Slate Creek Asbestos prospect was explored from	The Slate Creek Asbestos prospect is located within Doyon, Ltd. selected or conveyed land. For more information contact Doyon, Ltd., Fairbanks, Alaska.	Foster, 1969 (C 611); Keith and Foster, 1973; Foster and Keith, 1974; Foster, 1976; Cobb, 1977 (OFR 77-845); Eberlein and others, 1977; Jones and others, 1982; Eakins and others, 1983; Bright, 1984; Bundtzen and others, 1984; Eakins and others, 1985; Rodreguiz, 1984; Dashevsky and others, 1986.	EA043	R.L. Flynn; M.B. Werdon	5/1/2002	A010679	Serpentinized ultramafic bodies in the Eagle quadrangle are either of Mesozoic or Paleozoic age (Foster, 1976).

Exploration of the Happy prospect by WGM Inc. from 1975 to 1978 included sampling of stream sediments and panning heavy-mineral concentrates, rock and soil sampling, and geologic mapping (Dashevsky and others, 1986). In 1979, the Union Carbide Corp. conducted mapping and rock samping at the prospect and extended the soil grid. Samples of mineralized rocks were collected by the U.S. Bureau of Mines at the	The Happy prospect is located within Doyon, Ltd. selected or conveyed land. For more information contact Doyon, Ltd., Fairbanks, Alaska.	WGM Inc., 1977; Lessman and Rishel, 1978 (DLR 78-10); Yinger and others, 1978; Robinson, 1979; Carter, 1981; Dashevsky and others, 1986; Burleigh and Lear, 1994; U.S. Bureau of Mines, 1995; Newberry and others, 1996.	EA044	R.L. Flynn; M.B. Werdon	5/1/2002		Muscovite from a tungsten-bearing greisen vein in granite collected at the Happy prospect gives a 40Ar/39Ar plateau age of 214 +/- 0.6 Ma (Newberry and others, 1996).

An adit was driven 12 feet soon after the discovery of the deposit in 1942 (Thorne and others, 1948, p. 8-9). In 1981, the workings consisted of several open cuts and trenches over an area approximately 1,000 feet long by 300 feet wide (Robinson, 1981).		Bain, 1946; Thorne and others, 1948; Byers, 1957; Berg and Cobb, 1967; Chapman and Foster, 1969; Cobb, 1972 (MF 410); Cobb, 1975 (C 722); Cobb, 1976 (OFR 76-662); Robinson, 1981; Bundtzen and others, 1982.	FB118	J.R. Guidetti Schaefer and C.J. Freeman (Avalon Development Corporation)	7/31/2001	A015307; D002671	

An adit driven on the vein in 1955 and 1956 encountered glacial material 55 feet from the portal.		Richter, 1964; Richter, 1966; Richter and Matson, 1972; MacKevett and Holloway, 1977; Cobb, 1979 (OF 79-1247); Nokleberg and others, 1994.	GU013	W.T. Ellis (Alaska Earth Sciences), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (U.S. Geological Survey)	12/4/2000	A011843	Emplaced subseqent to or is related to the border phase of the Pennsylvanian to Permian, Ahtell pluton.

There has been surface sampling only. Samples comprising 95% chromite contain 39.5% Cr2O3 and a chromium/iron ratio of 3.1:1, along with traces of platinum group metals (principally rhenium) and 1,000 ppm nickel (Hawley and others, 1969). The platinum values in eight samples were at the lower limit of detection (Balen, 1990: OFR 34-90).		Hawley and others, 1969 (C 617); Hawley and Clark, 1974; Cobb, 1978 (OFR 78-1062); Balen, 1990 (OFR 34-90).	HE058	N. Van Wyck (Stevens Exploration Management Corporation)	4/7/2000	A011372	Chromite probably was a magmatic segregation in Upper Devonian ultramafic intrusive rocks.

Surface sampling only.		Balen, 1990 (OFR 34-90).	HE065	N. Van Wyck (Stevens Exploration Management Corporation)	4/7/2000	10307521	The chromite probably was a magmatic segregation in Upper Devonian ultramafic intrusive rocks.

A surface soil and rock geochemical survey has been completed over a large part of the Red Mountain dunite. An aeromagnetic survey was flown over the Salmon River (Goodnews) area in 1994, a gravity survey has been completed, and some controlled-source audio magneto-telluric lines have been run over selected parts of the ultramafic complex (Alaska Earth Sciences, 2000). A portable washing plant was used for trial placer	The Red Mountain dunite is probably the major source of platinum metals in the placer deposits of the Salmon River drainage.	Mertie, 1969; Mertie, 1976; Bird and Clark, 1976; Hoare and Coonrad, 1978; Southwith, 1986; Southworth and Foley, 1986; Fechner, 1988; Alaska Earth Sciences, 2000.	HG006	Travis L. Hudson	3/18/2001	A013204	Jurassic, the age of the Red Mountain ultramafic pluton. Hoare and Coonrad (1978) report K/Ar ages for two samples of amphibole from the southeast border of the Red Mountain pluton: 176.4 +/- 5.3 Ma and 186.9 +/- 5.6 Ma.

The area was sampled by the U.S. Geological Survey in 1985 (McGimsey and others, 1988).		McGimsey and others, 1988; Miller, 1990; Miller and Bundtzen, 1994; Miller, Bundtzen, and Gray, 2005.	ID054	T.K. Bundtzen (Pacific Rim Geological Consulting, Inc.), M.L. Miller (U.S. Geological Survey); and C.C. Hawley (Hawley Resource Group)	5/17/2003		Probably genetically related to the host rock, the serpentinite of the Jurassic Dishna River ophiolite (Miller, 1990).

Exploration includes detailed geologic mapping and a ground-based magnetic survey by Richter and Herreid, (1965). There are a few prospect pits in the area.		Jasper, 1953; Jasper, 1956; Richter and Herreid, 1965; Detterman and Reed, 1980.	IL042	C.C. Hawley, Hawley Resource Group, Anchorage, Alaska	6/11/2003		Jurassic, possibly related to Pilot Knob granodiorite.

The area was located by C. H. McNeil in 1911 and prospected by him until 1924. The principal deposit was covered by four lode claims: McNeil and McNeil Nos. 1-3; and subsequently by McNeil Nos. 4-6 and Joker. The earlier McNeil claims were restaked as Reward and Reward Nos. 1-3 (Jasper, 1953, plate 2). At least two test shipments were made. One ton of ore shipped before 1925 graded $6.08 in gold (at $20.67 per ounce), 10.93 ounces of silver per ton,		Brooks, 1913; Brooks, 1914; Brooks, 1915; Brooks, 1918; Martin, 1920; Brooks and Martin, 1921; Brooks, 1925; Mather, 1925; Bain, 1946; Moxham and Nelson, 1952; Wedow and others, 1952; Jasper, 1953; Jasper, 1956; Richter and Herreid, 1965; Berg and Cobb, 1967; Detterman and Cobb, 1972; Detterman and Reed, 1980; Cobb and Reed, 1981 (OFR 81-1343A); Cobb and Reed, 1981 (OFR 81-1343B).	IL043	C.C. Hawley, Hawley Resource Group, Anchorage, Alaska	6/8/2003	A013050	Probably Jurassic; the age of the nearby granodiorite pluton.

The Alaska Kardex file 112-139 shows a gold placer claim at this location. No other information is available.		Cobb, 1978 (OFR 78-374); Gehrels and Berg, 1994.	JU215	J.C. Barnett and L.D. Miller (Juneau, Alaska)	12/15/2001	A012099	Quaternary.

Prior to 1930, the Alaska Asbestos Company, Inc. dug an opencut across the belt of tremolite schist, and constructed a road from the beach to the property (Roehm, 1943).		Roehm, 1943; Race and Rose, 1967; Cobb, 1978 (OFR 78-374); Wells and others, 1986; Gehrels and Berg, 1994.	JU219	J.C. Barnett and L.D. Miller (Juneau, Alaska)	12/15/2001		

The prospect was explored in the early 1900s by opencuts, an 80-foot adit, and an 11-foot adit.	Site is in Misty Fiords National Monument Wilderness.	Buddington, 1929 (B 807); Smith, 1977; Elliott and others, 1978; Berg and others, 1988	KC014	H.C. Berg, USGS	6/29/1999	A012291	Eocene?

Samples of the dunite contained up to 150 ppm Co, 2000 ppm Cr, and 150 ppm Ni; and one sample yielded a value of 0.029 Pt (Berg, 1972; Karl, 1992). Most samples of dunite from the Yellow Hill area, however, showed no Pt content above the lowest limit of detection. A sample of gabbro contained 0.015 ppm Pt (Karl, 1992, loc. 49b).		Berg, 1972 (I 684); Elliott and others, 1978; Karl, 1992	KC153	H.C. Berg, USGS	7/6/1999	A012391	Oxide minerals probably are magmatic segregations of Cretaceous age.

Unknown	MAS/MILS sequence number 0020930010 (Bureau of Mines, 1995). Site is in Lake Clark National Park and Preserve.	Eakins and others, 1978; Nelson and others, 1983; U.S. Bureau of Mines, 1995.	LC031	D.P. Bickerstaff (USGS)	6/15/1998	A106371	Tertiary or younger; potassium-argon ages for this unit (Tv) range from 56.2 to 62.7 m.y. (Eakins and others, 1978).

Shafts on different claims range from 25 to 100 feet deep.		Smith, 1917 (BMB 153); Mertie, 1918; Martin, 1920; Overbeck, 1920; Brooks and Capps, 1924; Smith, 1926; Smith, 1929; Smith, 1930 (B 813); Smith, 1932; Smith, 1933 (B 844); Smith, 1934 (B 864); Smith, 1936; Smith, 1937; Smith, 1938; Smith, 1939 (B 910-A); Smith, 1939 (B 917); Smith, 1941; Joesting, 1942 (ATDM Pamph. 1); Smith, 1942; Foster, 1968; Cobb, 1972 (MF 413); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-819).	LG021	C.J. Freeman, J.R. Guidetti Schaefer (Avalon Development Corporation)	5/4/1999	A015487	

During placer mining, one shaft was sunk 60 feet to bedrock (Mertie, 1918, p. 268).		Mertie, 1918; Martin, 1920; Smith, 1936; Smith, 1941; Joesting, 1942 (ATDM Pamph. 1); Wedow and White, 1954; Cobb, 1972 (MF 413); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-819).	LG023	C.J. Freeman, J.R. Guidetti Schaefer (Avalon Development Corporation)	5/4/1999	A015488	

The deposit was explored by a short adit.	The locality is in the Wrangell-Saint Elias National Park and Preserve.	Moffit and Mertie, 1923; Van Alstine and Black, 1946; MacKevett, 1976; MacKevett and others, 1978; Cobb and MacKevett, 1980.	MC065	Travis L. Hudson (Applied Geology, Inc.)	1/12/2003	A011724	

	The locality is in the Wrangell-Saint Elias National Park and Preserve.	MacKevett, 1976.	MC185	Travis L. Hudson (Applied Geology, Inc.)	1/12/2003		Late Paleozoic or younger based on the age of the metamorphic host rocks.

	The locality is in the Wrangell-Saint Elias National Park and Preserve.	MacKevett, 1976; MacKevett, 1978.	MC197	Travis L. Hudson (Applied Geology, Inc.)	1/12/2003		

The Whalen Shaft was driven to an unknown depth, but not below the water table, which was at about 400 feet.	See Nixon Fork Mine (MD062).	Martin, 1922; Brown, 1926; Mertie, 1936; White and Stevens, 1953; Herreid, 1966; Cobb, 1974; Cobb, 1978; Bundtzen and Miller, 1997.	MD071	Bundtzen, T.K. (Pacific Rim Geological Consulting)	6/7/1998	D002709	

Surface cuts, now concealed by landslide debris, probably date back to 2 claims staked on the island in 1923, as reported by Buddington (1926) and repeated by Smith (1933) and Reed (1938). Buddington reported gold-silver-bearing bornite in a rich sulfide pocket in the tactite. MacKevett and others (1971) obtained maximum values of 7000 ppm copper, 1000 ppm zinc, 200 ppm antimony, 150 ppm bismuth, and 1.46	The deposit size is limited by the size of the island. A tactite or skarn affiliation is consisted by the high bismuth content found by MacKevett and others(1971). The site is in Glacier Bay National Park and Preserve.	Buddington, 1926; Buddington and Chapin, 1929; Smith, 1933; Reed, 1938; Rossman, 1963 (B 1121-K); MacKevett and others, 1971; Cobb, 1972 (MF-436); Brew and others, 1978; Kimball and others, 1978.	MF067	C.C. Hawley (Hawley Resource Group)	4/14/1999	A013179	Cretaceous (?).

Surface exposures of copper and molybdenum minerals were explored by trenches and cuts dug by long-time southeast Alaska prospector Joe Ibach, who occasionally lived on the island. The occurrence was first reported by Buddington (1926). It was also listed by Buddington and Chapin (1929) and briefly described by Smith (1942, p. 177).	The prospect is in a carbonate terrane of Paleozoic age. The prospect is in Tongass National Forest and appears to be open for mineral location. Claim activity is unknown.	Buddington, 1926; Buddington and Chapin, 1929; Smith, 1942; Cobb, 1972 (MF-436); Cobb, 1978.	MF080	C.C. Hawley (Hawley Resource Group)	4/14/1999	A013193	Cretaceous or younger.

There are no extensive workings. The U.S. Geological Survey mapped and sampled the area in reconnaissance during the 1980's. One sample assayed 0.69 percent copper, 0.3 percent lead, 2.3 percent zinc, and 45.4 parts per million (ppm) silver (Lange and others, 1993). Sample 81NK226 of Nokleberg and others (1991) assayed 0.25 percent copper, 0.25 percent lead, 0.2 percent zinc, 50 ppm silver, and 30 ppm tin. The area was		Nokleberg and Aleinikoff, 1985; Aleinikoff and Nokleberg, 1985 (C 967); Nokleberg and others, 1991; Lange and others, 1993.	MH010	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/11/2001		Devonian, the protolith age of metamorphic host rocks.

		Saunders, 1958.	MH024	W.T. Ellis (Alaska Earth Sciences) and A.W. Wyatt and S.S. Dashevsky (Northern Associates Inc.)	3/20/2003		

This occurrence was discovered during geologic mapping (Nokleberg and others, 1991). It is on active MAN Resources claims (W.T. Ellis, unpublished field notes, 2001).		Rose, 1966 (ADMM GR 20); Nokleberg and others, 1991.	MH092	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/16/2001		Late Triassic, the age of the ultramafic inclusion.

The occurrence was found during geologic reconnaissance (Nokleberg and others, 1991). Sulfide mineralization was discovered during July 2001 (W.T. Ellis, unpublished field notes, 2001). The occurrence is on active MAN Resources claims.		Rose, 1966 (ADMM GR 20); Nokleberg and others, 1991; Kurtak and others, 1992; this report.	MH093	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/16/2001		Late Triassic, synchronous with emplacement of the mafic-ultramafic rocks.

The occurrence is covered by active Fort Knox Gold Resources claims (W.T. Ellis, unpublished field notes, 1996).		Nokleberg and others, 1991; this report.	MH096	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2001		Late Triassic, synchronous with emplacement of the mafic-ultramafic rocks.

One hydraulically washed hand trench 20 to 30 feet wide and 100 feet long was completed in 1996. A 627-foot hole was drilled in 1997; two 200-foot holes were drilled in 1998. None of the drill holes penetrated significant mineralization. The occurrence is covered by active Fort Knox Gold Resource claims.	The Tres Equis breccia prospect is important because it demonstrates that the Fish Lake complex contains high-grade nickeliferous massive sulfide.	Nokleberg and others, 1991; this report.	MH104	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2001		Late Triassic, the age of the host rock.

The occurrence is on active Fort Knox Gold Resource claims.		Rose, 1966 (ADMM GR 20); Foley and others, 1989; Foley and Summers, 1990; Nokleberg and others, 1991; Foley, 1992.	MH106	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic, the age of the host rock.

The occurrence is on active MAN Resources claims.		Rose, 1966 (ADMM GR 20); Nokleberg and others, 1991.	MH109	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic, the age of the host rock.

The prospect is on active MAN Resources claims.		Rose, 1966 (ADMM GR 20); Nokleberg and others, 1991; this report.	MH112	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic, the age of the host rock.

The prospect is on active MAN Resources claims.		Rose, 1966 (ADMM GR 20); Nokleberg and others, 1991.	MH114	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic, the age of the host rock.

The occurrence is on active MAN Resources claims.		Rose, 1966 (ADMM GR 20); MacKevett and Holloway, 1977; Cobb, 1979 (OFR 79-238); Nokleberg and others, 1982; Nokleberg and others, 1991.	MH117	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		The dunite host of chrysotile is of Late Triassic age; the chrysotile may have formed during Cretaceous faulting and regional metamorphism (Nokleberg and others, 1991). The base metal-bearing gossan in slate is Paleozoic or younger.

The occurrence is on active MAN Resources claims.		Rose, 1965; Nokleberg and others, 1991.	MH122	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/19/2001		Late Triassic, the age of the host rock.

The occurrence is on active MAN Resources claims.		Rose, 1965; this report.	MH124	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/19/2001		Late Triassic, the age of the host breccia.

The Green Wonder deposit was located and trenched in 1964 by Moneta-Porcupine Company. The area was subsequently mapped by Rose (1965). The prospect is on active MAN Resources claims.	Zinc mineralization at this site is unique in the area between Broxson Gulch and the Rainy Creek area.	Rose, 1965; Cobb, 1979 (OFR 79-238); Nokleberg and others, 1991.	MH126	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/19/2001	A011820	Late Triassic or younger.

The occurrence is on active MAN Resources claims.		Rose, 1965; Cobb, 1979 (OFR 79-238).	MH127	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic or younger.

The occurrence is on active MAN Resources claims. The site had been prospected when visited by Rose (1965).		Rose, 1965; Nokleberg and others, 1982.	MH128	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Possibly Late Triassic or younger.

The massive sulfide lenses in the Broxson Gulch area assay as much as 13 parts per million silver, 416 parts per billion (ppb) gold, 137 ppb palladium, 137 ppb platinum, 2.4 percent copper, 0.66 percent nickel, and 0.08 percent copper (Foley, 1992). The occurrence is on active MAN Resources claims.		Rose, 1965; MacKevett and Holloway, 1977; Nokleberg and others, 1991; Foley, 1992.	MH129	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/19/2001	A011818	Late Triassic, the age of the host rock.

Exploration on the Rainy property was done by American Copper and Nickel Company (ACNC) working with Fort Knox Gold Resources Inc. Exploration since 1994 includes sampling, airborne and ground geophysical surveys, and completion of one diamond drill hole (W.T. Ellis, oral communication, 2001). The East Peak occurrence (MH135) was discovered and staked by ACNC in 1995, but the claims were allowed to lapse		This record.	MH131	W.T. Ellis (Alaska Earth Sciences), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	5/14/2002		Late Triassic, synchronous with emplacement of Rainy complex, which is part of a 120-mile long belt of mafic-ultramafic and associated rocks in the east-central Alaska Range.

Exploration on the Rainy property was carried out by American Copper and Nickel Company (ACNC) working with Fort Knox Gold Resources Inc. Exploration since 1994 includes sampling, airborne and ground geophysical surveys, and one diamond drill hole (W.T. Ellis, oral communication, 2001). Two anomalous samples contained 0.15 to 0.23 percent copper, 0.12 to 0.21 percent nickel, 153 to 180 parts per billion (ppb)		This record.	MH134	W.T. Ellis (Alaska Earth Sciences), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	5/14/2002		Late Triassic, synchronous with emplacement of Rainy complex.

Exploration on the Rainy property has been by American Copper and Nickel Company (ACNC) working with Fort Knox Gold Resources, Inc. Exploration from 1995 through 2001 included rock sampling, airborne and ground geophysical surveys, and completion of one diamond drill hole (W.T. Ellis, oral communication, 2001). The occurrence was discovered and staked by ACNC in 1995, but the claims were allowed to lapse in 1999. It is		This record.	MH135	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/10/2002		Late Triassic.

The deposit was discovered by Rose (1965). The area is on active claims of MAN Resources.		Rose, 1965; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 79-238); Nokleberg and others, 1982; Nokleberg and others, 1991.	MH137	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/19/2001	A011821	Epigenetic mineralization in a shear zone in the Upper Triassic host rock is possibly Cretaceous, the age of faulting and regional metamorphism. If the mineralization is skarn related to the felsic intrusion, it could be of Late Cretaceous to Early Tertiary age.

Exploration on the North Rainy property has been by American Copper and Nickel Company (ACNC) working with Fort Knox Gold Resources, Inc. Exploration from 1995 through 1998 included rock sampling, airborne and ground geophysical surveys, and completion of one diamond drill hole (W.T. Ellis, oral communication, 2001). The general area was staked by ACNC in 1995, but the North Rainy occurrence was not discovered		This record.	MH153	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/12/2002		Late Triassic.

Disseminated and massive sulfide samples contained 0.17 to 2.01 percent nickel and 0.1 to 0.61 percent copper (Saunders, 1962 [PE 68-08]). Samples of sulfides from a 1-foot vein (several hundred feet southwest of locality 3) assayed 0.20 ounce of gold per ton and 0.32 ounce of silver per ton (Rose, 1965). A sample of a massive sulfide lens in the Ann Creek ultramafic body contains 1.9 percent nickel, 3.5 percent copper, 0.02 percent	Mineralization at the prospect is similar to that at the Rainbow Mountain prospect (Emerick) (MH209).	Saunders, 1961 (PE 68-07); Saunders, 1962 (PE 68-08); Rose, 1965; Berg and Cobb, 1967; Mulligan, 1974; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 79-238); Foley and others, 1989; Nokleberg and others, 1991; Foley, 1992.	MH166	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/14/2002	A011792	Late Triassic.

A U.S. Bureau of Mines sample of gabbronorite rubble contained 0.9 percent nickel, 0.25 percent copper, 0.02 percent cobalt, 1,070 parts per billion (ppb) palladium, 725 ppb platinum, 300 ppb iridium, 70 ppb rhodium, and 60 ppb ruthenium. Massive sulfide float contains 0.41 percent copper, 0.09 percent cobalt, and 65 ppb palladium (Foley, 1992). Mineralized skarn samples contain as much as 6.2 parts per million (ppm) silver, 85 ppb gold, 0.05		Foley and others, 1989; Nokleberg and others, 1991; Foley, 1992.	MH167	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/12/2002		Late Triassic.

The occurrence is covered by active Fort Knox Gold Resource claims.		Nokleberg and others, 1991.	MH169	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2001		Late Triassic, the age of the host rock.

The occurrence is on active Fort Knox Gold Resource claims.		Foley and others, 1989; Nokleberg and others, 1991; Foley, 1992.	MH171	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic, the age of the host rock.

The occurrence is on active Fort Knox Gold Resource claims.		Nokleberg and others, 1991.	MH175	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic, the age of the host rock.

Grab samples collected by American Copper and Nickel Company contained as much as 0.14 percent copper, 0.13 percent nickel, 56 parts per billion (ppb) palladium, and 40 ppb platinum. The occurrence is on active Fort Knox Gold Resource.		Nokleberg and others, 1991; this report.	MH176	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic, the age of the host rock.

Exploration on the Fish Lake property has been by American Copper and Nickel Company working with Fort Knox Gold Resources Inc. Exploration through 2001 included rock sampling, hand trenching, airborne and ground geophysical surveys, and completion of eight diamond drill holes (W.T. Ellis, oral communication, 2001). The area is on active claims of Fort Knox Gold Resources.		Nokleberg and others, 1991; this record.	MH178	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2002		Late Triassic.

Exploration on the Fish Lake property has been by American Copper and Nickel Company working with Fort Knox Gold Resources Inc. Exploration through 2001 included rock sampling, hand trenching, airborne and ground geophysical surveys, and completion of eight diamond drill holes (W.T. Ellis, oral communication, 2001). The occurrence is on active claims of Fort Knox Gold Resources.		This record.	MH179	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2002		Late Triassic.

The prospect was sampled by American Copper and Nickel Company in 1996. It is on active MAN Resources claims.	American Copper and Nickel Company samples contained as much as 0.13 percent nickel and 30 parts per billion platinum.	Nokleberg and others, 1991; this report.	MH184	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2001		Late Triassic, the age of the host rock. Phlogopite from Tangle complex ultramafic rocks yielded an age of 323 +/- 2 Ma (L. Hulbert, oral communication, 2001).

A sample of sulfide-bearing gabbro contained 0.18 percent nickel, 0.05 percent copper, 46 parts per billion (ppb) palladium, and 15 ppb platinum (W.T. Ellis, oral communication, 2001). Another sample of coarse-grained pyroxenite with 8 percent pyrrhotite and minor chalcopyrite contained 0.12 percent nickel, 0.07 percent copper, 22 ppb palladium, and 35 ppb platinum. The prospect is on active claims of MAN Resources.		This record.	MH188	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2002		Late Triassic.

A sample of sulfide-bearing peridotite contained 0.12 percent nickel, 0.01 percent copper, 34 parts per billion (ppb) palladium, and 15 ppb platinum (W.T. Ellis, oral communication, 2001). A U.S. Geological Survey grab sample of pyritic, sheared, serpentinized, and iron-stained olivine cumulate near a gabbro contained 3,200 parts per million copper (Nokleberg and others, 1991).		Cobb, 1979 (OFR 79-238); Nokleberg and others, 1991; this record.	MH191	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2002		Late Triassic.

Two grab samples collected by MAN Resources respectively contained 0.11 percent nickel, 0.01 percent copper, 67 parts per billion (ppb) palladium, and 146 ppb platinum and 0.27 percent nickel, 0.09 percent copper, 58 ppb palladium, 51 ppb platinum, and 51 ppb gold. The occurrence is on active claims of MAN Resources.		This record.	MH193	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2002		Late Triassic.

A grab sample reported by MAN Resources contained 0.16 percent nickel, 0.22 percent copper, 101 parts per billion (ppb) palladium, and 53 ppb platinum. The occurrence is on active claims of MAN Resources.		This record.	MH194	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/17/2002		Late Triassic.

		Rose and Saunders, 1965; Berg and Cobb, 1967; Nokleberg and others, 1991.	MH203	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/18/2002	A011810	Late Triassic or Cretaceous.

The prospect was discovered in the early 1950's by Rollie Emerick of Delta Junction, Alaska (Saunders, 1962 [PE 68-08]). Newmont Mining Company conducted dozer trenching, mapping, and sampling at the prospect in 1962. Inco examined the property in the early 1970's and completed a magnetic survey. COMINCO staked the property in 1989 and also completed a magnetic survey. Northeast Mining acquired	Platinum group element minerals identified by the U.S. Bureau of Mines using a scanning-electron microprobe include merenskyite, palarstanide, and irarsite.	Saunders, 1961 (PE 68-07); Saunders, 1962 (PE 68-08); Hanson, 1963; Rose, 1965; Mulligan, 1974; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 79-238); Barker, 1988; Foley and others, 1989; Nokleberg and others, 1991; Foley, 1992.	MH209	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/21/2002	A011793	Late Triassic or younger.

The Glacier Lake prospect was discovered in 1962 by R.B. Forbes of the University of Alaska (Hanson, 1963). Since then the prospect has been intermittently explored by claimholders, and the claims are currently (2002) controlled by Northeast Exploration (W.T. Ellis, oral communication, 2002). Exploration to date has been primarily surface trenching and airborne and ground geophysical surveys. Samples		Hanson, 1963; Rose, 1965; Mulligan, 1974; MacKevett and Holloway, 1977; Cobb, 1979 (OFR 79-238); Barker, 1988; Foley and others, 1989; Nokleberg and others, 1991; Foley, 1992.	MH216	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/21/2002	A011795	The deposit occurs in Late Triassic ultramafic-mafic rocks and Cretaceous (?) quartz diorite. Mineralization is Late Triassic, synchronous with emplacement of a 120-mile-long belt of mafic-ultramafic and associated rocks in the east-central Alaska Range.

Exploration in the area of this prospect has been by American Copper and Nickel Company (ACNC) working with Fort Knox Gold Resources Inc. (W.T. Ellis, oral communication, 2001). Exploration from 1993 to 2001 included rock sampling, hand trenching, airborne and ground geophysical surveys, and completion of five diamond drill holes. The prospect was discovered by ACNC in 1995. A grab sample of disseminated sulfide		This record.	MH217	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	6/21/2002		Late Triassic.

Exploration in this area has been by American Copper and Nickel Company (ACNC) working with Fort Knox Gold Resources, Inc. Exploration from 1994 through 2001 included rock sampling, hand trenching, airborne and ground geophysical surveys, and completion of five diamond drill holes. Fort Knox Gold Resources has reported that a mineralized mafic gabbro grab sample contained 0.42 percent nickel, 0.87 percent copper, 332		Barker, 1988; Foley and others, 1989; Foley, 1992; this record.	MH228	W.T. Ellis (Alaska Earth Science), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	8/8/2002		Late Triassic.

The site was found during geologic mapping (Rose, 1967).		Rose, 1967; Cobb, 1979 (OFR 79-238).	MH286	W.T. Ellis (Alaska Earth Sciences), C.C. Hawley (Hawley Resource Group), and W.J. Nokleberg (USGS)	7/1/2003		Probably Late Triassic, related to the sillform body that hosts the occurrence.

Limited surface sampling; no workings reported from the site.	More prospecting appears to be warranted.	Nokleberg and others, 1991.	MH291	W.T. Ellis (Alaska Earth Sciences) and C.C Hawley (Hawley Resource Group)	7/9/2003		Probably Early Permian.

Surface sampling, mapping, and geophysical surveys were conducted from 1976 to 1984 by Resource Associates of Alaska.	The unpublished data that is cited can be seen by contacting Grayd Resources Inc. in Vancouver, B.C., Canada (www.grayd.com), or Northern Associates Inc. in Fairbanks, Alaska.	Lange and others, 1993; Dashevsky and others, 2003; this record.	MH336	Ellis, W.T., (Alaska Earth Sciences), A.S. Wyatt and S.S. Dashevsky (Northern Associates, Inc.), and W.J. Nokleberg (USGS)	3/20/2003		The lower Lagoon unit, which is part of the metamorphic sequence that includes the rocks at this deposit, has been dated as Devonian on the basis of one SHRIMP U-Pb zircon age of 372 +/- 6 Ma at the LZ East prospect (MH328) (Dashevsky and others, 2003).

As of 1979, a total footage of 725 feet of drilling in two holes had been completed at the Rum South prospect; there is no information on any more recent drilling. No significant thickness of sulfide was reported from the drilling, though poor recovery may have been a factor (S.S. Dashevsky, written communication, 2003). In addition, field work has included detailed geologic mapping, trenching, and detailed	The unpublished data that is cited can be seen by contacting Grayd Resources Inc. in Vancouver, B.C., Canada (www.grayd.com), or Northern Associates Inc. in Fairbanks, Alaska.	Lange and others, 1993; Dashevsky and others, 2003; this record.	MH343	W.T. Ellis (Alaska Earth Sciences), A.S. Wyatt and S.S. Dashevsky (Northern Associates, Inc.), and W.J. Nokleberg(USGS)	3/20/2003		The Drum unit, which is part of the metamorphic sequence that includes the rocks at this deposit, has been dated at the Devonian-Mississippian boundary on the basis of one SHRIMP U-Pb zircon age of 359 +/- 6 Ma at the nearby DD South prospect (MH325).

	The occurrence is in Denali National Park and Preserve.	Bundtzen, Smith, and Tosdal, 1976; Hawley and Associates, 1978; Bundtzen, 1981; Thornsberry, McKee, and Salisbury, 1984.	MM129	C.C. Hawley	4/30/2001		

There are no workings.	The occurrence is in Denali National Park and Preserve.	Bundtzen, Smith, and Tosdal, 1976; Hawley and Associates, 1978; Bundtzen, 1981; Thornsberry, McKee, and Salisbury, 1984; Cox and Singer, 1986.	MM137	C.C. Hawley	4/20/2001	A011297	The deposit is assumed to be Eocene (see record MM091).

Assay values of 4.3% Cr and 0.22% Ni were obtained by the U.S. Bureau of Mines (Degenhart and others, 1978, p. 126, 232-40, 491) over a 50 ft. sample length. Also, chromite pods in dunite and pyroxenite contained up to 0.123 troy oz/st (4200 ppb) Pt, 0.137 troy oz/st (4700 ppb) Pd, 140 ppb Ir, 45 ppb Os, 360 ppb Rh, 98 ppb Ru, and 14 ppb Au. Plagioclase peridotite containing accessory pyrrhotite assayed up to 0.004 troy oz/st Pd and 0.005	Additional work is required to test the entire ultramafic body for significant occurrences of chromium, nickel, asbestos, and platinum. See MAS/MILS Sequence # 0020190022 (USBM, 1995)	Grybeck, 1977; Degenhart and others, 1978; Cobb and others, 1981.	MU002	M.T. Powers; D.F. Huber; J.M. Schmidt; J.H. Dover	9/24/1996	A015675	Jurassic?

One sample contains up to .22% nickel and 7.5% chromium (Degenhart, 1978, p. 236).	See MAS/MILS Sequence #'s 0020190002-4 (USBM, 1995)	Degenhart and others, 1978.	MU003	J.H. Dover	9/24/1996	A106153	

There are no known workings but some surface prospecting has probably occurred.		Richter, 1967; Richter, 1976; U. S. Bureau of Mines, 1995.	NB003	Travis L. Hudson (Applied Geology)	11/24/2002	A106154	The inferred age of the serpentine body is Cretaceous (Richter, 1976).

Several small prospecting pits have been dug on this deposit.		Richter, 1967; Richter and others, 1975; Richter, 1976.	NB004	Travis L. Hudson (Applied Geology)	11/24/2002	A011378	The serpentinite body that hosts the deposit is inferred to be Cretaceous (Richter, 1976).

This deposit is exposed at the surface and has probably been explored by diamond drilling and and other techniques since its discovery in 1940 . It was an active prospect as recently as the 1980s (Lowe and others, 1982).	The mine is in the Wrangell-St. Elias National Preserve.	Wayland, 1943; Richter and others, 1975; Richter, Lanphere, and Matson, 1975; Cobb and Richter, 1980; Lowe and others, 1982; Weglarz, 1991; Newberry and others, 1997.	NB023	Travis L. Hudson (Applied Geology)	11/24/2002	A011386	Mid-Cretaceous. A concordant biotite/hornblende K/Ar date for the intrusive rocks is 114 +/- 3.4 Ma (Richter, Lanphere, and Matson, 1975).

The source of the mineralization has not been identified.	The occurrence is in the Wrangell-St. Elias National Preserve.	Richter, 1971 (I-656); Richter and others, 1975; Richter, Lanphere, and Matson, 1975; Richter, 1976; Cobb and Richter, 1980.	NB026	Travis L. Hudson (Applied Geology)	11/24/2002		Cretaceous? The parent deposit may be a skarn related to a hornblende quartz diorite and diorite stock in the headwaters of this drainage. This pluton is though to be mid-Cretaceous in age like the Nabesna pluton several miles to the south (Richter, Lanphere, and Matson, 1975).

	The prospect is in the Wrangell-St. Elias National Preserve.	Richter, 1976; Foley and others, 1985; U. S. Bureau of Mines, 1994.	NB033	Travis L. Hudson (Applied Geology)	11/24/2002	A106155	Paleozoic? This is the inferred age of the of the mafic-ultramafic complex (Richter, 1976).

Surface exploration and some diamond drilling have been used to evaluated this deposit.	The prospect is in the Wrangell-St. Elias National Preserve.	Matson and Richter, 1971 (OFR 71-202); Richter and others, 1973; Richter and others, 1975; Hollister and others, 1975; Richter, Lanphere, and Matson, 1975; Cobb and Richter, 1980.	NB099	Travis L. Hudson (Applied Geology)	11/24/2002	A011422	Mid-Cretaceous. The diorite of the Klein Creek pluton that hosts the deposits has a K/Ar date of 111 +/- 3.6 Ma (Richter, Lanphere, and Matson, 1975).

Surface exploration and some diamond drilling have been used to evaluated this deposit.	The prospect is in the Wrangell-St. Elias National Preserve.	Matson and Richter, 1971 (OFR 71-202); Richter and others, 1973; Richter and others, 1975; Hollister and others, 1975; Richter, Lanphere, and Matson, 1975; Cobb and Richter, 1980.	NB100	Travis L. Hudson (Applied Geology)	11/24/2002	A011423	Mid-Cretaceous; the diorite and porphyry that host the deposit are part of the Klein Creek pluton which has a K/Ar date of 111 +/- 3.6 Ma (Richter, Lanphere, and Matson, 1975).

This prospect was discovered by Anaconda Minerals Company in 1980. From 1980 to 1984, they drilled seven diamond-drill holes, dug numerous trenches, completed extensive geologic mapping and geophysical surveys, and conducted an extensive sediment and soil sampling program. To assist exploration, a large base camp and an airstrip were constructed (Harris, 1985).		Gemuts and others, 1983; Harris, 1985; Flanigan, 1998.	NL011	C.E. Cameron (Northern Associates Inc.)	8/7/2001	A013473	A K/Ar date on potassium feldspar from the oldest porphyry at Round Top is 74 +/- 2.8 Ma, corresponding to the age of cooling and mineralization (Harris, 1985). Although K/Ar dating is suspect, a Late Cretaceous or Early Tertiary age is probable.

The area was examined in the late 1970's and 66 samples were collected and analyzed.	The area is now within the Noatak National Preserve and Wilderness area is is closed to mining and exploration.	Degenhart and others, 1978; Cobb and others, 1981.	NT002	J.A. Dumoulin (U.S. Geological Survey)	10/14/1996	A015669	

Gold was discovered along Boob Creek in 1916, and in the following year 3,100 ounces of gold and 30 ounces of platinum were recovered (Harrington, 1919). In 1916, a pay streak was reported as 75 to 100 feet wide and traceable through 5 claims (Hawley and Buxton, 1991). In 1918, the principal owner of the Boob Creek claims, J.E. Riley, was murdered, and mining, exploration, and development along Boob Creek continued		Mertie and Harrington, 1916; Smith, 1917 (BMB 153); Brooks, 1918; Brooks, 1919; Harrington, 1919; Martin, 1919; Martin, 1920; Brooks and Martin, 1921; Mertie, 1923; Brooks and Capps, 1924; Mertie and Harrington, 1924; Mertie, 1969; Cobb, 1972 (MF 367); Cobb, 1973 (B 1374); Cobb, 1976 (OFR 76-576); Bundtzen and others, 1987; Hawley and Buxton, 1991; Bundtzen and others, 1992; Bundtzen and others, 1996;	OP013	C.E. Cameron	8/7/2001	A015001; M045397	Quaternary. The source of the placer gold at Boob Creek may be the Cretaceous or Tertiary monzonite in the area; the source of the platinum is probably ultramafic rocks, such as those at Mt. Hurst.

During 1994, 1995, and 1996, claimholder Ron Rosander contracted geologist James Barker to evaluate the lode sources of placer gold in the Colorado Creek area. Barker collecteed 254 soil samples, 93 rock samples, and 12 samples of placer gold for scanning-electron microscope and trace element analysis. Geologic mapping and a ground-based magnetometer survey were also carried out (Barker, 1996; McGinnis, 1997). In 1996,	For more information, contact Ron Rosander, in McGrath, AK.	Barker, 1996; McGinnis and others, 1997; Avalon Development Corp., 1998; Duncan, 1999; Dashevsky, 2000 (Colorado Creek project).	OP034	C.E. Cameron	8/7/2001	10308034	The igneous rocks inferred to be responsible for this deposit intrude Cretaceous strata of the Kuskowkwim Group.

Chromite was first recognized in the complex in 1933 and 28 claims were staked in 1935 (Smith, 1937). The Alaska Juneau Mining Company held the claims until 1940. Subsequently, several government agencies examined the complex but there has been little or no exploration by industry since WWII.	The complex is now in the South Baranof Wilderness Area which is closed to mineral exploration and mining. MAS number: 0021160001.	Smith, 1937; Smith, 1938; Guild and Balsley, 1942; Nelson, 1942; Kennedy and Walton, 1946; Holdsworth and Williams, 1953; Twenhofel, 1953; Cobb, 1972; Loney and others, 1975; Cobb, 1978; Himmelberg and Loney, 1995; Bittenbender and others, 1999.	PA020	Donald J. Grybeck (U.S. Geological Survey)	2-Jan-05	A013372	If the complex is an Alaskan-type body as proposed by Himmelberg and Loney (1995), it is probably about 110 Ma.

Gold was first discovered in the Nyac district on Bear Creek (RM032)-- a tributary of the Tuluksak River--near the mouth of Bonanza Creek in 1907 or 1908 and soon after gold was discovered on the Tuluksak River. Dredging began on the Tuluksak River in 1936 and for many years the mining in the district, which was mainly on the Tuluksak River, was carried out by the New York-Alaska Company and its successor the New York-Alaska Gold Dredging		Maddren, 1915; Mining World, 1941; Joesting, 1942 (ATDM Pamph. 1); Hoare and Cobb, 1972; Hoare and Cobb, 1977; Box and others, 1993; Wenz, 2005; Calista Corporation, 2008.	RM028	Travis L. Hudson (Applied Geology) and Madelyn A. Millholland (Millholland & Associates); D.J. Grybeck (Port Ludlow, WA)	4-Mar-08	A013418	Quaternary.

California Creek has been mined since gold was discovered on it in 1918. The deposit was mined by hydraulicking pits and washing the lower 6 to 10 feet of gravel through a sluice box. Flumes, hydraulic mining equipment and piles of stripped gravel remain along the creek. The deposit is probably mined out.	Stream gradient is approximately 200 feet per mile. Asbestos fibers said to be as long as 3 inches were found in placer workings.	Cathcart, 1920; Martin, 1920; Brooks and Capps, 1924; Brooks, 1925; Moffit, 1927; Smith, 1929; Smith, 1930 (B 810); Smith, 1930 (B 813); Smith and Mertie, 1930; Reed, 1931; Smith, 1932; Smith, 1933 (B 836); Smith, 1933 (B 844A); Smith, 1934; Smith, 1937; Smith, 1938; Smith, 1942; Anderson, 1945; Anderson, 1947; Fritts, 1969; Fritts, 1970; Cobb, 1972 (MF 448); Cobb, 1973 (B 1374); Cobb, 1975 (OFR 75-627); Cobb, 1977 (OFR 77-168B);	SH001	Anita Williams (Anchorage, AK)	12/16/1999	A015603; A011881	Quaternary.

		Anderson, 1945; Berg and Cobb, 1967; Fritts, 1969; Fritts, 1970; Cobb, 1972 (MF 448); Cobb, 1975 (OFR 75-627).	SH009	Anita Williams (Anchorage, AK)	12/16/1999	A015595	

Work on this occurrence included prospecting for nephrite (jade), asbestos, and placer gold.		Reed, 1931; Anderson, 1945; Cobb, 1972 (MF 448); Cobb, 1975 (OFR 75-627); Grybeck, 1977; Mayfield and Grybeck, 1978; Mayfield and Tailleur, 1978.	SH013	Anita Williams (Anchorage, AK)	12/16/1999	A015594; A011874	Quaternary (placer).

Only surface sampling.		Loney and others, 1963; Cobb, 1972; Loney and others, 1975; Cobb, 1978; Bittenbender and others, 1999; U.S. Bureau of Land Management, 2002.	SI174	Donald Grybeck (U.S. Geological Survey)	5/5/2005	A013300	The magnetite and chromite was probably contemporaneous with the solidification of the ultramafic rock that was altered to serpentine in the Mesozoic.

Only surface sampling.		Loney and others, 1963; Cobb, 1972; Cobb, 1978.	SI178	Donald Grybeck (U.S. Geological Survey)	5/5/2005	A013303	Triassic or younger based on the age of the rocks in the area.

A 40-foot adit, several prospect pits, and an open cut were developed, probably before World War II (Still and others, 1991).		Gilbert and others, 1990; Still and others, 1991.	SK077	T.C. Crafford (T. Crafford & Associates, Anchorage)	2/4/2001	10308259	Probably Cretaceous or Tertiary based on the ages of intrusive rocks mapped to the east by Gilbert and others (1990).

A small surface open cut was used to explore this prospect in 1913 (Chapin, 1914).		Chapin, 1914; Cobb, 1972 (MF 445); Cobb, 1978 (OF 78-181); Till and others, 1986	SO120	Travis L. Hudson (Applied Geology)	8/19/1999	A012677	Cretaceous? Mineralization postdates regional mid-Cretaceous metamorphism. The host dikes may be Cretaceous in age like many felsic intrusive rocks in the Kigluaik Mountains to the north or possibly younger.

Gold reported to assay $19.2/oz; equivalent to a fineness of about 930. Surface workings but no activity since the early 1900s.	Located within Gates of the Arctic National Park.	Schrader, 1904; Smith, 1913; Anderson, 1945; U.S. Bureau of Mines, 1978; U.S. Bureau of Mines, 1979; Grybeck and Nelson, 1981.	SP011	S.W. Nelson (Anchorage, Alaska)	9/20/1999	A011925	

Some unpublished detailed mapping and surface sampling by industry.		Hitzman, 1978; Hitzman, 1980; Grybeck and Nelson, 1981; Schmidt, 1981	SP031	S.W. Nelson (Anchorage, Alaska)	9/22/1999	AO11915	Host rock is Devonian-Mississippian in age.

Andover Ventures (2008, Sun) cites a 1976 Anaconda report that the main Sun deposit contains 12,500,000 tons of inferred resources with a grade of 1.8 percent copper, 5.3 percent zinc, 2.6 ounces per ton of silver, and 1.8 percent lead. Andover also cites a 1977, Anaconda preliminary feasibility study that gives the 'inferred resources' amenable to open-pit mining at SUN as: 1) 2,399,000 tons with a grade of 1.93 percent copper, 4.51 percent zinc,		Garland and others, 1975 (ADGGS OFR 67); Sicherman, Russel, and Fikkan, 1976; Marrs, 1978; Smith and others, 1977; Smith and others, 1979; Zpedski, 1980; Grybeck and Nelson, 1981; Andover Ventures, Inc., 2007 (Andover-Sun); Andover Ventures 2008 (Sun).	SP039	S.W. Nelson (Anchorage, Alaska); D.J. Grybeck (Port Ludlow, WA)	4-Mar-08	A011912	Devonian, based on radiometric and fossil determinations.

The workings consist of 245 feet of crosscuts and drifts, two stopes each about 30 feet high, and a water-filled winze of an unknown depth (Kurtak and Jeske, 1986). Grant and Higgins (1909) reported an aerial tramway, several buildings, a wharf, and a steam plant located near tidewater. A rough estimate of the stope volume suggests that about 330 tons of material was removed (Kurtak and Jeske, 1986). A single 4-foot-		Moffit, 1908; Grant and Higgins, 1909; Johnson, 1918 (B 662-C, p. 215); Moffit and Fellows, 1950; Richter, 1965; Cobb and Richter, 1972; MacKevett and Holloway, 1977; Tysdal, 1978 (MF-880-A); Cobb and Tysdal, 1980; Jansons and others, 1984; Nelson and others, 1985; Kurtak and Jeske, 1986.	SR240	Jeff A. Huber and Carol S. Huber (Anchorage)	3/7/2001	A010420	Tertiary or younger; the occurrence is in rocks of the Orca Group of Tertiary age.

The workings on this prospect consist of a 370-foot adit (Grant and Higgins, 1909). In 1980 and 1981, the U.S. Bureau of Mines examined this area but did not find the adit that was reported in the literature. They sampled barren quartz-calcite veins that contained no asbestos (Kurtak and Jeske, 1986).		Grant and Higgins, 1909; Grant and Higgins, 1910 (B 443); MacKevett and Holloway, 1977; Tysdal, 1978 (MF-880-A); Jansons and others, 1984; Nelson and others, 1985; Kurtak and Jeske, 1986.	SR298	Jeff A. Huber and Carol S. Huber (Anchorage)	10/30/2001	A010407	Tertiary or younger; the mineralization is in rocks of the Orca Group of Tertiary age.

The adits and drifts of the Bartels Mine extended up to 1,150 feet in combined length (Steidtmann and Cathcart, 1922). Five short diamond-drill holes and several dozer trenches were completed by the USBM (Heide and others, 1946). The USBM also completed detrital cassiterite mapping on slopes periperial to the mine area (Mulligan, 1966).	Although scattered small grains of scheelite were identified in pyroxene-fluorite hornfels/skarn by Knopf (1908, p. 38), tungsten is generally present in only anomalous amounts. Tungsten was not a significant component of placer concentrates from Cape Creek or Goodwin Gulch.	Collier, 1904; Knopf, 1908 (USGS B 358); Steidtmann and Cathcart, 1922; Heide and others, 1946; Mulligan, 1966; Cobb and Sainsbury, 1972; Sainsbury, 1972; Cobb, 1975; Hudson and Arth, 1983; Hudson, 1984	TE009	Travis L. Hudson (Applied Geology)	5/10/1998		Late Cretaceous; the mineralization is interpreted to be linked to the evolution of the Cape Mountain biotite granite which has been determined to be 78.8 +/- 2.9 my old by the K/Ar method (Hudson and Arth, 1983, p. 769).

Prospect pits scattered along the dike, a 100-foot long adit, and a 25-foot deep shaft were completed by 1918 (Steidtmann and Cathcart, 1922, p. 76-77). There has been only occasional surface observation and sampling since.		Knopf, 1908 (USGS B 358); Steidtmann, and Cathcart, 1922; Sainsbury, 1969; Cobb and Sainsbury, 1972; Sainsbury, 1972; Cobb, 1975; McDermott, 1983; Hudson, 1983; Hudson and Arth, 1983	TE052	Travis L. Hudson (Applied Geology)	5/10/1998	10308416	The age of the mineralization is assumed to be related to the development of tin systems in the Lost River area and therefore Late Cretaceous, the age of the tin-mineralizing granites there (Hudson and Arth, 1983).

One USBM churn-drill hole was completed here (Mulligan, 1959).		Mulligan, 1959 (USBM RI 5493); Sainsbury, 1972; Cobb and Sainsbury, 1972; Cobb, 1975; Hudson and Arth, 1983	TE059	Travis L. Hudson (Applied Geology)	5/10/1998	10308423	Quaternary

Open cut dozer operations dominated the work here.		Collier and others, 1908; Anderson, 1947	TE070	Travis L. Hudson (Applied Geology)	5/10/1998		Quaternary

The deposit has been explored by surface pits, trenches, shallow shafts, and short adits.		Sainsbury and others, 1969; Cobb and Sainsbury, 1972; Sainsbury, 1975; Cobb, 1975; Puchner, 1986	TE071	Travis L. Hudson (Applied Geology)	5/10/1998		Unknown; if stratigraphic controls are important then it is probably Paleozoic in age. Otherwise the Ward deposit could be Jurassic or Early Cretaceous (age of regional deformation).

Surface dozer trenching has been completed on a part of Chuck's dike and in the Main plug area. Twenty nine larger diameter diamond drill holes and 32 smaller diamond drill (Winkie) holes were done in the early 1980's (Puchner, 1984). Most of these have been in the north Chuck's dike and Main plug area. Anaconda's 1980s exploration showed that parts of the roof greisen and main plug zones contained elevated		Cobb and Sainsbury, 1972; Cobb, 1975 (OF 75-857); Marsh and others, 1972; Barnes and Hudson, 1977; Hudson and Arth, 1983; Apel, 1984; Gardner and Hudson, 1984; Puchner, 1984; Puchner, 1986.	TE072	Travis L. Hudson (Applied Geology, Inc.)	10/10/2005	10308430	Late Cretaceous; the radiometric ages referenced by Puchner (1986) include an Rb/Sr age of 72 +/- 2 Ma for porphyritic biotite granite and a K/Ar age of 70.2 +/- 2.6 Ma for zinnwaldite granite from the Main plug.

Surface sampling by the U.S. Geological Survey and U.S. Bureau of Mines (Miller and others, 1978; Kurtak and others, 1991).	MAS/MIL number 20760090.	Csejtey and others, 1978; Miller and others, 1978; Kurtak and others, 1992.	TK065	R.K. Rogers (U. S. Geological Survey contractor)	10/4/2002		

The deposit is marked by old claim corners and initial discovery stakes. A trench, since caved, was dug in the 1920s(?) into talus at the base of a hill near creek level. Thomas (1958 [Dreamland Creek asbestos]) collected grab samples of asbestos from the talus, and numerous rock chip samples from various outcrops in the area, but no analyses are reported.		Chapman and others, 1982; Thomas, 1958 (Dreamland Creek asbestos).	TN007	D.J. Szumigala (ADGGS)	4/27/2004		

Information about this asbestos occurrence was provided by Ira Weisner and Harry Havrilack, longtime residents of Rampart, to Saunders (1957 [MR 48-5]). Several years before Saunders' visit, two prospectors came up the Yukon River and stopped at Rampart to inquire about the asbestos. After the prospectors left, two men from Rampart (one named Ed Mayo) staked the ground, but the claims apparently were allowed to revert		Eakin, 1916; Saunders, 1957 (MR 48-5); Solie and others, 1993.	TN008	D.J. Szumigala (ADGGS)	4/21/2004		

Eighteen or nineteen mining claims were staked between 1963 and 1966 by J & M Mining Co. along Moose Creek, Value Creek, and the part of Boulder Creek between Moose and Value creeks (Alaska Kardex files). The location notices state that gold was found on the discovery claim. Affidavits of annual labor from 1964 to 1993 list sampling, prospect holes, drilling, stripping, and sluicing. Recorded placer mining included 150 days in		Chapman and others, 1982.	TN074	D.J. Szumigala (ADGGS)	5/11/2004		Quaternary.

Gold was discovered in American Creek in 1911. Mining began almost immediately due to the shallow depth to pay dirt and the high gold content. In 1914, 30 men were reportedly working on American Creek (Brooks, 1915), and by 1919 American Creek was the second highest producer of gold in the Hot Springs district. Dredging by American Creek Dredging Company began in 1927 and continued until 1940, when the last of the rich ground was mined (Smith,		Eakin, 1912; Brooks, 1915; Wimmler, 1926; Smith, 1930; Mertie, 1934; Waters, 1934; Smith, 1934; Smith, 1942; Williams, 1951; Cobb, 1972; Cobb, 1977; Cobb, 1981; Chapman and others, 1982; Swainbank and others, 1991; Swainbank and others, 1993; Swainbank and others, 1995; Swainbank and others, 1998; Szumigala and Swainbank, 1999.	TN075	G.E. Graham (ADGGS), D.J. Szumigala (ADGGS)	5/6/2004	A015193	Quaternary.

Chapin (1919) reported mining in Dry Creek in 1917. The gravels are angular, 3 to 6 feet thick, and consist of black slate, graywacke, quartzite, and schist. Water was not plentiful, but the ground was easily worked. Heiner and others (1968) reported mining in 1967, and that claims on Dry Creek were held or worked by Scotty Anderson, Farrell, Heiner and Wolff, and Higgins. Salt Creek and the immediate area of the junction of Salt Creek with		Chapin, 1919; Heiner and others, 1968; Cobb, 1972; Cobb, 1977; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN076	D.J. Szumigala (ADGGS)	4/23/2004		Quaternary.

Little work was done in the New York Gulch area. Prospecting or mining occurred in 1921 (Cobb, 1977); Smith (1939 [B 910-A]) reported mining there in 1926; and Wimmler (1930) reported open-cut mining during 1929. A contiguous claim block varying from 33 to 108 claims on New York Gulch, American Creek (TN075), and tributaries of American Creek was worked by American Creek Partners from at least 1981 to 1992 (Alaska Kardex files). Placer		Wimmler, 1929; Mertie, 1934; Waters, 1934; Smith, 1939 (B 910-A); Cobb, 1972; Cobb, 1973; Cobb, 1977; Chapman and others, 1982; Newberry and Clautice, 1997.	TN077	G.E. Graham (ADGGS)	1/15/2001	A015194	Quaternary.

Moxham (1954) identified chromite float on the south slopes of the ridge between Woodchopper and Boulder creeks, and small lenses and stringers of chromite that are in place on the ridge top. Berg and Cobb (1967) reported chromite disseminated in serpentinite on Serpentine Ridge and pieces of chromite float up to 6 inches in diameter.		Moxham, 1954; Berg and Cobb, 1967; Cobb, 1972; Cobb, 1977; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN079	J.E. Athey (ADGGS), D.J. Szumigala (ADGGS)	7/16/2003	A015195?; A015180?	Late Cretaceous?

Cobb (1977) has summarized the mining history on Woodchopper Creek. Mining on the creek started in 1913 with the discovery of gold gravels near the mouth of the creek (Chapin, 1914). There was large-scale drift mining from 1915 to 1916, employing more than 100 men (Brooks, 1918). This project disbanded, but mining on different claims continued through 1941, and many prospecting holes were dug by different people		Chapin, 1914; Brooks, 1918; Smith, 1929; Mertie, 1934; Williams, 1951; Thomas, 1957; Wayland, 1961; Heiner and others, 1968; Cobb, 1972; Cobb, 1973; Cobb, 1977; Chapman and others, 1982; Reifenstuhl and others, 1998; Swainbank and others, 1998.	TN081	G.E. Graham (ADGGS)	1/15/2001	A015197	Quaternary.

The Hokeley Gulch placers were discovered in 1913 by Adolph Bock, and were worked through 1916. The shafts in the pay zone are 130 feet deep, with 6 to 8 feet of gravels lying on bedrock (Eakin, 1915). The Innesvale Gulch placers were initially mined in 1918. One of the claims worked in 1931 was visited by Mertie (1934), who noted that the occurrence of the gold and cassiterite differs from that in the Hokeley Gulch placers, in that the depth to bedrock is	The stream gradient of Deep Creek is 50 to100 feet per mile.	Eakin, 1915; Mertie, 1934; Waters, 1934; Thomas, 1957; Wayland, 1961; Barton, 1962; Kauffman and Holt, 1965; Cobb, 1972; Cobb, 1973; Cobb, 1977; Chapman and others, 1982; Newberry and Clautice, 1997; Reifenstuhl and others, 1998.	TN082	G.E. Graham (ADGGS), D.J. Szumigala (ADGGS)	2/14/2004	A015198	Quaternary.

Any workings and exploration on Patterson Creek are not well documented and some references may actually be to benches on its tributaries. Brooks (1908, 1909) stated that gold was discovered in 1907 and mining was reported in 1913,1915, and 1919 (Brooks, 1914, 1916; Brooks and Martin, 1921). Martin (1920) reported prospect drilling in 1918.		Brooks, 1908; Brooks, 1909; Brooks, 1914; Brooks, 1916; Martin, 1920; Brooks and Martin, 1921; Thomas, 1957; Cobb, 1972; Cobb, 1973; Cobb, 1977; Eberlein and others, 1977; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN084	G.E. Graham (ADGGS)	1/15/2001	A015202; A010745	Quaternary.

The workings in the Miller Gulch area were underground drift mines. They were developed around 1910-1915, after which activity waned. The tailings were reworked between 1917-20, and minor drift mining was reported in 1930-31 and 1937-40. Claims were staked at this site in 1953 and 1958 and there was mining in 1967 (Heiner and others, 1968).		Eakin, 1915; Moxham, 1954; Thomas, 1957; Wayland, 1961; Barton, 1962; Heiner and others, 1968; Cobb, 1972; Cobb, 1973; Cobb, 1977; Chapman and others, 1982; Southworth, 1984; Warner and others, 1986; Reifenstuhl and others, 1998.	TN085	G.E. Graham (ADGGS), D.J. Szumigala (ADGGS)	8/8/2003	A015199	Quaternary.

The first work in Idaho Gulch was reported in 1911 (Wayland, 1961). Drift mining appears to have been predominant. Drilling programs were conducted by the Alaska Gold Dredging Company in 1929, Cleary Hill Mining Company in 1940-41, and the U.S. Bureau of Mines in 1954-56 (Wayland, 1961; Thomas, 1957). McGee and Strandberg Mines, Inc., were active on Idaho Gulch in 1967 (Heiner and others, 1968).		Eakin, 1915; Moxham, 1954; Thomas, 1957; Wayland, 1961; Heiner and others, 1968; Cobb, 1972; Cobb, 1977; Chapman and others, 1982; Warner and others, 1986; Reifenstuhl and others, 1998.	TN086	G.E. Graham (ADGGS)	1/15/2001	A015200	Quaternary.

Mining in Tofty Gulch appears to have been somewhat sporadic. Gold was discovered in the winter of 1907, presumably by drifting. There was open-cut mining in 1909-12, 1917, 1929, and 1941 (Cobb, 1977). L. McGee mined the property in 1951 (Williams, 1951). Man Mining Company had a washing plant, three bulldozers, two draglines, and five men working a placer claim in 1975 (Carnes, 1976). In 1992, GHD Resources reacquired the Tofty (Gulch?)		Ellsworth, 1910; Hess, 1912; Eakin, 1913; Mertie, 1934; Williams, 1951; Moxham, 1954; Thomas, 1957; Wayland, 1961; Cobb, 1972; Carnes, 1976; Cobb, 1977; Chapman and others, 1982; Swainbank and others, 1993; Swainbank and others, 1995; Bundtzen and others, 1994; Newberry and Clautice, 1997; Reifenstuhl and others, 1998; Szumigala and Swainbank, 1999.	TN088	G.E. Graham (ADGGS)	11/14/2000	A015201	Quaternary.

		Eakin, 1913; Waters, 1934; Thomas, 1957; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN092	J.E. Athey (ADGGS)	3/16/2001		

Sullivan Creek was originally drift mined, and accounted for most of the early output of placer gold in the Tofty district (Brooks, 1909; Hess, 1912). By the early 1920's hydraulic plants were being used. Much of the land was bought up by Alaska Gold Dredging Company, and in 1929 they conducted an extensive drilling program of the Sullivan bench. The results were not satisfactory and the land was passed on to miners, who sold their holdings to Cleary Hill		Brooks, 1909; Hess, 1912; Eakin, 1913; Eakin, 1915; Mertie, 1934; Waters, 1934; Williams, 1951; Thomas, 1957; Wayland, 1961; Heiner and others, 1968; Cobb, 1972; Cobb, 1977; Chapman and others, 1982; Bundtzen and others, 1986; Green and others, 1989; Swainbank and others, 1991; Bundtzen and others, 1992; Bundtzen and others, 1996; Reifenstuhl and others, 1998.	TN093	G.E. Graham (ADGGS), D.J. Szumigala (ADGGS)	8/11/2003	A015203; A010745	Quaternary.

No detailed information has been published about the mining techniques used on Harter Gulch, other than it was worked mainly by a man named Richards in the early days of mining (Wayland, 1961). Cobb (1981) reports that placer mining may have occurred in 1977.		Moxham, 1954; Thomas, 1957; Wayland, 1961; Cobb, 1972; Cobb, 1977; Cobb, 1981; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN094	G.E. Graham (ADGGS)	11/14/2000	A015204	Quaternary.

Mining began in Dalton Gulch in 1910 and continued until World War I (Wayland,1961). One pay streak was 60 feet wide, but most of the pay was discontinuous. The gravels are thin, averaging between 2 and 4 feet thick, with approximately 60 feet of overburden. Dalton Gulch also includes bench placers on bedrock terraces. The richest bench placers are on the steepest slopes. They averaged $0.50 in gold per square foot, with local areas as rich as $10 per		Moxham, 1954; Thomas, 1957; Wayland, 1961; Cobb, 1972; Cobb, 1977; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN096	G.E. Graham (ADGGS)	1/15/2001	A015205	Quaternary.

Mining in the Cache Creek area began in 1908-09, and by 1910 steam hoists were being used. The pay gravel was at a depth of approximately 50 feet, with limited water supplies for sluicing (Eakin, 1913). Reports of cassiterite ('tin') recovery were sporadic, owing to sub-economic conditions. According to Ellsworth and Davenport (1913), the cassiterite was abundant, while Mertie (1934) reported that it was not. Little is published about mining on		Ellsworth, 1910; Ellsworth and Davenport, 1913; Eakin, 1913; Mertie, 1934; Waters, 1934; Williams, 1951; Thomas, 1957; Wayland, 1961; Heiner and others, 1968; Cobb, 1972; Cobb, 1977; Chapman and others, 1982; Bundtzen and others, 1990; Swainbank and others, 1991; Reifenstuhl and others, 1998.	TN097	G.E. Graham (ADGGS), D.J. Szumigala (ADGGS)	8/8/2003	A015207	Quaternary.

Gold was discovered on Cache Creek (TN097) in 1909 and 1910, and prospecting began on Ferguson Draw about then. Subsequent mining presumably involved sinking shafts and underground workings.		Thomas, 1957; Wayland, 1961; Cobb, 1972; Cobb, 1977; Eberlein and others, 1977; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN098	G.E. Graham (ADGGS)	11/14/2000	A015206	Quaternary.

The Tofty Ridge area was explored and over 120 claims were staked in 1978 by Resource Associates of Alaska, Inc. (RAA) for Houston Oil & Minerals (HOM) (Jim Adler, oral commun., 2003). The original exploration was to identify and evaluate the source of cassiterite ('tin') in the local placer deposits. Field work in 1979 and subsequent petrologic study of rock samples found minerals, including apatite, phlogopite, and	Estimated reserves of approximately 100,000 pounds of niobium (as Nb2O5) are present in placer tailings in upper Idaho Gulch (TN083) (Southworth, 1984).	Moxham, 1954; Thomas, 1957; Wayland, 1961; Cobb, 1972; Eberlein and others, 1977; Chapman and others, 1982; Southworth, 1984; Warner and others, 1986; Liss and others, 1998; Reifenstuhl and others, 1998; North Star Exploration, Inc., 2000 (Drilling and trenching program, Tofty Ridge, Manley Hot Springs village block, Alaska); North Star Exploration, Inc., 2001 (Alaska exploration opportunities).	TN099	D.J. Szumigala (ADGGS)	4/12/2004		A whole-rock sample of altered phyllite adjacent to carbonatite in the Idaho Gulch area yielded an Ar/Ar age of 193 +/- 15 Ma, with a reset age of about 55 million years (Reifenstuhl and others, 1998). The reset age may represent the age of emplacement of the carbonatite.

In 1917, prospectors found significant amounts of cassiterite in Gold Basin Creek, but not much gold (Martin, 1919). The creek was explored by drilling and prospect shafts. The gold and cassiterite were on bedrock at a depth of 40 to 80 feet (Wayland, 1961; Cobb, 1977). The exact distribution of the gold is unknown, but in the past it has proved too fine to recover. The cassiterite is similar to that in Woodchopper Creek (TN081) and is well		Martin, 1919; Thomas, 1957; Wayland, 1961; Cobb, 1972; Cobb, 1977; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN101	G.E. Graham (ADGGS)	12/11/2000	A015208	Quaternary.

Prospecting began on Killarney Creek in 1912 (Wayland, 1961). Potential gold-bearing gravel deposits were drilled the following years by Hanson and Bock, and by Howell and Bargery (Brooks, 1916). The cassiterite and gold occur on phyllite bedrock for approximately 1,000 feet along Killarney Creek, at a depth of 40 to 80 feet. Unlike the other deposits in the tin belt, the cassiterite is fine; the largest piece recovered from one drilling program was		Brooks, 1916; Thomas, 1957; Wayland, 1961; Cobb, 1972; Cobb, 1977; Chapman and others, 1982; Bundtzen and others, 1990; Reifenstuhl and others, 1998; Swainbank and others, 1998.	TN106	G.E. Graham (ADGGS)	12/11/2000	A015209	Quaternary.

Mining claims were staked along Tonawanda Creek in 1980 (Alaska Kardex files), and worked semi-continuously from 1980 to 1994. An affidavit of annual labor from 1986 listed 22 state mining claims and stripping on No. 1 below Discovery.		Thomas, 1957; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN113	D.J. Szumigala (ADGGS)	4/26/2004		Quaternary?

Three mining claims were staked along Utah Creek in the 1970's (Alaska Kardex files). Affidavits of annual labor from 1979 to 1982 list excavation, an adit 18 feet high and 15 feet deep, and drilling.		Thomas, 1957; Chapman and others, 1982; Reifenstuhl and others, 1998.	TN116	D.J. Szumigala (ADGGS)	5/10/2004		Quaternary.

This prospect was explored by a large open cut, numerous test pits, and a 50-foot long adit (Moffit, 1914; Pierce, 1946).	This prospect is in Wrangell-St. Elias National Park.	Moffit, 1914; Pierce, 1946; Kingston and Miller, 1945; Herreid, 1970; Cobb and Matson, 1972; Winkler and others, 1981(OFR 80-892-B); Foley and others, 1989.	VA080	Travis L. Hudson	12/14/2001	A011502; W000322	Not known; the protolith ages of metasedimentary and metaplutonic rocks in the Haley Creek terrane are not known but much deformation and recrystallization probably occurred in the mid-Cretaceous or younger (Winkler and others, 1981 [OFR 80-892-A]).

Only surface sampling.		Dillon and others, 1981 (AOF 133B); Bliss and others, 1988.	WI038	J.M. Britton (Anchorage)	8/9/2002	A011977	

rept_aff	model_code	alteration	prod_notes	reserves	prime_ref	expand_ref
		Large area of south flank of Sheep Mountain is strained dark red from oxidation of pyrite in	About 50 tons of gypsum had been mined (Eckhart, 1953). In addition, about 55 tons of clay was mined	The six deposits indicated and inferred reserves contain about 659,000 short tons of gypsum material	Eckhart, 1953	Berg, H.C., and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological
	36a.1		Recorded production of 83 oz gold and 33 oz silver (Jansons and others, 1984).		Johnson, 1915	Cobb, E.H., 1972, Metallic mineral resources map of the Anchorage quadrangle, Alaska: U.S. Geological
	8d				Mayfield and Grybeck, 1978	Mayfield, C.F., and Grybeck, D., 1978, Mineral occurrences and resource map of the

	8d				Mayfield and Grybeck, 1978	Mayfield, C.F., and Grybeck, D., 1978, Mineral occurrences and resource map of the Ambler River quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-120-I, 1 sheet, scale 1:250,000.

	8d				Mayfield and Grybeck, 1978	Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Mayfield, C.F., and Grybeck, D., 1978, Mineral occurrences and resource map of the Ambler River quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-120-I, 1 sheet, scale 1:250,000.

	8d				Anderson, 1945	Anderson, Eskil, 1945, Asbestos and jade occurrences in the Kobuk River region, Alaska: Alaska Territorial Department of Mines Pamphlet 3-R, 26 p. Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Heide, H.E., Wright, W.S., and Rutledge, F.A., 1949, Investigations of the Kobuk River asbestos deposits, Kobuk district, northwest

	8d				Anderson, 1945	Anderson, Eskil, 1945, Asbestos and jade occurrences in the Kobuk River region, Alaska: Alaska Territorial Department of Mines Pamphlet 3-R, 26 p. Mayfield, C.F., and Grybeck, D., 1978, Mineral occurrences and resource map of the Ambler River quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-120-I, 1 sheet, scale 1:250,000. Smith, P.S., and Mertie, J.B., Jr., 1930, Geology and mineral resources of northwestern

	39a		Intermittent production during the period 1894 to 1940. May have produced as much as 10,000 oz (311 kg) of gold (Fritts, 1970, p. 54-55).		Fritts, 1970	Anderson, Eskil, 1945, Asbestos and jade occurrences in the Kobuk River region, Alaska: Alaska Territorial Department of Mines Pamphlet 3-R, 26 p. Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Fritts, C.E., 1970, Geology and geochemistry of the Cosmos Hills, Ambler River and Shungnak River quadrangles, Alaska: Alaska

	8d				Heide and others, 1949	Anderson, Eskil, 1945, Asbestos and jade occurrences in the Kobuk River region, Alaska: Alaska Territorial Department of Mines Pamphlet 3-R, 26 p. Heide, H.E., Wright, W.S., and Rutledge, F.A., 1949, Investigations of the Kobuk River asbestos deposits, Kobuk district, northwest Alaska: U.S. Bureau of Mines Report of Investigations 4414, 21 p. Mayfield, C.F., and Grybeck, D., 1978, Mineral occurrences and resource

	8d/39a				Anderson, 1947	Anderson, Eskil, 1945, Asbestos and jade occurrences in the Kobuk River region, Alaska: Alaska Territorial Department of Mines Pamphlet 3-R, 26 p. Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Heide, H.E., Wright, W.S., and Rutledge, F.A., 1949, Investigations of the Kobuk River asbestos deposits, Kobuk district, northwest

	8d		33 tons of tremolite and 0.9 tons of serpentine shipped during WW ll. Small amount of optical quartz crystals shipped in 1943 (Heide and others, 1949, p. 11-13).		Heide and others, 1949	Anderson, Eskil, 1945, Asbestos and jade occurrences in the Kobuk River region, Alaska: Alaska Territorial Department of Mines Pamphlet 3-R, 26 p. Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Fritts, C.E., 1970, Geology and geochemistry of the Cosmos Hills, Ambler River and Shungnak River quadrangles, Alaska: Alaska

	39a				Mayfield and Grybeck, 1978	Mayfield, C.F., and Grybeck, D., 1978, Mineral occurrences and resource map of the Ambler River quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-120-I, 1 sheet, scale 1:250,000.

	39a		There are no indications of production from Serpentine Creek.		Foster and others, 1978	Foster, H.L., O'Leary, R.M., McDanal, S.K., and Clark, A.L., 1978, Analyses of rock samples from the Big Delta quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-469, 125 p., 1 sheet Weber, F.R., Foster, H.L., Keith, T.E.C., Dusel-Bacon, Cynthia, 1978, Preliminary geologic map of the Big Delta quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-529-A, 1 sheet, scale 1:250,000.

	39a				Cobb, 1975 (OFR 75-429)	Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Brooks, A.H., 1904, Placer mining in Alaska in 1903: U.S. Geological Survey Bulletin 225, p. 43-59. Cobb, E.H., 1972, Metallic mineral resources map of the Bendeleben quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-417, 1 sheet, scale

	39a				Sainsbury and others, 1969	Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Brooks, A.H., 1904, Placer mining in Alaska in 1903: U.S. Geological Survey Bulletin 225, p. 43-59. Cobb, E.H., 1972, Metallic mineral resources map of the Bendeleben quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-417, 1 sheet, scale

	39a				Cobb, 1975 (OFR 75-429)	Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Cobb, E.H., 1972, Metallic mineral resources map of the Bendeleben quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-417, 1 sheet, scale 1:250,000. Cobb, E.H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin

		The area contains abundant small quartz veins, veinlets, and stringers in pelitic metasedimentary rocks. Iron oxide-staining of frost-riven soils is well-developed in the area of anomalous gold and arsenic samples.			Hudson, 1984	Apodoca, L.E., 1994, Genesis of lode gold deposits of the Rock Creek area, Nome mining district, Seward Peninsula, Alaska: Boulder, Colorado, University of Colorado, Ph.D. dissertation, 208 p. Barnes, D.F., and Hudson, T.L., 1977, Bouguer gravity map of Seward Peninsula, Alaska: U.S. Geological Survey Open-File Report 77-796-C, 1 sheet, scale 1:1,000,000. Ford, R.C., 1993, Geology, geochemistry, and age of gold

		Quartz veining and iron-oxide fracture fillings and staining are common. There may have been some clay development. Unoxidized mineralization probably contains pyrite and base metal sulfides.			Sainsbury and others, 1970	Hudson, T.L., 1979, Igneous and metamorphic rocks of the Serpentine Hot Springs area, Seward Peninsula, Alaska: U.S. Geological Survey Professional Paper 1079, 27 p. Hudson, T.L., and Arth, J. G., 1983, Tin granites of Seward Peninsula, Alaska: Geological Society of America Bulletin, v. 94, p. 768-790. Sainsbury, C.L., Hudson, T.L., Kachadoorian, Reuben, Smith, T.E., Richards, T.R., and Todd,

		The altered zones contain quartz veins and are commonly iron-oxide stained. Clay alteration may be present.			Sainsbury and others, 1970	Hudson, T.L., 1979, Igneous and metamorphic rocks of the Serpentine Hot Springs area, Seward Peninsula, Alaska: U.S. Geological Survey Professional Paper 1079, 27 p. Hudson, T.L., and Arth, J. G., 1983, Tin granites of Seward Peninsula, Alaska: Geological Society of America Bulletin, v. 94, p. 768-790. Sainsbury, C.L., Hudson, T.L., Kachadoorian, Reuben, Smith, T.E., Richards, T.R., and Todd,

		Iron-oxide staining and bleached discoloration are common; some clay development is probably present.			Hudson, 1979	Hudson, T.L., 1979, Igneous and metamorphic rocks of the Serpentine Hot Springs area, Seward Peninsula, Alaska: U.S. Geological Survey Professional Paper 1079, 27 p. Hudson, T.L., and Arth, J. G., 1983, Tin granites of Seward Peninsula, Alaska: Geological Society of America Bulletin, v. 94, p. 768-790. Sainsbury, C.L., Hudson, T.L., Kachadoorian, Reuben, Smith, T.E., Richards, T.R., and Todd,

					Sainsbury and others, 1970	Hudson, T.L., 1979, Igneous and metamorphic rocks of the Serpentine Hot Springs area, Seward Peninsula, Alaska: U.S. Geological Survey Professional Paper 1079, 27 p. Hudson, T.L., and Arth, J. G., 1983, Tin granites of Seward Peninsula, Alaska: Geological Society of America Bulletin, v. 94, p. 768-790. Sainsbury, C.L., Hudson, T.L., Kachadoorian, Reuben, Smith, T.E., Richards, T.R., and Todd,

		Quartz veining and oxidation of iron-bearing sulfide minerals is common along a high angle fault zone.			Sainsbury and others, 1970	Cobb, E.H., 1972, Metallic mineral resources map of the Bendeleben quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-417, 1 sheet, scale 1:250,000. Cobb, E.H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Bendeleben quadrangle, Alaska: U.S. Geological Survey Open-File Report 75-429, 123 p. Hudson, T.L.,

	39a		The abundance of cassiterite was a handicap to gold mining; as much as 30 tons of tin concentrate (containing 36,000 pounds of metallic tin) were produced in 1919 (Brooks and Martin, 1921). Most of the cassiterite that was recovered by placer mining was not marketed; oil drums containing cassiterite-rich concentrate (60 % tin) were still stored at this location in the 1960's (Sainsbury and others, 1968).		Sainsbury and others, 1968	Barnes, D.F., and Hudson, T.L., 1977, Bouguer gravity map of Seward Peninsula, Alaska: U.S. Geological Survey Open-File Report 77-796-C, 1 sheet, scale 1:1,000,000. Brooks, A.H., and Martin, G. C., 1921, The Alaska mining industry in 1919: U.S. Geological Survey Bulletin 714-A, p. 59-95. Cobb, E.H., 1972, Metallic mineral resources map of the Bendeleben quadrangle, Alaska: U.S. Geological Survey Miscellaneous

	18d	Mg-bearing silicate minerals have been serpentinized and phlogopite is well-developed.			Newberry and others, 1997	Hudson, T.L., Miller, M. L., and Pickthorn, W. J., 1977, Map showing metalliferous and selected nonmetalliferous mineral deposits, Seward Peninsula, Alaska: U.S. Geological Survey Open-File Report 77-796-B, 46 p., 1 sheet, scale 1:1,000,000. Newberry, R.J., Allegro, G.L., Cutler, S.E., Hagen-Levelle, D.D., Adams, D.D., Nicholson, L.C., Weglarz, T.B., Bakke, A.A., Clautice, K.H., Coulter, G.A., Ford, M.J., Myers, G.L., and Szumigala, D.J.,

	22c (?)	The deposit is oxidized and an early description (Levensaler, 1941) notes that siderite bodies replace limestone (marble).	Two high-graded ore shipments have been documented (Levensaler, 1941). A shipment of thirty three tons was received at the Selby smelter on October 28, 1921 that contained 33.25 ounces/ton Ag, 29.9 % Pb, 4.8 % Zn, 5.8 % silica, 20.8 % Fe, and 0 % arsenic and antimony. On December 10, 1922, 1.75 tons were received at the Bunker Hill smelter that contained 29.4 ounces/ton Ag, 33.5 % Pb, 6.3 % Zn, and 12.3 % Fe.	Very little production has occurred and the deposit(s) is intact.	Levensaler, 1941	Cobb, E.H., 1972, Metallic mineral resources map of the Bendeleben quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-417, 1 sheet, scale 1:250,000. Cobb, E.H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Bendeleben quadrangle, Alaska: U.S. Geological Survey Open-File Report 75-429, 123 p. Levensaler,

	18c	The epidote-garnet skarn appears to have an overprinting hydrous alteration of mica, actinolite, and chlorite. Limonitic staining is present.			Hudson and Wyman, 1983	Hudson, T.L., and Wyman, W. F., 1983, Interim report on areas of Seward Peninsula warranting further prospecting and evaluation: Anchorage, Anaconda Minerals Company internal report, 84 p., 7 plates. (Report held by Cook Inlet Region Inc., Anchorage, Alaska.) Hudson, T.L., Miller, M. L., and Pickthorn, W. J., 1977, Map showing metalliferous and selected nonmetalliferous mineral deposits, Seward

					Moxham and West, 1953	Cobb, E.H., 1972, Metallic mineral resources map of the Bendeleben quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-417, 1 sheet, scale 1:250,000. Cobb, E.H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Bendeleben quadrangle, Alaska: U.S. Geological Survey Open-File Report 75-429, 123 p. Hudson, T.L.,

					Doyon Limited, 1987	Dover, J.A., 1994, Geology of part of east-central Alaska, in Plafker, George, and Berg, H.C., eds., The geology of Alaska, Geological Society of America DNAG, Geology of North America, v. G1, p. 153-204.

	8a	Serpentinization.			Foley, 1992	Barker, J.C., and Foley, J.Y., 1986, Tin reconnaissance of the Kanuti and Hodzana Rivers uplands, central Alaska: U.S. Bureau of Mines Information Circular 9104, 27 p. Foley, J.Y., 1992, Ophiolite and other ultramafic metallogenic provinces in Alaska (west of the 141th meridian): U.S. Geological Survey Open-File Report 92-20-B, 55 p. Foley, J.Y., Barker, J.C., and Brown, L.L., 1985, Critical and strategic minerals investigation in

	18b	Calc-silicate(?).			Newberry and others, 1986	DeYoung, J.H., Jr., 1978, Mineral resources map of the Chandalar quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-878-B, 2 sheets, scale 1:250,000. Newberry, R.J., Allegro, G.L., Cutler, S.E., Hagen-Levelle, D.D., Adams, D.D., Nicholson, L.C., Weglarz, T.B., Bakke, A.A., Clautice, K.H., Coulter, G.A., Ford, M.J., Myers, G.L., and Szumigala, D.J., 1997, Skarn deposits of Alaska, in Goldfarb, R.J., and Miller, L.D.,

	9	An early generation of hydrothermal magnetite associated with diopside dikes formed from 575 to 700 degrees C; the PGE minerals are associated with an intermediate stage of hydrothermal activity marked by the deposition of magnetite and secondary hornblende formed between 475 to 575 degrees C; and the last hydrothermal stage, marked by the deposition of of magnetite rimmed by interlayered chlorite and			This record	Brew, D.A., and Morell, R.P., 1983, Intrusive rocks and plutonic belts of southeastern Alaska: Geological Society of America Memoir 159, p. 171-193. Gehrels, G.E., and Berg, H.C., 1992, Geologic map of southeastern Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map I-1867, 1 sheet, scale 1:600,000, 24 p. Himmelberg, G.R., and Loney, R.A., 1995; Characteristics and petrogenesis of

	9	An early generation of hydrothermal magnetite associated with diopside dikes formed from 575 to 700 degrees C; the PGE minerals are associated with an intermediate stage of hydrothermal activity marked by the deposition of magnetite and secondary hornblende formed between 475 to 575 degrees C; and the last hydrothermal stage, marked by the deposition of of magnetite rimmed by interlayered chlorite and			This record	Brew, D.A., and Morell, R.P., 1983, Intrusive rocks and plutonic belts of southeastern Alaska: Geological Society of America Memoir 159, p. 171-193. Fischer, R.P., 1975, Vanadium resources in titaniferous magnetite deposits: U.S. Geological Survey Professional Paper 926-B, p. B1-B10. Gehrels, G.E., and Berg, H.C., 1992, Geologic map of southeastern Alaska: U.S. Geological Survey Miscellaneous Investigations

	9	An early generation of hydrothermal magnetite associated with diopside dikes formed from 575 to 700 degrees C; the PGE minerals are associated with an intermediate stage of hydrothermal activity marked by the deposition of magnetite and secondary hornblende formed between 475 to 575 degrees C; and the last hydrothermal stage, marked by the deposition of of magnetite rimmed by interlayered chlorite and			This record	Brew, D.A., and Morell, R.P., 1983, Intrusive rocks and plutonic belts of southeastern Alaska: Geological Society of America Memoir 159, p. 171-193. Fischer, R.P., 1975, Vanadium resources in titaniferous magnetite deposits: U.S. Geological Survey Professional Paper 926-B, p. B1-B10. Gehrels, G.E., and Berg, H.C., 1992, Geologic map of southeastern Alaska: U.S. Geological Survey Miscellaneous Investigations

	9	An early generation of hydrothermal magnetite associated with diopside dikes formed from 575 to 700 degrees C; the PGE minerals are associated with an intermediate stage of hydrothermal activity marked by the deposition of magnetite and secondary hornblende formed between 475 to 575 degrees C; and the last hydrothermal stage, marked by the deposition of of magnetite rimmed by interlayered chlorite and			This record	Brew, D.A., and Morell, R.P., 1983, Intrusive rocks and plutonic belts of southeastern Alaska: Geological Society of America Memoir 159, p. 171-193. Fischer, R.P., 1975, Vanadium resources in titaniferous magnetite deposits: U.S. Geological Survey Professional Paper 926-B, p. B1-B10. Gehrels, G.E., and Berg, H.C., 1992, Geologic map of southeastern Alaska: U.S. Geological Survey Miscellaneous Investigations

	9	An early generation of hydrothermal magnetite associated with diopside dikes formed from 575 to 700 degrees C; the PGE minerals are associated with an intermediate stage of hydrothermal activity marked by the deposition of magnetite and secondary hornblende formed between 475 to 575 degrees C; and the last hydrothermal stage, marked by the deposition of of magnetite rimmed by interlayered chlorite and			This record	Brew, D.A., and Morell, R.P., 1983, Intrusive rocks and plutonic belts of southeastern Alaska: Geological Society of America Memoir 159, p. 171-193. Fischer, R.P., 1975, Vanadium resources in titaniferous magnetite deposits: U.S. Geological Survey Professional Paper 926-B, p. B1-B10. Gehrels, G.E., and Berg, H.C., 1992, Geologic map of southeastern Alaska: U.S. Geological Survey Miscellaneous Investigations

	9	An early generation of hydrothermal magnetite associated with diopside dikes formed from 575 to 700 degrees C; the PGE minerals are associated with an intermediate stage of hydrothermal activity marked by the deposition of magnetite and secondary hornblende formed between 475 to 575 degrees C; and the last hydrothermal stage, marked by the deposition of of magnetite rimmed by interlayered chlorite and			This record	Brew, D.A., and Morell, R.P., 1983, Intrusive rocks and plutonic belts of southeastern Alaska: Geological Society of America Memoir 159, p. 171-193. Fischer, R.P., 1975, Vanadium resources in titaniferous magnetite deposits: U.S. Geological Survey Professional Paper 926-B, p. B1-B10. Gehrels, G.E., and Berg, H.C., 1992, Geologic map of southeastern Alaska: U.S. Geological Survey Miscellaneous Investigations

	18b	The deposit is mineralized garnet-chlorite-actinolite-diopside skarn associated with altered [Cretaceous?] diorite porphyry (Maas and others, 1991) or propylitized granodiorite (Hedderly-Smith, 1999 [Inventory]).			Hedderly-Smith, 1999 (Inventory)	Brew, D.A., 1996, Geologic map of the Craig, Dixon Entrance, and parts of the Ketchikan and Prince Rupert quadrangles, southeastern Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-2319, 53 p., 1 sheet, scale 1:250,000. Chapin, Theodore, 1918, Mining developments in the Ketchikan and Wrangell mining districts: U.S. Geological Survey Bulletin 662-B, p. 63-75. Cobb, E. H., 1978, Summary of references to mineral

		The deposits closest to the stock are coarse-grained pegmatite dikes deposited from late-stage fluids; with increasing distance, they grade into 'vein dikes,' and ultimately into silica-rich veins. The pegmatite dikes are up to 13 feet thick and consist mainly of quartz and albite with minor riebeckite, aegirine, and zircon. They commonly have a halo of pyritic and chloritic alteration. The vein dikes generally are 1 to 3 feet thick, have a pegmatitic core, contain banded		Barker and Mardock (1990) calculated the resources in two occurrences. They estimate that a vein dike about 3 feet thick near Dora Lake contains an inferred resource of about 500,000 tons of material with 442 parts per million (ppm) niobium, 71 ppm uranium, 1,775 ppm yttrium, 1.53 percent zirconium, and 2,816 ppm REE. Another block near the south end of Dora Lake is projected to have a strike length of 4,000 feet and a vertical extent of	Barker and Mardock, 1990; Hedderly-Smith, 1999 (Inventory)	Barker, J.C., and Mardock, C.L., 1990, Rare-earth-element- and yttrium-bearing pegmatite dikes near Dora Bay, southern Prince of Wales Island: U.S. Bureau of Mines Open-File Report OFR 19-90, 41 p. Brew, D.A., 1996, Geologic map of the Craig, Dixon Entrance, and parts of the Ketchikan and Prince Rupert quadrangles, southeastern Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-2319, 53 p., 1 sheet, scale 1:250,000. Eberlein, G.D.,

	32b?	The alteration at the Pleasant Creek prospects includes serpentization, silicification, and quartz veining.			DiMarchi and others, 1993	Andrews, Tom, Bigelow, C.G., Fernette, J.P., Jirik, R., Kretschmar, U., Kretschmar, D., Lessman, J., McOuat, M., Martin, W., Ruzicka, J., Sandrock, G., Skyllingstad, P., Yinger, M., 1977, 1976 Annual progress report, Doyon project volume 1a, blocks 1, 4, 5, 7, 8: Anchorage, Alaska, WGM, Inc., p. 7-1 to 7-23. (Report held by Doyon, Limited, Fairbanks, Alaska.) DiMarchi, J.J., Weglarz, T.B., Adams, D.D., Hubert, J.A., and West, A.W.,

		This prospect and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		According to Warner and Barker (1989), the indicated resources along 3,100 feet of dike are 7,497,000 pounds of columbium, 402,000 pounds of thorium, 852,000 pounds of uranium, 6,458,000 pounds of yttrium, 8,820,000 pounds of zirconium, 19,061,000 pounds of REE, and 578,000 pounds of tantalum, in 2,450,000 short tons of rock. The total inferred resource along 5,600 feet of dike is	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		Iron staining and argillization.			MacKevett, 1963	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		This prospect and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		According to Warner and Barker (1989), the deposit has an inferred resource of 27,000 short tons of material that contains 26,000 pounds of columbium, 1,728,000 pounds of thorium, 270,000 pounds of uranium, 437,000 pounds of yttrium, 151,000 pounds of zirconium.	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		This prospect and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.			MacKevett, 1963	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		These prospects and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.			Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		These prospects and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		Sampling indicates negligible resources.	MacKevett, 1963	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		These prospects and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		Warner and Barker (1989) defined an ore zone about 1,500 feet long that contains about 586,000 short tons of rock. The ore zone contains 1,054,000 pounds of columbium, 115,000 pounds of uranium; 732,000 pounds of yttrium, 20,200,000 pounds, of zirconium, and 2,749,000 pounds of REE. The average grade of this zone is 1,230 parts per million (ppm) columbium, 3,000 ppm REE, 140 ppm uranium, 650 ppm yttrium,	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		This prospect and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		Warner and Barker (1989) indicate that the pegmatite at the Irene-D prospect contains relatively low values of columbium, REE, yttrium, and zirconium. A few samples contained minor uranium and trace gold. Based on their work, the values are too low to constitute a significant resource.	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		These prospects prospect and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		The dikes have an indicated resource of 100,000 short tons of rock that contain 181,000 pounds of columbium, 41,000 pounds of thorium, and 34,000 pounds of uranium. There is an additional inferred resource of 73,000 pounds of columbium (Warner and Barker, 1989).	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		Not specifically described; the dikes and their wallrocks are probably albitized and chloritized like those at other deposits in the area.			MacKevett, 1963	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

			In 1957, about 15,000 tons of ore with a grade of more than 0.80 percent U3O8 was mined from an open pit by Climax Molybdenum Company. Bay West Inc. leased the property in 1961 and began underground exploration and mining from a haulage adit beneath the open pit. Standard Metals Corporation took control of the property in 1963 and Newmont Exploration Ltd. operated the property until 1971. From 1957 to 1971, a total of 79,500	In 1980, Standard Metals Corp. identified the remaining reserves as 365,000 short tons of ore with an average grade of 0.17 percent U3O8 and 0.46 percent thorium (Anonymous, 1980). Based on an analysis of drill core by the U.S. Bureau of Mines, they indicated an additional resource 'on the order of' 2,300,000 pounds of yttrium, 537, 000 pounds of REE, and 1,752,000 pounds of zirconium (Warner and Barker, 1989;	Thompson and others, 1988; Warner and Barker, 1989	Anonymous, 1980, Standard Metals Corp., Progress Report: The Mining Record, April 2, 5 p. Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-

		Argillic alteration and chloritization.			MacKevett, 1963	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		These prospects and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		Warner and Barker (1989) estimate a total indicated resource of 2,039,000 short tons of rock in the Dotson dike system that contains 2,353,000 pounds of columbium, 326,000 pounds of uranium, 3,666,000 pounds of yttrium, 2,541,000 pounds of thorium, and 4,567, 000 pounds of REE. The total inferred resource is 8,490,000 short tons of rock that contains 12,260,000 pounds of columbium,	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		This prospect and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		Warner and Barker (1989) calculate an inferred resource of 481,000 short tons of rock that contain 664,000 pounds of columbium, 114,000 pounds of uranium, 3,271,000 pounds of zirconium, 209,000 pounds of thorium, 1,203,000 pounds of yttrium, and 3,361,000 pounds of REE.	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		These prospects and the other uranium, thorium, and REE deposits associated with the Bokan Mountain peralkaline granite are marked by albitization, chloritization, and argillization. Minor calcite, fluorite, quartz, sulfide minerals, and tourmaline are common in the altered rocks and hematite often occurs in the periphery of high-grade ore zones.		Warner and Barker (1989) estimate an indicated resource of 73,000 tons of rock in two portions of the Cheri dike system that contain 91,000 pounds of columbium, 32,000 pounds of thorium, 109,000 pounds of zirconium, 13,000 pounds of beryllium, 15,000 pounds of uranium, and 349,000 pounds of REE. There is an additional indicated resource of 458,000 short tons of rock in another portion of the dike system that contains	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		Not stated, but the dikes and their the wallrock are probably albitized and chloritized, like those at other deposits in the area.		Although the REE and columbium content of the dikes is relatively high, their narrow width suggests doubtful potential for significant tonnage of mineralized rock.	Warner and Barker, 1989	Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

		The dikes are probably albitized and chloritized; the wall rocks are marked by chlorite and epidote alteration.		A 3,000-foot section of the most continuous and thickest dike which averages 1.5 feet thick has an indicated resource of 1,378, 000 short tons of rock that contains 278,000 pounds of beryllium, 752,000 pounds of thorium, 8,116,000 pounds of yttrium, 8,786,000 pounds of REE, 2,844,000 pounds of columbium, 358,000 pounds of U, and 12,953,000 pounds of zirconium (Warner and Barker, 1989). There is a		Armstrong, R. L., 1985, Rb-Sr dating of the Bokan Mountain granite complex and its country rocks: Canadian Journal of Earth Sciences, v. 22, p. 1233-1236. Cobb, E. H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Dixon Entrance quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-863, 34 p. Collett, B., 1981, Le granite albitique hyperalcalin de Bokan Mountain, S.E.

Alaska Division of Geological and Geophysical Surveys					Foster and Keith, 1974	Foster, H.L., and Keith, T.E.C., 1974, Ultramafic rocks of the Eagle quadrangle, east-central Alaska: U.S. Geological Survey Journal of Research, v. 2, no. 6, p. 657-669. Keith, T.E.C., and Foster, H.L., 1973, Basic data on ultramafic rocks of the Eagle quadrangle, east-central Alaska: U.S. Geological Survey Open-File Report 73-140, 4 sheets.

Alaska Division of Geological and Geophysical Surveys	9?	Hydrothermal alteration and fracturing of the ultramafic rocks is spatially associated with the felsic dikes. Hydrothermal alteration has produced actinolite, chlorite, scarce muscovite, and trace pyrite within the ultramafic rocks. The felsic dikes are also extensively altered (Keith and others, 1987).			Keith and others, 1987	Foley, J.Y., Burns, L.E., Schneider, C.L., and Forbes, R.B., 1989, Preliminary report of platinum group element occurrences in Alaska: Alaska Division of Geological and Geophysical Surveys Public Data File 89-20, 32 p., 1 map sheet, scale 1:2,500,000. Foster, H.L., 1975, Significant platinum values confirmed in ultramafic rock of the Eagle C-3 quadrangle, in Yount, M.E., ed., U.S. Geological Survey Alaska Program: U.S. Geological

Alaska Division of Geological and Geophysical Surveys	8d			Reserve estimates for the three asbestos deposits at the Slate Creek asbestos prospect total 60 million tons of material containing 6.4 percent asbestos fiber. Several other prospects are located near these deposits. (Dashevsky and others, 1986).	Foster, 1969 (C 611); Dashevsky and others, 1986	Bright, M.J., 1984, Accreted terrains in western North America (with emphasis on Doyon's lands in Alaska): Doyon, Ltd. Report 84-09, 23 p. (Report held by Doyon, Ltd., Fairbanks, Alaska). Bundtzen, T.K., Eakins, G.R., Clough, J.G., Lueck, L.L., Green, C.B., Robinson, M.S., and Coleman, D.A., 1984, Alaska's mineral industry, 1983: Alaska Division of Geological and Geophysical Surveys Special Report 33, 56 p. Cobb, E.H., 1977, Summary

Alaska Division of Geological and Geophysical Surveys	14a or 21b	Weak argillic alteration of feldspars is common in intrusive rocks at the Happy prospect (U.S. Bureau of Mines, 1995).			Dashevsky and others, 1986; U.S. Bureau of Mines, 1995	Burleigh, R.E., and Lear, K.G., 1994, Compilation of data for Phase I of the mineral resource evaluation of the Bureau of Land Management Black River and Fortymile subunits: U.S. Bureau of Mines Open-File Report 48-94, 116 p. Carter, C.H., 1981, Doyon exploration program, Blocks 4, 5, 8, and 22: Doyon, Ltd. Report 81-27. (Report held by Doyon, Ltd., Fairbanks, Alaska). Dashevsky, S.S., Nicol, D.L., and Bond, J., 1986, Mines,

Avalon Development Corporation	14a		After its discovery in 1942, 35 tons of ore from the tunnel were stockpiled (Thorne and others, 1948, p. 8-9). In the late 1970's, several tons of high-grade tungsten concentrates were shipped, and a large amount of unmilled ore was stockpiled (Robinson, 1981, p. 1). In 1981, Vincent Monzuella produced a few tons of scheelite concentrate and stockpiled a larger amount of high-grade, unmilled ore (Bundtzen and others, 1982, p. 27).		Robinson, 1981	Bain, H. F., 1946, Alaska's minerals as a basis for industry: U.S. Bureau of Mines Information Circular 7379, 89 p. Berg, H.C., and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p. Bundtzen, T.K., Robinson, M.S., Kline, J.T., and Albanese, M.D., 1982, Geology of the Clipper gold mine, Fairbanks mining district, Alaska: Alaska Division of Geological and Geophysical Surveys Open-File Report 157,

	22c				Richter, 1964	Cobb, E.H., 1979, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Gulkana quadrangle, Alaska: U.S. Geological Survey Open-File Report 79-1247, 36 p. MacKevett, E.M., Jr., and Holloway, C.D., 1977, Map showing metalliferous and selected non-metalliferous mineral deposits in the eastern part of southern Alaska: U.S. Geological Survey Open-File Report 77-

	8a	Serpentinization of ultramafic intrusive rocks. The serpentinite is altered to quartz-carbonate rock containing disseminated pyrite and stained with garrnierite.			Hawley and others, 1969	Balen, M.D., 1990, Geochemical sampling results from the Bureau of Mines investigations in the Valdez Creek mining district, Alaska: U.S. Bureau of Mines Open-File Report 34-90, 218 p., 2 plates, scale 1:250,000. Cobb, E.H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Healy quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-1062, 113 p. Hawley, C.C.,

	8a	Serpentinization of ultramafic rocks.			Balen, 1990 (OFR 34-90)	Balen, M.D., 1990, Geochemical sampling results from the Bureau of Mines investigations in the Valdez Creek mining district, Alaska: U.S. Bureau of Mines Open-File Report 34-90, 218 p., 2 plates, scale 1:250,000.

Applied Geology	9	Partial to complete serpentization of the dunite is common. Mertie (1969, p. 79) reports that 25 percent of the Red Mountain dunite is serpentine.			Alaska Earth Sciences, 2000	Alaska Earth Sciences, 2000, The Goodnews Bay ultramafic complexes: Unpublished data, http://aes.alaska.com/UMAF/FIGURES/page4.html Bird, M.L., and Clark, A.L., 1976, Microprobe study of olivine chromitites of the Goodnews Bay ultramafic complex, Alaska, and the occurrence of platinum: U.S. Geological Survey Journal of Research, v. 4, p. 717-725. Fechner, S.A., 1988, Bureau of Mines mineral investigation of the Goodnews Bay mining

	6a or 8b	Serpentinization.			Miller, 1990	McGimsey, R.G., Miller, M.L., and Arbogast, B.F., 1988, Paper version of analytical results, and sample locality map for rock samples from the Iditarod quadrangle, Alaska: U.S. Geological Survey Open-File Report 88-421-A, 110 p., 1 sheet, scale 1:250,000. Miller, M.L., 1990, Mafic and ultramafic rocks of the Dishna River area, north central Iditarod quadrangle, west-central Alaska: U.S. Geological Survey Bulletin

	18d, 18b?	Development of garnet-epidote-calcite-actinolite skarn in calcic volcanic rocks. Oxidation of copper.			Richter and Herreid, 1965	Detterman, R.L., and Reed, B.L., 1980, Stratigraphy, structure, and economic geology of the Iliamna quadrangle, Alaska: U.S. Geological Survey Bulletin 1368-B, 86 p. Jasper, M.W., 1953, Preliminary report on copper occurrences on McNeil claim group, Paint River area, Kamishak Bay region: Alaska Territorial Department of Mines Property Examination 103-1, 14 p., 6 sheets. Jasper, M.W., 1956, McNeil copper claim group,

	18d, 18b	Alteration of cherty and calcareous sedimentary rocks and intermediate to basic volcanic rocks to garnet-epidote-actinolite-calcite skarn and subordinate quartz-magnetite rock (Richter and Herreid, 1965). Oxidation of copper.	One ton of ore shipped in the early part of 20th century graded $6.08 in gold (at $20.67 per ounce), 10.93 ounces of silver per ton, and 18.19 percent copper. Ten and a half tons shipped in 1914 to 1916 from scattered workings assayed $2.50 in gold, 15 ounces of silver per ton, and 17.55 percent copper (Mather, 1925). The shipments were probably from the Crevice Creek claims but possibly included some ore from claims in Sargent Creek (IL039).		Richter and Herreid, 1965; Jasper, 1953	Bain, H.F., 1946, Alaska's minerals as a basis for industry: U.S. Bureau of Mines Information Circular 7379, 89 p. Berg, H.C., and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p. Brooks, A.H., 1913, Mineral resources of Alaska, report on progress of investigations in 1912: U.S. Geological Survey Bulletin 542, 308 p. Brooks, A.H., 1914, Mineral resources of Alaska; report on progress of

	39a				This record	Cobb, E.H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Juneau quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-374, 155 p. Gehrels, G.E., and Berg, H.C., 1994, Geology of southeastern Alaska, in Plafker, George, and Berg, H. C., eds., The geology of Alaska: Geological Society of America, DNAG, The geology of North America, Vol. G-

					Cobb, 1978 (OFR 78-374)	Cobb, E.H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Juneau quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-374, 155 p. Gehrels, G.E., and Berg, H.C., 1994, Geology of southeastern Alaska, in Plafker, George, and Berg, H. C., eds., The geology of Alaska: Geological Society of America, DNAG, The geology of North America, Vol. G-

	18b	Weathered pyrrhotite gives a rusty color to the surface outcrop.			Buddington, 1929 (B807)	Berg, H.C., Elliott, R.L., and Koch, R.D., 1988, Geologic map of the Ketchikan and Prince Rupert quadrangles, southeastern Alaska: U.S. Geological Survey Mineral Investigations Series Map I-1807, 27 p., scale 1:250,000. Buddington, A.F., 1929, Geology of Hyder and vicinity, southeastern Alaska, with a reconnaissance of Chickamin River: U.S. Geological Survey Bulletin 807, 124 p. Elliott, R.L., Berg, H.C., and Karl, S.M.,

	9	Serpentinization of dunite.			Berg, 1972 (I 684)	Berg, H.C., 1972, Geologic map of Annette Island, Alaska: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-684, 8 p., 1 sheet, scale 1:63,360. Elliott, R.L., Berg, H.C., and Karl, S.M.,1978, Map and table describing metalliferous and selected non-metalliferous mineral deposits in the Ketchikan and Prince Rupert quadrangles, Alaska: U.S. Geological Survey Open-File Report 78-73B, 17 p., 1 sheet, scale

		Unknown	No production	No reserves	Bureau of Mines, 1995	Eakins, G.R., Gilbert W.G., and Buntzen, T.K., 1978, Preliminary bedrock geology and mineral resource potential of west-central Lake Clark quadrangle, Alaska: Alaska Division of Geological and Geophysical Surveys Open-File Report 118, 15 p., 2 plates, scale 1:25,000. Nelson, W.H., Carlson, C., and Case, J.E., 1983, Geologic map of the Lake Clark quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies

	39a				Overbeck, 1920	Brooks, A.H., and Capps, S.R., 1924, The Alaska mining industry in 1922: U.S. Geological Survey Bulletin 755-A, p. 1-56. Cobb, E.H., 1972, Metallic mineral resources map of the Livengood quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-413, 2 sheets, scale 1:250,000. Cobb, E.H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p. Cobb, E.H., 1976, Summary of references to

	39a		Placer mining was reported in 1918, 1934, and 1939, but there is no record of amount of production.		Wedow and others, 1954	Cobb, E.H., 1972, Metallic mineral resources map of the Livengood quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-413, 2 sheets, scale 1:250,000. Cobb, E.H., 1973, Placer deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 p. Cobb, E.H., 1976, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Livengood quadrangle,

		Dolomitization(?); serpentine veining and replacement.			Moffit and Mertie, 1923	Cobb, E.H., and MacKevett, E.M., Jr., 1980, Summaries of data on and lists of references to metallic and selected nonmetallic mineral deposits in the McCarthy quadrangle, Alaska: U.S. Geological Survey Open-File Report 80-885, 156 p. MacKevett, E.M., Jr., 1976, Mineral deposits and occurrences in the McCarthy quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-773-B, 2 sheets, scale 1:250,000.

	8a	Serpentinization.			MacKevett, 1976	MacKevett, E.M., Jr., 1976, Mineral deposits and occurrences in the McCarthy quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-773-B, 2 sheets, scale 1:250,000.

	8a	Sepentinization.			MacKevett, 1976	MacKevett, E.M., Jr., 1976, Mineral deposits and occurrences in the McCarthy quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-773-B, 2 sheets, scale 1:250,000. MacKevett, E.M., Jr., 1978, Geologic map of the McCarthy quadrangle, Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map I-1032, 1 sheet, scale l:250,000.

	18b		Specific production figures are not known; the gold-copper production was lumped with the Nixon Fork Mine (MD062).		Herreid, 1966	Brown, J.S., 1926, The Nixon Fork country: U.S. Geological Survey Bulletin 783-D, p. 97-144. Bundtzen, T.K., and Miller, M.L., 1997, Precious metals associated with Late Cretaceous-early Tertiary igneous rocks of southwestern Alaska, in Goldfarb, R.J., and Miller, L.D., eds., Mineral Deposits of Alaska: Economic Geology Monograph 9, p. 242-286. Cobb, E.H., 1974, Placer Deposits of Alaska: U.S. Geological Survey Bulletin 1374, 213 pages. Cobb,

	18b	Marble locally contains tremolite, and at intrusive contacts is altered to pyroxene - garnet skarn. Chlorite and tremolite also occur in calc-hornfels.	Possible small production, no records.		MacKevett and others, 1971	Brew, D.A., Johnson, B.R., Grybeck, D., Griscom, A., Barnes, D.F., Kimball, A.L., Still, J.C., and Rataj, J.L., 1978, Mineral resources of the Glacier Bay National Monument Wilderness Study Area, Alaska: U.S. Geological Survey Open-File Report 78-494, 670 p., 7 sheets. Buddington, A.F., 1926, Mineral investigations in southeastern Alaska: U.S. Geological Survey Bulletin 783, p. 41-62. Buddington, A.F., and

		Development of tactite in limestone.	Production of paligorskite, probably as mineral specimens by Ibach.		Buddington, 1926; Smith, 1942	Buddington, A.F., 1926, Mineral investigations in southeastern Alaska: U.S. Geological Survey Bulletin 783, p. 41-62. Buddington, A.F., and Chapin, Theodore, 1929, Geology and mineral deposits of southeastern Alaska: U.S. Geological Survey Bulletin 800, 398 p. Cobb, E.H., 1972, Metallic mineral resources map of the Mount Fairweather quadrangle, AK: U.S. Geological Survey Miscellaneous Field Study Map MF-436, 1

	28a				Lange and others, 1993	Aleinikoff, J.N., and Nokleberg, W.J., 1985, Age of Devonian igneous-arc terranes in the northern Mount Hayes quadrangle, eastern Alaska Range, Alaska, in Bartsch-Winkler, Susan, ed., The United States Geological Survey in Alaska--Accomplishments during 1984: U.S. Geological Survey Circular 967, p. 44-49. Lange, I. M., Nokleberg, W.J., Newkirk, S. R., Aleinikoff, J.N., Church, S.E., and Krouse, R.H., 1993, Devonian volcanogenic

	8d	Serpentinization of olivine-bearing ultramafic rock.			Saunders, 1958	Saunders, R.H., 1958, Walters silver-lead prospect near Dot Lake: Alaska Territorial Department of Mines Prospect Evaluation 68-06, 8 p., 1 sheet, scale 1:63,360.

		The olivine cumulate inclusion is serpentinized.			Nokleberg and others, 1991	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000. Rose, A.W., 1966, Geological and

		The olivine cumulates are serpentinized.			Nokleberg and others, 1991; this report	Kurtak, J.M., Southworth, D.D., Balen, M.D., and Clautice, K.H., 1992, Mineral investigations in the Valdez Creek mining district, south-central Alaska: U.S. Bureau of Mines Open-File Report 1-92, 659 p., 2 plates, scale 1:250,000. Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and

		The wehrlite is weakly serpentinized.			This report	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000.

		The host rock is oxidized and leached. The peridotite is moderately serpentinized; hairline joint fractures are filled with fibrous serpentine (chrysotile). The gabbro dikes are amphibolitized along their margins but are essentially fresh for a half -inch into the dikes.			This report	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000.

		All of the ultramafic rock units are moderately to strongly serpentinized; also present is locally developed diopside-epidote skarn.			Rose, 1966 (ADMM GR 20); Foley, 1992; this report	Foley, J.Y., 1992, Ophiolite and other ultramafic metallogenic provinces in Alaska (west of the 141th meridian): U.S. Geological Survey Open-File Report 92-20-B, 55 p. Foley, J.Y., and Summers C.A., 1990, Source and bedrock distribution of gold and platinum-group metals in the Slate Creek area, northern Chistochina mining district, east-central Alaska: U.S. Bureau of Mines Open File Report 14-90, 49 p. Foley, J.Y., Burns,

		All of the ultramafic rock units are moderately to strongly serpentinized.			Rose, 1966 (ADMM GR-20)	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000. Rose, A.W., 1966, Geological and

		All of the ultramafic rock units are moderately to strongly serpentinized.			This report	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000. Rose, A.W., 1966, Geological and

		All of the ultramafic rock units are moderately to strongly serpentinized.			This report	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000. Rose, A.W., 1966, Geological and

	8d				Rose, 1966 (ADMM GR 20); MacKevett and Holloway, 1977	Cobb, E.H., 1979, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Mount Hayes quadrangle, Alaska: U.S. Geological Survey Open-File Report 79-238, 140 p. MacKevett, E.M., Jr., and Holloway, C.D., 1977, Map showing metalliferous and selected non-metalliferous mineral deposits in the eastern part of southern Alaska: U.S. Geological Survey Open-File Report 77-

		All of the ultramafic rock units are moderately to strongly serpentinized.			Nokleberg and others, 1991	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000. Rose, A.W., 1965, Geology and mineral

		The ultramafic host rocks are strongly serpentinized.			This report	Rose, A.W., 1965, Geology and mineral deposits of the Rainy Creek area, Mt. Hayes quadrangle, Alaska: Alaska Division of Mines and Minerals Geologic Report 14, 57 p., 1 sheet, scale 1:36,000.

		Pervasive quartz-garnet-diopside skarn alteration of amphibolitized serpentinite; a sphalerite-uvarovite skarn formed at the Green Wonder mineral locality.			Rose, 1965	Cobb, E.H., 1979, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Mount Hayes quadrangle, Alaska: U.S. Geological Survey Open-File Report 79-238, 140 p. Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and

		Serpentinization of dunite; oxidation of iron- and copper-bearing mineral(s).			Rose, 1965	Cobb, E.H., 1979, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Mount Hayes quadrangle, Alaska: U.S. Geological Survey Open-File Report 79-238, 140 p. Rose, A.W., 1965, Geology and mineral deposits of the Rainy Creek area, Mt. Hayes quadrangle, Alaska: Alaska Division of Mines and Minerals Geologic Report 14, 57 p., 1 sheet, scale 1:36,000.

		Oxidation of iron- and copper-bearing minerals.			Rose, 1965	Nokleberg, W.J., Albert, N.R.D., Bond, G.C., Herzon, P.L., Miyaoka, R.T., Nelson, W.H., Richter, D.H., Smith T.E., Stout, J.H., Yeend, Warren, and Zehner, R.E., 1982, Geologic map of the southern Mount Hayes quadrangle, Alaska: U.S. Geological Survey Open-File Report 82-52, 27 p., 1 sheet,scale 1:250,000. Rose, A.W., 1965, Geology and mineral deposits of the Rainy Creek area, Mt. Hayes quadrangle, Alaska: Alaska Division of

		Some of the peridotite and olivine cumulate is serpentinized, mainly near their contacts, but it mostly is relatively unaltered (Rose, 1965).			Rose, 1965	Foley, J.Y., 1992, Ophiolite and other ultramafic metallogenic provinces in Alaska (west of the 141th meridian): U.S. Geological Survey Open-File Report 92-20-B, 55 p. MacKevett, E.M., Jr., and Holloway, C.D., 1977, Map showing metalliferous and selected non-metalliferous mineral deposits in the eastern part of southern Alaska: U.S. Geological Survey Open-File Report 77-169-A, 99 p., 1 sheet, scale 1:1,000,000.

		The olivine melagabbro and peridotite are variably serpentinized.			This record	

		The coarse-grained clinopyroxene olivine gabbro (melagabbro) is variably serpentinized.			This record	

		The olivine melagabbro is variably serpentinized.			This record	

	18b (?)	Silicification, along with magnetite-amphiobole alteration of the host rock.			Rose, 1965	Cobb, E.H., 1979, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Mount Hayes quadrangle, Alaska: U.S. Geological Survey Open-File Report 79-238, 140 p. MacKevett, E.M., Jr., and Holloway, C.D., 1977, Map showing metalliferous and selected non-metalliferous mineral deposits in the eastern part of southern Alaska: U.S. Geological Survey Open-File Report 77-

		Irregular serpentinization; oxidization of iron and copper minerals.			This record	

		Local serpentinization.			Rose, 1965	Berg, H.C., and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p. Cobb, E.H., 1979, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Mount Hayes quadrangle, Alaska: U.S. Geological Survey Open-File Report 79-238, 140 p. Foley, J.Y., 1992, Ophiolite and other ultramafic metallogenic provinces in Alaska (west of

	18b				Nokleberg and others, 1991; Foley, 1992	Foley, J.Y., 1992, Ophiolite and other ultramafic metallogenic provinces in Alaska (west of the 141th meridian): U.S. Geological Survey Open-File Report 92-20-B, 55 p. Foley, J.Y., Burns, L.E., Schneider, C.L., and Forbes, R.B., 1989, Preliminary report of platinum group element occurrences in Alaska: Alaska Division of Geological and Geophysical Surveys Public Data File 89-20, 32 p., 1 map sheet, scale 1:2,500,000.

		Serpentinization.			Nokleberg and others, 1991	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000.

		The peridotite is serpentinized.			This report	Foley, J.Y., 1992, Ophiolite and other ultramafic metallogenic provinces in Alaska (west of the 141th meridian): U.S. Geological Survey Open-File Report 92-20-B, 55 p. Foley, J.Y., Burns, L.E., Schneider, C.L., and Forbes, R.B., 1989, Preliminary report of platinum group element occurrences in Alaska: Alaska Division of Geological and Geophysical Surveys Public Data File 89-20, 32 p., 1 map sheet, scale 1:2,500,000.

		Serpentinization.			Nokleberg and others, 1991	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000.

		Serpentinization of the olivine melagabbro.			This report	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000.

		The olivine-pyroxene cumulate inclusion is serpentinized.			Nokleberg and others, 1991	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000.

		The peridotite is moderately serpentinized.			This record	

		Serpentinization of the ultramafic host rocks along with local iron staining.			This report	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000.

		The peridotite is locally serpentinized.			This record	

		Local iron staining; serpentinization of the peridotite.			Nokleberg and others, 1991; this record	Cobb, E.H., 1979, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Mount Hayes quadrangle, Alaska: U.S. Geological Survey Open-File Report 79-238, 140 p. Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and

		The peridotite is locally serpentinized.			This record	

		The dunite is locally serpentinized.			This record	

	23	The vesicular basalt is altered to chlorite epidote and quartz; copper mineral(s) are oxidized.			Rose and Saunders, 1965	Berg, H.C., and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p. Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey

		The peridotite and gabbronorite are sheared and serpentinized. Copper minerals are oxidized.			Barker, 1988	Barker, J.C., 1988, Distribution of platinum-group elements in an ultramafic complex near Rainbow Mountain, east-central Alaska Range, IN Vassilou, A.H., Hausen, D.M., and Carson, D.J.T, eds, Process Mineralogy VII, Applications to mineral beneficiation: Proceedings of the Metal Society SME/AIME Joint [Annual] Meeting, Denver, Colo., p. 197-220. Cobb, E.H., 1979, Summary of references to mineral

	17 (?)	The peridotite and melagabbro are extensively silicified and serpentinized near the quartz diorite contact.			Rose, 1965	Barker, J.C., 1988, Distribution of platinum-group elements in an ultramafic complex near Rainbow Mountain, east-central Alaska Range, IN Vassilou, A.H., Hausen, D.M., and Carson, D.J.T, eds, Process Mineralogy VII, Applications to mineral beneficiation: Proceedings of the Metal Society SME/AIME Joint [Annual] Meeting, Denver, Colo., p. 197-220. Cobb, E.H., 1979, Summary of references to mineral

		Oxidation of copper minerals.			This record	

		Local oxidation of chalcopyrite to malachite, and alteration of the serpentine to chrysotile.			This record	Barker, J.C., 1988, Distribution of platinum-group elements in an ultramafic complex near Rainbow Mountain, east-central Alaska Range, IN Vassilou, A.H., Hausen, D.M., and Carson, D.J.T, eds, Process Mineralogy VII, Applications to mineral beneficiation: Proceedings of the Metal Society SME/AIME Joint [Annual] Meeting, Denver, Colo., p. 197-220. Foley, J.Y., 1992, Ophiolite and other ultramafic

		Alteration of the dunite has produced veinlets of cross-fiber chrysotile.			Rose, 1967	Cobb, E.H., 1979, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Mount Hayes quadrangle, Alaska: U.S. Geological Survey Open-File Report 79-238, 140 p. Rose, A.W., 1967, Geology of the upper Chistochina River area, Mount Hayes quadrangle, Alaska: Alaska Division of Mines and Minerals Geologic Report 28, 41 p., 2 maps, scale 1:40,000.

	20c	Locally intense alteration of dacite. Alteration minerals include actinolite, albite, chlorite, epidote, potassium feldspar, and sericite.			Nokleberg and others, 1991	Nokleberg, W.J., Lange, I.M., Roback, R.C., Yeend, Warren, and Silva, S.R., 1991, Map showing locations of metalliferous lode and placer mineral occurrences, mineral deposits, prospects, and mines, Mount Hayes quadrangle, eastern Alaska Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1996-C, 42 p., 1 sheet, scale 1:250,000.

	28a	Intense chlorite +/- carbonate alteration.			This record	Dashevsky, S.S., Schaefer, C.F., and Hunter, E.N., 2003, Bedrock geologic map of the Delta mineral belt, Tok mining district, Alaska: Alaska Division of Geological and Geophysical Surveys Professional Report 122, 2 sheets, scale 1:63,360. Lange, I. M., Nokleberg, W.J., Newkirk, S. R., Aleinikoff, J.N., Church, S.E., and Krouse, R.H., 1993, Devonian volcanogenic massive sulfide deposits and occurrences, southern Yukon-

	28a				This record	Dashevsky, S.S., Schaefer, C.F., and Hunter, E.N., 2003, Bedrock geologic map of the Delta mineral belt, Tok mining district, Alaska: Alaska Division of Geological and Geophysical Surveys Professional Report 122, 2 sheets, scale 1:63,360. Lange, I. M., Nokleberg, W.J., Newkirk, S. R., Aleinikoff, J.N., Church, S.E., and Krouse, R.H., 1993, Devonian volcanogenic massive sulfide deposits and occurrences, southern Yukon-

Hawley Resource Group					Thornsberry, McKee, and Salisbury, 1984	Bundtzen, T.K., 1981, Geology and mineral deposits of the Kantishna Hills, Mt. McKinley quadrangle, Alaska: M. S. Thesis, University of Alaska, College, Alaska, 238 p. Bundtzen, T.K., Smith, T.E., and Tosdal, R.M., 1976, Progress report--Geology and mineral deposits of the Kantishna Hills: Alaska Division of Geological and Geophysical Surveys Open-File Report AOF-98, 80 p., 2 sheets, scale 1:63,360. Hawley, C. C. and Associates, Inc, 1978,

Hawley Resource Group	18b	Development of tactite in calcareous beds of the Spruce Creek sequence. Oxidation of iron and manganese minerals.			Thornsberry, McKee, and Salisbury, 1984	Bundtzen, T.K., 1981, Geology and mineral deposits of the Kantishna Hills, Mt. McKinley quadrangle, Alaska: M. S. Thesis, University of Alaska, College, Alaska, 238 p. Bundtzen, T.K., Smith, T.E., and Tosdal, R.M., 1976, Progress report--Geology and mineral deposits of the Kantishna Hills: Alaska Division of Geological and Geophysical Surveys Open-File Report AOF-98, 80 p., 2 sheets, scale 1:63,360. Cox, D.P., and Singer, D.A., eds., 1986,

USGS	8a			Chromium reserve estimates include 117,000-349,000 st Cr2O3 in 9 low-grade banded zones in dunite with associated peridotite, pyroxenite, and gabbro; the largest of these zones contains between 78,000 and 261,000 st Cr2O3. At least 30 additional unmeasured chromite occurrences plus chromite and PGE placer potential are present (Degenhart and others, 1978, p. 232-240, 491).	Degenhart and others (1978)	Cobb, E.H., Mayfield, C.F., and Brosgé, W.P., 1981, Summaries of data on and lists of references to metallic and selected nonmetallic mineral occurrences in eleven quadrangles in northern Alaska (Arctic, Baird Mountains, Chandler Lake, DeLong Mountains, Demarcation Point, Howard Pass, Misheguk Mountain, Mount Michelson, Noatak, Point Lay, and Table Mountain); Supplement to Open-File Report 75-628;

USGS	8a				Degenhart and others (1978)	Degenhart, C.E., Griffis, R.J., McQuat, J.F., and Bigelow, C.G., 1978, Mineral studies of the western Brooks Range performed under contract to the U.S. Bureau of Mines, Contract #JO155089: U.S. Bureau of Mines Open-File Report 103-78, 529 p., 11 sheets.

	8d	Serpentinization; magnesite-dolomite-silica replacement.			Richter, 1976	Richter, D.H., 1967, Geology of the upper Slana-Mentasta Pass area, southcentral Alaska: Alaska Division of Geological and Geophysical Surveys Geological Report 30, 27 p., 2 sheets, scale 1:63,360. Richter, D.H., 1976, Geologic map of the Nabesna quadrangle, Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map I-932, 1 sheet, scale 1:250,000. U.S. Bureau of Mines, 1995, Spatial data extracted from

	8d	Serpentinization.	The deposit produced a number of pounds of jadeite over 10 years before 1975 (Richter and others, 1975).		Richter, 1967	Richter, D.H., 1967, Geology of the upper Slana-Mentasta Pass area, southcentral Alaska: Alaska Division of Geological and Geophysical Surveys Geological Report 30, 27 p., 2 sheets, scale 1:63,360. Richter, D.H., 1976, Geologic map of the Nabesna quadrangle, Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map I-932, 1 sheet, scale 1:250,000. Richter, D.H., Singer, D.A., and Cox, D.P., 1975, Mineral

	18b	Oxidation. Marcasite replacement of pyrrhotite.			Wayland, 1943	Cobb, E.H., and Richter, D.H., 1980, Summaries of data on and list of references to metallic and selected nonmetallic mineral deposits in the Nabesna quadrangle, Alaska: U.S. Geological Survey Open-File Report 80-927, 117 p. Lowe, P.C., Richter, D.H., Smith, R.L., and Schmoll, H.R., 1982, Geologic map of the Nabesna B-5 quadrangle, Alaska: U.S. Geological Survey Geologic Quadrangle Map GQ-1566,, 1 sheet, scale 1:63,360.

	18b	Calc-silicate and sulfide replacement.			Richter and others, 1975	Cobb, E.H., and Richter, D.H., 1980, Summaries of data on and list of references to metallic and selected nonmetallic mineral deposits in the Nabesna quadrangle, Alaska: U.S. Geological Survey Open-File Report 80-927, 117 p. Richter, D.H., 1971, Reconnaissance geologic map and section of the Nabesna B-4 quadrangle, Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map 1-656, 1 sheet, scale 1:63,360.

	8a	Serpentinization.			Foley and others, 1985	Foley, J.Y., Barker, J.C., and Brown, L.L., 1985, Critical and strategic minerals investigation in Alaska - chromium: U.S. Bureau of Mines Open-File Report 97-85, 54 p., 1 sheet. Richter, D.H., 1976, Geologic map of the Nabesna quadrangle, Alaska: U.S. Geological Survey Miscellaneous Investigations Series Map I-932, 1 sheet, scale 1:250,000. U.S. Bureau of Mines, 1994, Mineral Information Location System Database: U.S

	21a	This porphyry copper and molybdenum deposit has a central 200- by 700-meter zone of potassium feldspar-actinolite-magnetite alteration, and a 800- by 1,500-meter outer zone of unspecified hydrothermal alteration. Oxidation has resulted in abundant iron-staining.		The deposit is estimated to contain 60 million tons with an average grade of 0.20 percent copper and very low amounts of molybdenum (Richter and others, 1975).	Richter and others, 1975	Cobb, E.H., and Richter, D.H., 1980, Summaries of data on and list of references to metallic and selected nonmetallic mineral deposits in the Nabesna quadrangle, Alaska: U.S. Geological Survey Open-File Report 80-927, 117 p. Hollister, V.F., Anzalone, S.A., and Richter, D.H., 1975, Porphyry copper belts of southern Alaska and contiguous Yukon Territory: Canadian Mining and Metallurgical Bulletin, v. 68, no. 756, p. 104-112. Matson,

	21a	A 400- by 1,000-meter central altered zone is characterized by albite, chlorite, sericite and late anhydrite veins. It is within a 2,000- by 3,000-meter outer zone marked by abundant sericite and pyrite. Local actinolite veins and disseminations are present in the alteration zones. A post-mineralization fault bounds the alteration zone to the east (Richter and others, 1973).		The deposit is estimated to contain 160 million tons with an average grade of 0.20 percent copper and very low amounts of molybdenum (Richter and others, 1975).	Richter and others, 1975	Cobb, E.H., and Richter, D.H., 1980, Summaries of data on and list of references to metallic and selected nonmetallic mineral deposits in the Nabesna quadrangle, Alaska: U.S. Geological Survey Open-File Report 80-927, 117 p. Hollister, V.F., Anzalone, S.A., and Richter, D.H., 1975, Porphyry copper belts of southern Alaska and contiguous Yukon Territory: Canadian Mining and Metallurgical Bulletin, v. 68, no. 756, p. 104-112. Matson,

	21a	Alteration consists of early potassic and propylitic alteration in the microbreccia and earlier porphyritic intrusions, and later sericite-quartz-pyrite alteration throughout the intrusive complex. The deposit also has undergone supergene enrichment, and calcareous schists near the complex have undergone calc-silicate hornfelsing and iron metasomatism. The early potassic and propylitic alteration centers around			Harris, 1985	Flanigan, B., 1998, Genesis and mineralization of ore deposits in the Illinois Creek region, west central Alaska: University of Alaska, Fairbanks, M.Sc. thesis, 125 p., 2 plates. Gemuts, I., Puchner, C.C., and Steefel, C.I., 1983, Regional geology and tectonic history of western Alaska, western Alaska geology and potential: Alaska Geological Society Symposium, Anchorage, Alaska, Feb. 16-18, 1982, p. 57-85. Harris, T.D.,

				None.	Degenhart and others, 1978	Cobb, E.H., Mayfield, C.F., and Brosge, W.P., 1981, Summaries of data on and lists of references to metallic and selected nonmetallic mineral occurrences in eleven quadrangles in northern Alaska, supplement to Open-File Report 75-628: U.S. Geological Survey Open-File Report 81-767, parts A (24 p.) and B (14 p.). Degenhart, C.E., Griffis, R.J., McQuat, J.F., and Bigelow, C.G., with contributions from four others, 1978, Mineral

Northern Associates, Inc.	39a		Conservative production estimates from Boob Creek are 3,170 ounces of gold and 320 ounces of silver (Bundtzen and others, 1987). Most of this is probably from the first year after discovery. More recent production figures are not available. Although over 100 shafts have been sunk into the Boob Creek area, locations are documented only for shafts sunk within the last 20 years (Hawley and Buxton, 1991; Dashevsky, 2001). Two shafts were dug during 1984,		Harrington, 1919	Brooks, A.H., 1918, Mineral resources of Alaska, 1916: U.S. Geological Survey Bulletin 662, 469 p. Brooks, A.H., 1919, Alaska's mineral supplies: U.S. Geological Survey Bulletin 666-P, p 89-102. Brooks, A.H., and Capps, S.R., 1924, The Alaska mining industry in 1922: U.S. Geological Survey Bulletin 755-A, p. 1-56. Brooks, A.H., and Martin, G. C., 1921, The Alaska mining industry in 1919: U.S. Geological Survey Bulletin 714-A, p. 59-95. Bundtzen, T.K.,

Northern Associates, Inc.	25b, 25c?	The headwater regions of Eldorado Creek contain limonite-stained, gossanous breccia (Avalon Development Corp., 1998).			Duncan, 1999	Avalon Development Corp., 1998, Colorado Creek project, Ophir and Medfra quadrangles, southwest Alaska: Avalon Development Corp. report prepared for NovaGold Resources Inc., 9 p. Barker, J.C., 1996, Geologic evaluation of the Colorado Creek prospect area, Alaska: Summary report prepared for Placer Dome Exploration, San Franscisco, Calif., 73 p. Dashevsky, S.S., 2000, Colorado Creek project (Au) Innoko district,

		The dunite and wehrlite are largely altered to serpentine.		Eight mineralized zones up to 30 feet wide and several hundred feet long have been identified in the dunite. These zones contain disseminated chromite and lenses of chromite up to 3 feet wide and 40 feet long (Guild and Balsley, 1942; Bittenbender and others, 1999). Guild and Balsley identified an inferred resource of 30,000 tons of material in the complex with an average grade of 12 percent Cr2O3. There is no indication	Loney and Himmelberg, 1999; Bittenbender and others, 1999	Bittenbender, P., Still, J.C., Maas, K., and McDonald, M., Jr., 1999, Mineral resources of the Chichagof and Baranof Islands area, southeast Alaska: Bureau of Land Management, BLM-Alaska Technical Report 19, 222 p. Cobb, E.H., 1972, Metallic mineral resources map of the Port Alexander quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-464, 1 sheet, scale 1:250,000. Cobb, E.H.,

	39a		There is no public record of the production specifically from the Tuluksak River. But the district produced a minimum of 600,000 ounces of gold (Calista Corp, 2008), all from placers, and a large part of that, perhaps more than half, came from the Tuluksak River judging on the extent of the tailings. Joesting (1942) reported that some platinum was produced with the gold and that asbestos and graphite were dredged from bedrock. There is no evidence that a any	There apparently is no public record of it but the conventional wisdom in 2006 among those familiar with the district was that Northland Dredging had drilled out reserves that contained--still contain?-- about 37,000 ounces of gold in the vicinity of their dredge above the mouth of Granite Creek (D.J. Grybeck, conversations with miners and knowledgeable individuals during field work, 2006).	Hoare and Cobb, 1977	Box, S. E, Moll-Stalcup, E. J., Frost, T. P., and Murphy, J. M., 1993, Preliminary geologic map of the Bethel and southern Russian Mission quadrangles, southwestern Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-2226-A, 20 p., scale 1:250,000. Calista Corporation, 2008: http://www.calistacorp.com/landresources/projects/nyacdistrict.asp (as of March 4, 2008). Hoare, J M., and Cobb, E.H., 1972, Metallic

	39a			The deposit is probably mined out.	Reed, 1931	Anderson, Eskil, 1945, Petrographic descriptions of rocks collected during 1944 field investigation in north-west Alaska, and lists of ore and rock samples and placer concentrates collected in northwestern and interior Alaska during 1945 field season: Alaska Territorial Department of Mines Miscellaneous Report 195-28, 76 p. Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska

		Serpentinization.			Anderson, 1945	Anderson, Eskil, 1945, Petrographic descriptions of rocks collected during 1944 field investigation in north-west Alaska, and lists of ore and rock samples and placer concentrates collected in northwestern and interior Alaska during 1945 field season: Alaska Territorial Department of Mines Miscellaneous Report 195-28, 76 p. Berg, H.C., and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin

	22c and 39a				Reed, 1931; Anderson, 1945	Anderson, Eskil, 1945, Petrographic descriptions of rocks collected during 1944 field investigation in north-west Alaska, and lists of ore and rock samples and placer concentrates collected in northwestern and interior Alaska during 1945 field season: Alaska Territorial Department of Mines Miscellaneous Report 195-28, 76 p. Cobb, E.H., 1972, Metallic mineral resources map of the Shungnak quadrangle, Alaska: U.S. Geological

					Loney and others, 1963	Bittenbender, P., Still, J.C., Maas, K., and McDonald, M., Jr., 1999, Mineral resources of the Chichagof and Baranof Islands area, southeast Alaska: Bureau of Land Management, BLM-Alaska Technical Report 19, 222 p. Cobb, E.H., 1972, Metallic mineral resources map of the Sitka quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-467, scale 1:250,000. Cobb, E.H., 1978, Summary of references to

					Loney and others, 1963	Cobb, E.H., 1972, Metallic mineral resources map of the Sitka quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-467, scale 1:250,000. Cobb, E.H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Sitka quadrangle: U.S. Geological Survey Open-File Report 78-450, 124 p. Loney, R.A., Berg, H.C., Pomeroy, J.S., and Brew, D.A.,

	18b or 18c	Skarn.			Still and others, 1991	Gilbert, W.G., Clough, A.H., Burns, L.E., Kline, J.T., Redman, E.C., and Fogels, E.J., 1990, Reconnaissance geology and geochemistry of the northeast Skagway quadrangle, Alaska: Alaska Division of Geological and Geophysical Surveys Report of Investigations 90-5, 2 sheets, scale 1:125,000. Still, J.C., Hoekzema, R.B., Bundtzen, T.K., Gilbert, W.G., Wier, K.R., Burns, L.E., and Fechner, S.A., 1991, Economic geology of Haines-Klukwan-

		Clay and carbonate replacement of host rocks and quatz-calcite veining.			Chapin, 1914	Chapin, Theodore, 1914, Placer mining in the Yukon-Tanana region: U.S. Geological Survey Bulletin 592-J, p. 357-362. Cobb, E.H., 1972, Metallic mineral resources map of the Solomon quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-445, 1 sheet, scale 1:250,000. Cobb, E.H., 1978, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Solomon

	39a		Production of a 'few ounces of placer gold' (Grybeck and Nelson, 1981).		Grybeck and Nelson, 1981	Anderson, Eskil, 1945, Asbestos and jade occurrences in the Kobuk River region, Alaska: Alaska Territorial Department of Mines Pamphlet 3-R, 26 p. Grybeck, D.J., and Nelson, S.W., 1981, Mineral deposit map of the Survey Pass quadrangle, Brooks Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1176-F, 1 sheet, scale 1:250,000. Schrader, F.C., 1904, A reconnaissance in northern Alaska across

	28a				Hitzman, 1978	Grybeck, D.J., and Nelson, S.W., 1981, Mineral deposit map of the Survey Pass quadrangle, Brooks Range, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-1176-F, 1 sheet, scale 1:250,000. Hitzman, M.W., 1978, Geology of the BT claim group, southwestern Brooks Range, Alaska: Seattle, University of Washington, M.Sc. thesis, 80 p. Hitzman, M.W., 1980 (1981), Geology of the BT claim group, southwestern

	28a			Andover Ventures (2008) cites a 1976 Anaconda report that the main Sun deposit contains 12,500,000 tons of ore with a grade of 1.8 percent copper, 5.3 percent zinc, 2.6 ounces per ton of silver, and 1.8 percent lead in 'inferred resources'. Andover also cites a 1977, Anaconda preliminary feasibility study that gives the 'inferred resources' at SUN as: 1) 2,399,000 tons of material with a grade of 1.93 percent copper, 4.51 percent zinc, 2.39	Zpedski, 1980; Andover Ventures, 2008	Andover Ventures, Inc., 2007, Andover - Sun Property, 2007 Surveyed drill holes: http://www.andoverventures.com/_resources/sun_Dec_2007.pdf (October, 11, 2007). Andover Ventures 2008, http://www.andoverventures.com/projects/sun/ (as of March 4, 2008). Garland, R.E., Eakins, G.R., Trible, T.C., and McClintock, W.W., 1975, Geochemical analysis of rock and stream-sediment samples from Survey Pass A-4, A-5, A-6, B-4, B-5, and B-6 quadrangles:

	24a		Production is estimated at 330 tons of unknown grade (Kurtak and Jeske, 1986). This estimate was arrived at from the volume of the stope.	Inferred reserves are 1,300 tons of ore, containing 3.3 percent copper. A few tons of ore is stockpiled on the beach below the prospect (Kurtak and Jeske, 1986).	Kurtak and Jeske,1986	Cobb, E.H., and Richter, D.H., 1972, Metallic mineral resources map of the Seward quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-466, 2 sheets, scale 1:250,000. Cobb, E.H., and Tysdal, R.G., 1980, Summaries of data on and list of references to metallic and selected nonmetallic mineral deposits in the Blying Sound and Seward quadrangle, Alaska: U.S. Geological Survey Open-

	24b				Kurtak and Jeske, 1986	Grant, U.S., and Higgins, D.F., Jr., 1909, Notes on geology and mineral prospects in the vicinity of Seward, Kenai Peninsula: U.S. Geological Survey Bulletin 379-C, p. 98-107. Grant, U.S., and Higgins, D.F., Jr., 1910, Reconnaissance of the geology and mineral resources of Prince William Sound, Alaska: U.S. Geological Survey Bulletin 443, 89 p. Jansons, Uldis, Hoekzema, R.B., Kurtak, J.M., and Fechner, S.A., 1984, Mineral occurrences in

Applied Geology	15b	Alteration at Cape Mountain is conspicuous by its absence. Clay development has been noted along fractures and bedding and minor tourmaline replacement of granite is present along some contacts. Tourmaline may also be disseminated in marble adjacent to granite. Minor skarn development includes pyroxene-fluorite +/- quartz, calcite, scheelite, scapolite, and pyrrhotite selvages in marble adjacent to small granite	Six short tons of tin are reported to have been produced from the Bartels Mine in 1905 or 1906 (Heide and others, 1946; Mulligan, 1966, p. 8).	Not defined but mining has been minimal.	Heide and others, 1946; Mulligan, 1966; Hudson, 1984	Cobb, E.H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Teller quadrangle, Alaska: U.S. Geological Survey Open-File Report 75-587, 130 p. Cobb, E.H., and Sainsbury, C.L., 1972, Metallic mineral resources map of the Teller quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-426, 1 sheet, scale 1:250,000. Collier, A.J.,

Applied Geology	14b, 14c, 15b, 15c	The strongly altered lamprophyre dike has abundant white mica, arsenopyrite, quartz, tourmaline, danburite in places, chlorite, pyrite, and some topaz.		Not defined	Knopf, 1908 (USGS B 358); Hudson, 1983	Cobb, E.H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Teller quadrangle, Alaska: U.S. Geological Survey Open-File Report 75-587, 130 p. Cobb, E.H., and Sainsbury, C.L., 1972, Metallic mineral resources map of the Teller quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-426, 1 sheet, scale 1:250,000. Hudson, T.L.,

Applied Geology	39e				Mulligan, 1959 (USBM RI 5493)	Cobb, E.H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Teller quadrangle, Alaska: U.S. Geological Survey Open-File Report 75-587, 130 p. Cobb, E.H., and Sainsbury, C.L., 1972, Metallic mineral resources map of the Teller quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-426, 1 sheet, scale 1:250,000. Hudson, T.L.,

Applied Geology	39a		Not known	Not defined; most of lower Dick Creek has been mined.	Collier and others, 1908; Anderson, 1947	Anderson, Eskil, 1947, Mineral occurrences other than gold deposits in northwestern Alaska: Alaska Territorial Division of Mines Pamphlet 5-R, 48 p. Collier, A.J., Hess, F.L., Smith, P.S., and Brooks, A.H., 1908, The gold placers of parts of Seward Peninsula, Alaska, including the Nome, Council, Kougarok, Port Clarence, and Goodhope precincts: U.S. Geological Survey Bulletin 328, 343 p.

Applied Geology	Alluvial Au placer (Cox and Singer, 1986; model 39a)	The development of silica-rich rocks at the base of marble overlying metapelitic rocks, by whatever process, characterizes the deposit.	Forty tons of high-graded material containing 30 to 40% copper were produced between 1906 and 1916.	Not defined	Sainsbury and others, 1969; Sainsbury, 1975	Cobb, E.H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in the Teller quadrangle, Alaska: U.S. Geological Survey Open-File Report 75-587, 130 p. Cobb, E.H., and Sainsbury, C.L., 1972, Metallic mineral resources map of the Teller quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-426, 1 sheet, scale 1:250,000. Puchner, C.C.,

	15c	Hydrothermal alteration is extensive in the Kougarok prospect area. The country rock metapelitic schist and hornfels is extensively veined and replaced by tourmaline, axinite, and sulfide minerals (dominantly pyrrhotite but including arsenopyrite and chalcopyrite) over a roughly circular area with a diameter of 3,700 feet at the surface and to a depth of almost 800 feet in the area above the zinnwaldite granite and		Preliminary resource estimates have been made for a part of the exogreisen deposit in Chuck's dike, the exogreisen deposit in the Main plug, and the roof greisen in buried zinnwaldite granite (Puchner, 1984). The resource estimate for exogreisen in Chuck's dike is 240,000 tons averaging 1.3 percent tin (including a part that is 110,00 tons averaging 2.3 percent tin). The Main plug exogreisen resource estimate is 1.4	Puchner,1984; Puchner, 1986; this record	Apel, R.A., 1984, The geology and geochemistry of the Chicken Creek dike and greisen, Kougarok Mountain, Alaska: University of Wisconsin, Madison, M.Sc. thesis, 91 p. Barnes, D.F., and Hudson, T.L., 1977, Bouguer gravity map of Seward Peninsula, Alaska: U.S. Geological Survey Open-File Report 77-796-C, 1 sheet, scale 1:1,000,000. Cobb, E.H., 1975, Summary of references to mineral occurrences

	23, 8d, 5a?	Oxidation of copper mineral.			Kurtak and others, 1992	Csejtey, Bela, Jr., Nelson, W.H., Jones, D.L., Silberling, N.J., Dean, R.M., Morris, M.S., Lanphere, M.A., Smith, J.G., and Silberman, M.L, 1978, Reconnaissance geologic map and geochronology, Talkeetna Mountains quadrangle, northern part of Anchorage quadrangle, and southwest part of Healy quadrangle, Alaska: U.S. Geological Survey Open-File Report 78-558-A, 60 p., 1 sheet, scale 1:250,000. Kurtak, J.M.,

	8d				Thomas, 1958 (Dreamland Creek asbestos)	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000 Thomas, B.I., 1958, Dreamland Creek asbestos: unpublished U.S. Bureau of Mines summary report of minerals examination, 4p., including map of sample locations.

	8d	Serpentinization of ultramafic rocks.			Saunders, 1957 (MR 48-5)	Eakin, H.M., 1916, Mineral resources of the Yukon-Koyukuk region: U.S. Geological Survey Bulletin 631, 88 p. Saunders, R.H., 1957, Notes on a reported occurrence of asbestos on Salt Creek, Tanana quadrangle: Alaska Territorial Department of Mines Miscellaneous Report 48-5, 4 p. Solie, D.N., Wiltse, M.A., Harris, E.E., and Roe, J.T., 1993, Land selection unit 34 (Bettles & Tanana quadrangles): References, DGGS sample locations,

	39a				This report	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000.

	39a		Total production through 1931 was $102,000 worth of gold from dredging and $600,000 in gold from drifting and open-cut mining prior to dredging (Mertie, 1934). At the fixed price of $20.67 per ounce at that time, the weights in refined gold respectively would equal approximately 4,935 and 29,025 ounces of gold. Production records are not available for the more recent mining activity.		Mertie, 1934	Brooks, A.H., 1915, Mineral resources of Alaska; report on progress of investigations in 1914: U.S. Geological Survey Bulletin 622, 380 p. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological

	39a				Chapin, 1919	Chapin, Theodore, 1919, Mining in the Hot Springs district: U.S. Geological Survey Bulletin 692, p. 331-335. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey Miscellaneous

	39a		Unknown amount of placer gold production.		Mertie, 1934; Cobb, 1972	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-371, 1 sheet, scale 1:250,000. Cobb, E.H., 1973, Placer deposits of Alaska: U.S.

	8a or 2a(?)				Moxham, 1954	Berg, H.C., and Cobb, E.H., 1967, Metalliferous lode deposits of Alaska: U.S. Geological Survey Bulletin 1246, 254 p. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey

	39a		Thomas (1957) reported that 28,501 ounces of gold, 3,402 ounces of silver, and 40,300 pounds of cassiterite concentrate (60 percent tin) were produced from Woodchopper Creek through 1956.		Mertie, 1934; Thomas, 1957; Wayland, 1961; Cobb, 1977	Brooks, A.H., 1918, Mineral resources of Alaska, 1916: U.S. Geological Survey Bulletin 662, 469 p. Chapin, Theodore, 1914, Placer mining in the Yukon-Tanana region: U.S. Geological Survey Bulletin 592-J, p. 357-362. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic

	39a		Thomas (1957) reported that 6,864 ounces of gold, 653 ounces of silver, and 64,200 pounds of cassiterite concentrate (60 percent tin) were produced from Deep Creek through 1956.		Wayland, 1961	Barton, W.R., 1962, Columbium and tantalum, a materials survey: U.S. Bureau of Mines Information Circular 8120, 110 p. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological

	39a		Thomas (1957) reported that 2,599 ounces of gold, 385 ounces of silver, and 20,282 pounds of cassiterite concentrate (60 percent tin), were recovered from Patterson Creek through 1956. Much, or all, of this production, however, may have been from tributaries.		Cobb, 1977	Brooks, A.H., 1908, The mining industry in 1907: U.S. Geological Survey Bulletin 345-A, p. 30-53. Brooks, A.H., 1909, The mining industry in 1908: U.S. Geological Survey Bulletin 379-A, p. 21-62. Brooks, A.H., 1914, Mineral resources of Alaska; report on progress of investigations in 1913: U.S. Geological Survey Bulletin 592, 413 p. Brooks, A.H., 1916, Mineral resources of Alaska, report on progress of investigations in 1915: U.S. Geological

	39a		Thomas (1957) reported that 17,576 ounces of gold, 2,668 ounces of silver, and 101,875 pounds of cassiterite concentrate (averaging 60% tin), was recovered from Miller Gulch through 1956.		Thomas, 1957	Barton, W.R., 1962, Columbium and tantalum, a materials survey: U.S. Bureau of Mines Information Circular 8120, 110 p. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological

	39a		Thomas (1957) reported that 61 ounces of gold and 300 pounds of cassiterite concentrate (at 60% tin) were produced from Idaho Gulch through 1956.		Thomas, 1957; Wayland, 1961	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-371, 1 sheet, scale 1:250,000. Cobb, E.H., 1977, Summary of references to mineral

	39a		Thomas (1957) reported that 8,855 ounces of gold, 1,376 ounces of silver, and 19,600 pounds of cassiterite concentrate (at 60 percent tin) were produced from Tofty Gulch through 1956.		Thomas, 1957; Wayland, 1961	Bundtzen, T.K., Swainbank, R.C., Clough, A.H., Henning, M.W., and Hansen, E.W., 1994, Alaska's mineral industry, 1993: Alaska Division of Geological and Geophysical Surveys Special Report 48, 84 p. Carnes, D.R., 1976, Active Alaskan placer operations, 1975: U.S. Bureau of Mines Open-File Report 98-76, 90 p., 40 plates, scale 1:250,000. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana

	20b(?)		As of 1956, placers in the Tofty tin belt had produced 127,528 ounces of gold, 14,356 ounces of silver, and 470,157 pounds of cassiterite (280,600 pounds of tin at approximately 60 percent tin) (Thomas, 1957).		Thomas, 1957	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Eakin, H.M., 1913, A geologic reconnaissance of a part of the Rampart quadrangle, Alaska: U.S. Geological Survey Bulletin 535, 38 p. Reifenstuhl, R.R., Dover, J.H., Newberry, R.J., Clautice, K.H., Pinney, D.S., Liss, S.A., Blodgett, R.B.,

	39a		Thomas (1957) reported that 58,136 ounces of gold, 5,463 ounces of silver, and 215,445 pounds of cassiterite concentrate (averaging 60% tin), were recovered from Sullivan Creek through 1956. There has been significant mining since then, but more up-to-date production estimates are not available.		Wayland, 1961	Brooks, A.H., 1909, The mining industry in 1908: U.S. Geological Survey Bulletin 379-A, p. 21-62. Bundtzen, T.K., Eakins, G.R., Green, C.B., and Lueck, L.L., 1986, Alaska's mineral industry, 1985: Alaska Division of Geological and Geophysical Surveys Special Report 39, 68 p. Bundtzen, T.K., Swainbank, R.C., Clough, A.H., Henning, M.W., and Charlie, K.M., 1996, Alaska's mineral industry, 1995: Alaska Division of Geological and Geophysical Surveys Special

	39a		Wayland (1961) states that Richards reported recovering $90,000 worth of gold (at $20.67 per ounce) from Harter Gulch in one season. Cobb (1977) estimated production to the mid-1970's to equal approximately 5,000 ounces.		Thomas, 1957; Wayland, 1961	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-371, 1 sheet, scale 1:250,000. Cobb, E.H., 1977, Summary of references to mineral

	39a		Thomas (1957) reported that the total production of Dalton Gulch through 1956 was 466 ounces of gold and 3,000 pounds of cassiterite concentrate (at approximately 60% tin content).		Thomas, 1957	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-371, 1 sheet, scale 1:250,000. Cobb, E.H., 1977, Summary of references to mineral

	39a		The U.S. Bureau of Mines reported that approximately 3,650 ounces of gold, 409 ounces of silver, and 5,155 pounds of cassiterite ('tin') concentrate were removed from Cache Creek through 1956 (Thomas, 1957). This figure is thought to be conservative. Recent mining activity on Cache Creek included mining by Shoreham Resources, Ltd. In 1989, the company opened a large-scale placer operation for gold and tin, recovering		Thomas, 1957; Wayland, 1961	Bundtzen, T.K., Swainbank, R.C., Deagen, J.R., Moore, J.L., 1990, Alaska's Mineral Industry 1989: Alaska Division of Geological & Geophysical Surveys, Special Report 44, 100 p. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana

	39a		Wayland (1961) reported that the ground contained 0.3-0.4 ounce of gold and 0.1 to 0.4 pound of cassiterite per square foot of bedrock.		Wayland, 1961	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-371, 1 sheet, scale 1:250,000. Cobb, E.H., 1977, Summary of references to mineral

	10				North Star Exploration, Inc., 2000 (Drilling and trenching program, Tofty Ridge, Manley Hot Springs village block, Alaska); North Star Exploration, Inc., 2001 (Alaska exploration opportunities)	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-371, 1 sheet, scale 1:250,000. Eberlein, G.D., Chapman, R.M., Foster, H.L., and Gassaway,

	39a				Thomas, 1957; Wayland, 1961	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Cobb, E.H., 1972, Metallic mineral resources map of the Tanana quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-371, 1 sheet, scale 1:250,000. Cobb, E.H., 1977, Summary of references to mineral

	39a				Wayland, 1961	Brooks, A.H., 1916, Mineral resources of Alaska, report on progress of investigations in 1915: U.S. Geological Survey Bulletin 642, 279 p. Bundtzen, T.K., Swainbank, R.C., Deagen, J.R., Moore, J.L., 1990, Alaska's Mineral Industry 1989: Alaska Division of Geological & Geophysical Surveys, Special Report 44, 100 p. Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle:

	39a				This report	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Reifenstuhl, R.R., Dover, J.H., Newberry, R.J., Clautice, K.H., Pinney, D.S., Liss, S.A., Blodgett, R.B., and Weber, F.R., 1998, Geologic map of the Tanana A-1 and A-2 quadrangles, central Alaska: Alaska Division of Geological and Geophysical

	39a		There is no record of production from Utah Creek, but if placer gold has been recovered, the creek would be the easternmost placer gold producer in the Tofty tin belt.		This report	Chapman, R.M., Yeend, W.E., Brosge, W.P., and Reiser, H.N., 1982, Reconnaissance geologic map of the Tanana quadrangle: U.S. Geological Survey Open-File Report 82-734, 20 p., scale 1:250,000. Reifenstuhl, R.R., Dover, J.H., Newberry, R.J., Clautice, K.H., Pinney, D.S., Liss, S.A., Blodgett, R.B., and Weber, F.R., 1998, Geologic map of the Tanana A-1 and A-2 quadrangles, central Alaska: Alaska Division of Geological and Geophysical

Applied Geology	5a?	The ultramafic host rocks are extensively altered to various assemblages of antigorite, chlorite, epidote, hornblende, limonite, magnetite, serpentine, tremolite, and talc.		One mineralized body is 200 feet long, 1 inch to 22 feet thick, and exposed over 150 feet vertically. Another mineralized body is 45 feet long; it is 3 feet thick at the surface, but it pinches down to a 6-inch thickness within 10 feet of the surface (Kingston and Miller, 1945). The resource in these two bodies is 6,500 tons of material that contains 0.22 to 7.61 percent nickel and 0.12 to 1.56 percent copper (Kingston and Miller, 1945, p. 56).	Kingston and Miller, 1945	Cobb, E.H., and Matson, N.A., Jr., 1972, Metallic mineral resources map of the Valdez quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-438, 1 sheet, scale 1:250,000. Foley, J.Y., Burns, L.E., Schneider, C.L., and Forbes, R.B., 1989, Preliminary report of platinum group element occurrences in Alaska: Alaska Division of Geological and Geophysical Surveys Public Data File 89-20, 32 p., 1 map

	14b(?)				Dillon and others, 1981 (AOF 133B)	Bliss, J.D., Brosgé, W.P., Dillon, J.T., Cathrall, J.B., and Dutro, J.T., Jr., 1988, Maps and descriptions of lode and placer deposits, prospects, and occurrences in the Wiseman 1 degree by 3 degree quadrangle, Alaska: U.S. Geological Survey Open-File Report 88-293, 52 p., 2 plates, scale 1:250,000. Dillon, J.T., Cathrall, J.B., and Moorman, M.A., 1981, Geochemical reconnaissance of the southwest Wiseman quadrangle-summary of
