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MAJOR-OXIDE, MINOR-OXIDE, AND TRACE-ELEMENT GEOCHEMICAL DATA FROM ROCKS AND STREAM SEDIMENTS COLLECTED IN THE NORTHERN FAIRBANKS MINING DISTRICT, CIRCLE QUADRANGLE, ALASKA IN 2007

Version 1.0.1

by

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Note: This report (including all analytical data and tables) is available in digital format from the DGGS web site (http://wwwdggs.dnr.state.ak.us) at no charge. The digital data are available as PDF files and Excel spreadsheets.

MAJOR-OXIDE, MINOR-OXIDE, AND TRACE-ELEMENT GEOCHEMICAL DATA FROM ROCKS AND STREAM SEDIMENTS COLLECTED IN THE NORTHERN FAIRBANKS MINING DISTRICT, CIRCLE QUADRANGLE, ALASKA IN 2007

Version 1.01

by
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INTRODUCTION

Mineral-resources personnel from the Alaska Division of Geological & Geophysical Surveys carried out a geological field survey, including mapping and sampling northeast of Fairbanks in the Circle A-4, A-5, B-4, and B-5 quadrangles, Alaska from May 31 to June 28, 2007. The fieldwork provides basic information critical to building an understanding of Alaska's geology and is part of an integrated program of airborne geophysical surveys followed by geological mapping. During 2007, 128 rock samples were collected for geochemical trace-element analysis, and 44 rock samples were collected for whole rock (major- and minor-oxide) analysis. Petrogenetically important trace-elements will be analyzed in a subsequent study to be published with the final map and report for this area. In addition, 67 stream sediment samples were collected for geochemical trace-element analysis. The stream sediment geochemical study was conducted over the proposed Mount Ryan Remote Recreational Cabin Staking Area as considered by Alaska's Division of Mining, Land & Water in 2007. Location coordinates were collected using hand-held GPS units (no differential correction was applied). Coordinates are presented in latitude and longitude (based on the NAD 27 Alaska datum) and in UTM coordinates (based on the Clark 1866 spheroid, NAD27 datum, UTM zone 6 projection). Additional details about the sampling program can be found in the metadata file associated with the digital version of this report. Sample numbers, location data, descriptions, and analytical results for each sample are tabulated in Tables 1–6.

SAMPLE COLLECTION TECHNIQUES

Samples of visibly mineralized rock, or rock exhibiting features associated with mineralization, were preferentially collected and analyzed for geochemical trace elements. Rock samples collected for major-oxide, minor-oxide, and trace elements include samples representative of a typical lithology, igneous or possible meta-igneous samples in order to determine composition, and samples whose petrogenetically important trace-elements could indicate their original tectonic setting. These rocks were collected in a random distribution across the study area.

Stream sediment samples were collected from first-order streams just above the confluence with second-order streams, except for sample 07Z440.1B that was taken from a second-order stream. Silt- and clay-sized (-80 mesh) sediment was preferentially sampled from active stream channels, at or below water level. Samples were collected from gravel and sand bars where possible, and obvious coarse sand, organic-rich material, and loess were avoided. Pebbles and large organic debris was removed from the sample using a ¼ inch sieve. Samples were collected over a 15- to 30-meter stretch of the stream. Sample size was generally half or more of a 7-inch by 11-inch sample bag containing sand-sized or finer material.

ANALYTICAL METHODS

Trace-element geochemical analyses (Table 2) and whole rock analyses (Table 4) on rock samples collected in 2007 were performed by ALS Chemex. Rock samples were crushed with a Terminator oscillating jaw crusher with chrome steel alloy plates so that at least 70 percent of the material passes through a -10 mesh (2 mm) screen. Representative aliquots of 250 grams each were taken using a stainless steel riffle splitter. These samples were then pulverized in a chrome steel ring mill so that 85 percent of the

sample passed through a -200 mesh (75 micron) screen. Trace-element analyses, the whole rock major element analyses and the gold analyses were performed using representative splits of each 250 gram pulp.

Initially, all samples were assayed for gold by inductive coupled plasma-atomic emission spectroscopy following a 30g fire assay fusion (FA-ICP), after four-acid, near-total digestion. Trace-element geochemical analyses were performed by inductive coupled plasma-atomic emission spectroscopy (ICP-AES) methods after four-acid, near-total digestion. This method of digestion is possibly incomplete for some elements and may result in lower analytical results for these elements. The elements that may be affected by incomplete digestion, analytical methods, and lower and upper reporting limits are tabulated in Table 5.

All whole rock analyses (Table 4) were performed by ALS Chemex. Major and minor element oxides were determined by X-ray fluorescence spectrometry following a lithium borate fusion (WEI-GRA06). Analytical methods and detection limits are tabulated in Table 8.

Trace-element geochemical analyses (Table 6) on stream sediment samples collected in 2007 were performed by Alaska Assay Laboratories (sample preparation) and Acme Labs (analyses). Sediment samples were dried and sieved to -80 mesh (2 mm) material by stainless steel screens. Representative aliquots of 250 grams were taken using a stainless steel riffle splitter. These samples were then pulverized in a chrome steel ring mill so that 85 percent of the sample passed through a -200 (75 micron) mesh screen. Most trace-element analyses were performed on a 0.25 gram split while gold analyses were performed on a 15 gram representative split.

All stream sediment samples were assayed for gold by inductively coupled plasma-mass spectrometry (ICP-MS) following Aqua-Regia digestion. Trace element geochemical analyses were performed by ICP-MS methods after four-acid, near-total digestion. Digestion involved heating a 0.25 g split in HNO_3-$HClO_4$-HF to fuming and then taking it to dryness. The residue was dissolved in HCl. This method of digestion is possibly incomplete for some elements and may result in lower analytical results for these elements. In addition, some loss of certain elements may result from volatilization during fuming. The elements that may be affected by incomplete digestion and volatilization, analytical methods, and lower and upper detection limits are tabulated in Table 9.

ACKNOWLEDGEMENTS

This project is part of the Alaska Airborne Geophysical/Geological Mineral Inventory Program funded by the Alaska State Legislature and managed by the State of Alaska, Department of Natural Resources, Division of Geological & Geophysical Surveys. Partial funding for the geologic mapping and geochemical analyses was also provided through the U.S. Geological Survey STATEMAP Program under award number 07HQAG0076 and the State of Alaska General Fund.

Table 1. Location and description of rocks collected in the northern Fairbanks mining district, Circle Quadrangle, Alaska.
Rock names in ( ) are derived from geochemical data and rock textures in hand samples.

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07JEA40A	65.3683	-146.3648	529543	7249458	06W	Quartzite; light gray, sucratic, with calcite and white mica. Cut by a 2-mm-wide quartz-calcite-pyrite vein. Rock is possibly hornfelsed.
07JEA71A	65.4015	-146.2903	532966	7253195	06W	Quartzite; slightly brecciated and vuggy, with quartz veins and iron oxide. Rock is possibly silicified.
07JEA215A	65.3772	-146.2942	532814	7250488	06W	Micaceous quartzite; gray to pale yellow, with trace graphite, white mica, and 1 percent or less quartz grit grains. Cut by 3-mm-wide, vuggy quartz + calcite + iron-oxide vein.
07JEA291A	65.3663	-146.4318	526427	7249204	06W	Quartzite; open breccia and veins cemented with quartz, drusy quartz, and iron oxide.
07JEA299A	65.3631	-146.4484	525659	7248839	06W	Quartz monzonite dike; yellow-white and pink, sericite-altered, with fine-grained sulfides (probably arsenopyrite).
07JEA336C	65.3634	-146.0857	542529	7249072	06W	Fault; highly quartz veined and fractured schist with slicken-sided surfaces and iron oxide. Located adjacent to gouge zone.
07LF10B	65.3167	-146.1444	539870	7243832	06W	Metagrit; Strongly iron-oxide-stained, bleached, with feldspar and 0-10 percent quartz grit grains 1-2 mm in diameter. Fractures filled with iron oxide. In frost boils.
07LF32B	65.3027	-146.1899	537769	7242240	06W	Quartzite; pale green, fine grained, sucratic, with feldspar and trace iron oxide after pyrite. Contains minor open iron-oxide-coated fractures with bleached selvages. Rocks on trail.
07LF33B	65.3001	-146.1999	537305	7241947	06W	Vein; interfolial, coarse-grained, blocky, pegmatite-like vein with iron-oxide-coated quartz, feldpar and chlorite. Rock chips in soil on trail.
07LF35A	65.2974	-146.2086	536903	7241640	06W	Quartzite; tan, with white mica. Contains 1 % 1-cm-thick quartz veins cross-cutting foliation and 5 percent quartz veins parallel to foliation.
07LF40A	65.2869	-146.2435	535293	7240451	06W	Micaceous Quartzite; iron-oxide-stained, white, bleached, with white mica. Trace iron oxide after pyrite disseminated and in fractures. Possibly sericite altered. Rubble on trail.
07LF42A	65.2828	-146.2526	534871	7239990	06W	Quartz Vein; Two-foot diameter block, mostly massive white quartz, local iron-stained, comb textured zones with some open space.
07LF44A	65.2823	-146.2486	535061	7239934	06W	Semischist; fine-grained 20-40 % feldspar, 60-80 % quartz grains in very fine-grained quartz and weakly foliated mica matrix. Cut by 10% white to gray quartz stock-work veinlets.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07LF47B	65.2876	-146.2600	534520	7240515	06W	Quartz-feldspar schist; green, fine grained schist, possibly sericite altered. Cross-cutting and foliation parallel quartz veinlets with druzy texture, 1-3 percent limonite coated pits. Rare rubble around outcrop of un-mineralized semischist.
07LF48A	65.2877	-146.2634	534364	7240530	06W	Feldspathic-quartz-schist; strong sericite(?) alteration. Strong Iron-oxide stain of fractures and foliation planes.
07LF77D	65.2455	-146.4236	526931	7235742	06W	Micaceaous quartzite; Tan platy, with bands of 1-10 mm limonitic spots, some with relict pyrite. Represents 1 % of micaceous quartzite outcrop.
07LF81A	65.2412	-146.4396	526189	7235257	06W	Quartzite; tan, 5 % 1-10 mm limonite-filled druzy quartz veinlets, represents 10% of quartzite rubble on ridge top.
07LF83B	65.2399	-146.4495	525729	7235113	06W	Quartzite; quartz stockwork veins, sericite alteration. Veins infilled with yellow-orange and red iron-oxide. Veins comprise 1 % of outcrop and strike 314 degrees (azimuth), and dip 78 degrees northeast
07LF94B	65.2497	-146.2223	536333	7236316	06W	Micaceous quartzite; 15 biotite and white mica, 1 % garnet. Cut by 1-cm thick albite(?)-chlorite veinlets.
07LF99A	65.2457	-146.2130	536772	7235878	06W	Micaceous quartzite; tan. 1-2 % iron oxide psuedomorphs of pyrite on fractures and foliation.
07LF119B	65.3745	-146.2032	537048	7250239	06W	Semischist; light green. White quartz veinlets, 2 % yellow and orange iron oxide filling in open breccia.
07LF121D	65.3713	-146.2102	536727	7249869	06W	Metagrit; graphitic 10-30 % 1 mm quartz grains, interlayered quartz schist and graphitic quartzite, minor fault(?) breccia, open, clast-supported with iron-oxide coatings on clasts.
07LF125C	65.3673	-146.2153	536496	7249426	06W	Breccia; angular fragments of semischist and garnet-mica schist in greenish-yellow granular matrix.
07LF128B	65.3638	-146.2225	536164	7249030	06W	Micaceous quartzite; Brecciated, Angular blocks in fine-grained, iron-oxide stained matrix.
07LF138A	65.3494	-146.2545	534694	7247409	06W	Granitic rock; Fine-grained, 1 % quartz phenocrysts, 1 % pits with feldspar phenocryst shapes, 5 % iron-oxide spots after mafic(?) minerals, in tan, clay (?) altered groundmass.
07LF161A	65.3776	-146.4319	526410	7250469	06W	Hornblende granitic rock; 5% 3-5 mm potassium feldspar, 10 % quartz, 30 % hornblende. Clay (?) alteration of matrix, feldspars, mafics altered to iron-oxide.
07LF163A	65.3754	-146.4323	526395	7250215	06W	Biotite granitic rock; 20-30 % very coarse-grained biotite phenocrysts, 40 % plagioclase, 1 % Garnet in fine-grained gray matrix. 0.5-2 % Pyrrhotite in clots.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07LF170B	65.3709	-146.4310	526461	7249718	06W	Quartz vein; iron-stained comb textured crystalline quartz and white massive quartz. 3 mm thick iron-oxide gossan along vein margin. Vein is in pale green micaceous quartzite.
07LF177A	65.3668	-146.4132	527291	7249272	06W	Quartzite; micaceous partings, 10 % yellow iron oxide filled raged lensoidal cavities parallel to foliation. 1 % quartz and iron-oxide veinlets cross-cutting foliation
07LF178A	65.3668	-146.4128	527309	7249275	06W	Quartzite; Quartz stockwork veins and vein breccia, druzy, iron-oxide stained quartz veins and fracture filling at intersection of northeast and northwest trending fracture zones.
07LF181B	65.3650	-146.4103	527427	7249074	06W	Graphitic Quartzite; black, graphitic, calcareous quartzite, 1-5 % disseminated pyrite. At top of dozer cut, water seep, possible fault zone.
07LF186B	65.3596	-146.3884	528455	7248481	06W	Quartzite; strongly fractured, brecciated, pale yellow oxide coating on fractures and breccia fragments, in rubble along filled in-dozer cut.
07LF186C	65.3596	-146.3884	528455	7248481	06W	Quartzite; gray quartzite cut by 0.5 to 2.5 cm thick white quartz veins, locally euhedral quartz in drusy cavities, trace red tourmaline, Iron oxide stain and fracture coatings. In rubble along filled in-dozer cut
07LF191A	65.3618	-146.3772	528971	7248730	06W	Micaceous quartzite; strongly bleached, clay(?) altered, strongly fractured with strong iron oxide stain on fractures. Hand-dug trench at top of gully, trends 140 degrees (azimuth).
07LF193A	65.3609	-146.3744	529103	7248632	06W	Quartz schist; Strongly altered and iron-oxide stained, strong iron oxide crust or gossan in fractures and foliation planes. Rock piles on side of filled-in dozer trench.
07LF193B	65.3609	-146.3744	529103	7248632	06W	Quartz stibnite vein; white, bleached mica-quartz schist (?) wall rock with quartz stibnite vein. Vein consists of irregular lenses of massive fine acicular stibnite in milky quartz, vein thickness varies from 1 to 5 cm. wall rock and quartz encrusted with pale yellow stibiconite (?) Rock piles on side of filled-in dozer trench.
07LF193C	65.3609	-146.3744	529103	7248632	06W	Quartz schist; mica-quartz schist, 1 % pyrite in foliation parallel lenses, cut by iron- and antimony- oxide filled fractures. In rock piles on side of filled-in dozer trench.
07LF199B	65.3585	-146.3548	530018	7248370	06W	Fault breccia; quartzite clasts in 5-15 % finely cataclastic matrix and 5-20 % orange-yellow gossanous matrix. 1 % of rocks on felsenmeer covered terrace on ridge.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07LF232A	65.2963	-146.1585	539241	7241552	06W	Iron-oxide stained precipitate; Bright orange-brown muddy precipitate on rocks, and mud in spring at edge of valley floor. Restricted to 30-foot by 15-foot area that is easily visible from the air.
07LF253A	65.3013	-146.0616	543754	7242166	06W	Ferricrete; Orange and brick-red iron-oxide cemented rock chips and plant material in spring at edge of alluvial flats, several discrete springs with iron-oxide precipitate in 30-foot by 40-foot area. Easily visible from the air.
07LF256A	65.3038	-146.0617	543744	7242451	06W	Iron-oxide stained soil; Bright orange-brown mud and organics in spring at edge of valley floor. Vegetation kill-zone. Restricted to 20-foot by 10-foot area that is easily visible from the air.
07MBW18B	65.2935	-146.1028	541846	7241267	06W	Metagrit; gray, locally bleached white, fine-grained, granular, foliated, with 1-2% round quartz grit and 0-5% patchy iron oxide (possibly after carbonate?). Sample taken from iron oxide-rich piece with possible breccia texture.
07MBW19A	65.2923	-146.1013	541915	7241141	06W	Quartzite; occurs as ~5-foot-thick layer within metagrit. Quartzite is white weathering, white to clear gray colored, medium-grained, granular, and foliated, with streaks and foliation-parallel layers of trace chlorite and 2-4% biotite and 10% white mica.
07MBW43B	65.2791	-146.1266	540755	7239647	06W	Quartz vein; Iron oxide-stained, 2.5-inch-wide, white, jointed, fractured quartz vein cutting foliation in quartzite. Vein strikes 220 degrees (azimuth) and dips 80 degrees.
07MBW45A	65.2786	-146.1311	540548	7239595	06W	Quartz vein; White, massive, 4-5-inch-wide, quartz vein cutting foliation in quartzite. Some fractures and vugs with iron oxide filling (former carbonate?). Possible normal offset based on faint bending of foliation is quartzite. Vein strikes 237 degrees
07MBW48A	65.2766	-146.1338	540426	7239364	06W	Soil and quartz chips; Brown soil and quartz vein chips in 30- to 40-foot-wide zone crossing ridge.
07MBW51A	65.2753	-146.1347	540383	7239218	06W	Soil and quartz chips; Approximately 15-foot-wide fault zone that strikes approximately 170(?) degrees (azimuth). Rock material is brecciated, quartz-veined, and micaceous. Vein quartz is white. Sampled quartz chips and brownish-orange soil.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07MBW56B	65.2733	-146.1397	540154	7238997	06W	Quartz vein; Gray and white, mottled colors and streaks of colors within a finely granular quartz vein that cuts across foliation. Vein contains microfractures that are open, and have a light dusty-brown coating in them. Vein is sharply planar, approxima
07MBW77A	65.2632	-146.1622	539118	7237859	06W	Quartzite with veins; Tan, very fine-grained quartzite cut by open-space fractures. Bracciated in places. Cut by quartz + limonite veins up to 1 cm wide.
07MBW87A	65.2636	-146.1770	538428	7237892	06W	Quartz vein; White, massive, possibly foliation parallel orientation, vein at least 3 feet thick.
07MBW93A	65.2618	-146.1799	538293	7237690	06W	Quartz vein; white, about 5 foot wide, possibly strikes 160 degrees (azimuth).
07MBW161A	65.2533	-146.2891	533205	7236680	06W	Brecciated quartzite; Fragments of quartzite are angular, only moderately displaced from adjacent clasts, and are cemented by quartz and possibly clay(?), and contains a matrix of tiny angular quartz fragments. Adjacent to the breccia zone, quartzite is altered and bleached and contains local iron-oxide-filled microfractures and fracture coating. Possible fault zone.
07MBW162A	65.2529	-146.2920	533073	7236637	06W	Quartzite + veins; Micaceous quartzite cut by iron oxide-stained quartz + chlorite + carbonate veins that are both parallel to and crossing foliation. In quartzite adjacent to veins, chlorite forms patches of pale green crystals, with patches up to 1 cm in diameter. Some quartz vein material is vuggy with euhedral crystals filling open space, but most quartz is massive.
07MBW165A	65.2523	-146.2935	533001	7236568	06W	Quartz vein; Iron oxide-stained, white quartz vein that is slightly granular. Vein is cut by later open-space fractures partially filled with euhedral to subhedral quartz crystals + orange and brown iron oxides (possibly after sulfides(?)). Vein is 6 inches wide.
07MBW228A	65.2182	-146.4621	525160	7232688	06W	Quartzite with fractures; 1.5-foot-wide by 8- to 12-inch-high by 5-foot-long ridge of white and gray, granular quartzite cut by irregular fractures with open-space ± filled with euhedral quartz crystals, and later orange iron oxide, and potentially white mica(?).
07MBW234A	65.2619	-146.1580	539316	7237713	06W	Brecciated quartzite; bleached, with angular clasts up to 1 inch in diameter, with rock flour matrix and silica cement.
07MBW250A	65.2559	-146.1381	540258	7237053	06W	Quartz vein; white vein float in possible fault(?). Two parallel veins, up to 10 feet wide, strike 275 degrees (azimuth).
07MBW262A	65.2459	-146.1512	539658	7235930	06W	Quartz vein; Brittle-fractured, white, massive quartz. Vein float trends 50 degrees (azimuth).

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07MBW270A	65.3791	-146.2017	537112	7250748	06W	Granite cut by veins; Light brown, foliated/sheared, porphyritic, altered, quartz- + feldspar-phenocryst-bearing granite, which is cut by quartz + medium dusty brown iron oxide veins with open space. Veins average 1 cm wide, occur in parallel sets, strike 32 degrees (azimuth), and dip 18 degrees.
07MBW276A	65.3851	-146.1983	537261	7251421	06W	Quartzite + veins; Gray, fine-grained, foliated quartzite cut by veins up to 2 cm wide. Quartz in veins is white to clear, and massive to partially crystalline. Open space is partially filled with clear euhedral quartz crystals up to 1 cm long, and orange-weathering carbonate, and microcrystalline chlorite.
07MBW337A	65.4029	-146.1564	539181	7253433	06W	Quartzite + veins; Greenish-gray, fine-grained, foliated, quartzite locally cut by quartz + iron oxide veins that cross foliation. Quartz is pargenetically early and euhedral, with iron oxide filling late open space. Veins are sparse, and up to 1 cm wide.
07MBW339A	65.3585	-146.3982	527998	7248353	06W	Quartzite; Tan, fine-grained, granular, poorly foliated, with 1-2% white mica, ~10% clay, and ~10% bright orange iron oxide in patches (formerly carbonate?).
07MBW340A	65.3543	-146.4037	527749	7247884	06W	Brecciated, veined metagrit; Pale gray, lightly iron oxide-coated surfaces, fine grained, silicified(?), quartz-veined (white quartz veins cutting foliation up to 2.5 cm wide), locally brecciated (angular quartzite clasts up to 2 inches in diameter) cemented by quartz. Quartz veins are locally crystalline, with open space ± filled with orange iron oxide.
07MBW346A	65.3470	-146.4130	527324	7247061	06W	Brecciated quartzite; Breccia clasts cemented by iron oxide, and locally quartz. Sparse brecciated pieces, but forms a 150-foot-wide fault zone that crosses the ridge, with a strike of about 255 degrees (azimuth). Iron oxide coating on most float pieces.
07MBW391A	65.3901	-146.3558	529935	7251889	06W	Pluton breccia; 1.2-foot by 4-inch by 3-inch rock composed of massive tan quartz with isolated angular, altered plutonic rock breccia fragments up to 1 inch in diameter. In some breccia clasts, pyrite is present as disseminated, 1.5-mm-diameter cubes.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07MBW392A	65.3910	-146.3559	529928	7251998	06W	Faulted, brecciated pluton; Green, fine-grained, altered, plutonic rock that has been sericite and calcite altered. Pluton is cut by thin microveinlets of calcite. Breccia zone potentially trends at an azimuth of 14 degrees. Sampled brecciated and veined plutonic rock, with breccia clasts of plutonic material containing 1-2% disseminated pyrite cubes. Zone of brecciation extends for at least 20 feet or more, and has an approximate width of 5 feet.
07MBW395A	65.3935	-146.3585	529808	7252275	06W	Pluton; Brown-weathering, blocky, massive, pale dusty greenish-gray colored, medium-grained, roughly equigranular, unusual plutonic rock. Mineralogy of pluton includes <1% deep-red garnet up to 5 mm in diameter that occur in poorlyshaped masses with conchoidal fractures + disseminated pyrrhotite that is fresh, metallic, occurs in intergranular space(?), and is about 2-3% of the rock. Pluton also contains 30-40% fresh brown biotite, and ~65% gray feldspar.
07MBW415A	65.3882	-146.3713	529215	7251674	06W	Hornfelsed quartzite: Narrow zone adjacent to biotite-rich pluton. Hornfels is cut by many fractures, and it is almost a breccia. Fractures are ± coated with pyrrhotite and (or) a dark-red, crystalline, hematate-coated quartz druse. Some fractures also cut the pluton.
07MBW482A	65.3836	-146.1290	540486	7251295	06W	Quartzite with vein; Folded vein with iron oxide + carbonate intergrown with ± chlorite ± crystalline quartz.
07MBW571A	65.2285	-146.1317	540599	7234003	06W	Quartz vein; Quartzite cut by quartz + white mica + iron oxide (after carbonate) vein. Vein both follows foliation, and cuts across foliation. Vein pinches out along foliation, and swells up to 13 cm in width where it cross foliation. Vein strikes 305 degrees (azimuth) where it crosses foliation, and dips 40 degrees.
07MBW613A	65.3426	-146.1153	541184	7246731	06W	Quartz vein; sheared and brecciated quartz.
07MBW648A	65.3328	-146.2080	536882	7245589	06W	Quartz vein; White quartz vein in small saddle.
07MBW678A	65.2557	-146.2166	536591	7236992	06W	Quartzite; Brecciated, with angular clasts of quartzite, cemented by rock flour and quartz. Clasts are not rotated too far out of place. Fault breccia.
07MBW682C	65.2600	-146.2214	536360	7237460	06W	Quartz vein; Vein crosses foliation, is ~1 inch wide. White quartz is intergrown with white feldspar(?), which is partially altered to powdery white clay(?), but is primarily fresh.
07RL21B	65.3799	-146.4329	526364	7250717	06W	Quartz vein; light brown to translucent, with coarse-grained white mica (2 percent) and crystalline quartz (98 percent).

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07RL31A	65.3885	-146.4708	524595	7251668	06W	Breccia; brecciated quartzite with quartz veining and small angular quartz clasts.
07RL180A	65.3097	-145.9996	546627	7243151	06W	Quartzite; light gray, grit-bearing (1 percent) with fine-grained, silvery, possible sulfide crystals (pyrrhotite?).
07RL204A	65.2995	-146.0544	544093	7241969	06W	Quartz vein; brown- and red-stained, massive, with milky quartz. Cuts foliated quartzite.
07RN91A	65.2650	-146.4314	526547	7237913	06W	Breccia; 3 m by 3 m area of brecciated and iron-stained quartzite.
07RN113A	65.2507	-146.0782	543063	7236519	06W	Quartz vein; < 50-cm-thick and massive, cutting foliation at a steep angle. No obvious sulfide or iron oxide.
07RN116A	65.2463	-146.0642	543723	7236036	06W	Quartz vein; white and massive, with no obvious sulfide or iron oxide.
07RN160C	65.2352	-146.0274	545460	7234822	06W	Quartz vein; some drusy quartz and a little iron oxide.
07Z17C	65.3171	-146.1351	540303	7243878	06W	Quartz vein breccia; orange, highly iron-oxide-stained, and vuggy breccia. Quartz, quartzite, and schist clasts are matrix-supported, subrounded to angular, and 1-10 mm in diameter. Possible fault breccia.
07Z23C	65.3215	-146.1203	540984	7244384	06W	Quartz vein; weak to moderately iron-stained veinlets up to 5-mm wide cutting quartzite.
07Z58C	65.3566	-146.0105	546037	7248370	06W	Quartz vein; one edge of a metamorphic quartz boulder is hydrothermally veined and slightly brecciated with quartz clasts in quartz, minor clay, and moderate iron-oxide matrix. Contains 1 percent disseminated clots of pyrite with minor black, finely disseminated pyrite halos. Vuggy pieces are partially filled with iron oxide, subhedral quartz crystals, and light green mica.
07Z63B	65.3384	-146.0238	545453	7246330	06W	Quartz vein; moderately iron-oxide stained white quartz veins with crystalline quartz, sericite, white mica, leached calcite(?), and occasional square iron-oxide spots (after pyrite?). Some veins have bleached envelopes in host rock.
07Z83B	65.3539	-146.0125	545950	7248067	06W	Quartz vein; iron-stained vuggy quartz and white to pale yellow sericite clots.
07Z104A	65.2861	-146.1539	539472	7240410	06W	Quartzite; pale green to gray green, with white mica, quartz, and trace to 1 percent quartz grit grains. Locally contains trace 1 mm pyrite cubes, discontinuous pyrite veinlets, and slightly vuggy quartz-iron oxide veinlets.
07Z123B	65.3973	-146.2200	536234	7252769	06W	Quartz vein; strongly iron-oxide-stained vuggy quartz, arsenopyrite (1 mm grains and < 2 cm clots), and scorodite. Cuts foliation.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07Z124C	65.3980	-146.2235	536072	7252847	06W	Quartz vein; white, massive to vuggy, with clots, fracture fill, and disseminated arsenopyrite (< 2 percent), scorodite, and iron oxide. Cuts foliation.
07Z128A	65.3976	-146.2388	535362	7252787	06W	Quartzite; white to light gray, with 5 percent white mica. Cross cut by quartz veins and veinlets.
07Z135A	65.3767	-146.2257	535999	7250470	06W	Quartzite; light gray to white, blocky, with < 10 percent white mica, quartz, and trace quartz grit grains. Commonly cut by white quartz veinlets amd quartz-calcite veinlets averging 3 mm in width.
07Z136A	65.3767	-146.2272	535931	7250470	06W	Breccia; matrix-supported, angular to subrounded clasts of quartzite (1 cm in diameter) in a matrix of occasionally vuggy, yellow, brown, and orange pulverized quartzite.
07Z140C	65.3730	-146.2380	535432	7250047	06W	Breccia; iron-oxide stained, matrix-supported, gray clasts of quartzite in yellow-orange to orange matrix. Some drusy quartz crsytals in vugs in matrix.
07Z142A	65.3728	-146.2421	535240	7250025	06W	Breccia; subrounded to subangular clasts of quartzite in a vuggy, orange, highly iron-stained matrix. Matrix possibly silicified in places.
07Z146A	65.3728	-146.2482	534957	7250018	06W	Quartzite; gray and yellow, with feldspar(?) and white mica. Numerous, occasionally vuggy quartz veinlets cross-cut foliation.
07Z158A	65.3856	-146.4144	527216	7251367	06W	Quartzite; olive brown to tan weathering, with 15% white mica, quartz, and 1 percent quartz grit grains. Minor iron-oxide stained fractures and trace white quartz veinlets cross-cutting foliation.
07Z173C	65.3841	-146.3773	528942	7251215	06W	Quartz vein; white to orange, iron-oxide stained, with occasional vugs lined with drusy quartz crystals and iron oxide (pseudomorphs of pyrite?). Vein is < 5 cm thick.
07Z175A	65.3833	-146.3735	529119	7251128	06W	Fault breccia; 20-cm-wide zone of intensely networked quartz veinlets and angular quartzite clasts (1 mm to 5 cm in diameter, clast-supported) in a matrix of white quartz and vuggy areas filled with iron oxide.
07Z185B	65.3842	-146.3581	529833	7251229	06W	Metagrit; brown and orange, strongly iron-oxide stained, with 5 percent white mica, very fine-grained quartz, and 5-7 percent quartz grit grains up to 2 mm in diameter. Cut by vuggy iron-oxide-stained quartz veinlets 1-3 mm thick.
07Z202B	65.3916	-146.3014	532460	7252088	06W	Quartz vein; white, occasionally vuggy, with iron oxide and minor calcite. Vein is < 10 cm thick.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07Z218A	65.3791	-146.4461	525749	7250626	06W	Quartzite; light gray, with chlorite, white mica, quartz, and 1 percent gray quartz grit grains. Cut by vuggy, brown stained, drusy quartz coated fractures that are parallel to foliation.
07Z221B	65.3762	-146.4518	525486	7250300	06W	Quartz vein; white, vuggy, with subhedral quartz crystals and minor iron oxide after sulfide(?). Veins < 5 mm thick cross-cutting schist.
07Z223A	65.3738	-146.4564	525275	7250031	06W	Metagrit; dark gray to tan, with 15 percent white mica, calcite, quartz, and < 5 percent gray quartz grit grains. Cut by quartz and disseminated, black to brown, semi-cubic, weathered sulfide (pyrite?) veinlets < 2mm wide and both parallel and perpendicular to foliation.
07Z226A	65.3699	-146.4628	524981	7249594	06W	Quartz vein; white, vuggy, slightly brecciated, with subhedral quartz crystals and trace disseminated arsenopyrite. Vein cross-cuts foliation.
07Z230A	65.3517	-146.3982	528004	7247595	06W	Quartzite; light gray to gray, with white mica, feldspar(?), quartz, and trace dark gray quartz grit grains. White, vuggy quartz-iron oxide veinlets cross-cut foliation.
07Z234A	65.3500	-146.3884	528466	7247403	06W	Breccia; very strongly iron-oxide-stained quartzite clasts in a white, yellow, and orange quartz and iron-oxide-rich matrix.
07Z245A	65.3546	-146.3503	530230	7247936	06W	Breccia; gray, subangular quartzite clasts in an orange, vuggy, iron-oxide and quartz matrix. Quartz as drusy to subhedral millimeter-sized crystals line or partially fill vugs.
07Z253C	65.3432	-146.3464	530425	7246668	06W	Fault breccia; quartzite and schist clasts in a matrix of finer crushed quartzite and iron oxide.
07Z270A	65.2557	-146.2839	533445	7236949	06W	Quartz vein; white and gray, vuggy, with quartz vein fill and subhedral crystals lining vugs and and iron oxide fracture coatings, partially filling vugs, and one cubic spot possibly after sulfide.
07Z274A	65.2609	-146.2777	533729	7237529	06W	Metagrit; light tan, with white mica, feldspar, quartz, and 7-10 percent quartz and feldspar grit grains. Cross-cut by white, vuggy quartz veins up to 3 cm thick containing subhedral to euhedral quartz crystals and iron oxide.
07Z276B	65.2578	-146.4038	527845	7237126	06W	Quartzite; tan to light gray, iron-oxide-stained, with 10 percent white mica and 1 percent lenses and clots of pyrrhotite aligned with foliation.
07Z287B	65.2727	-146.4011	527954	7238792	06W	Quartz vein; white, occasionally vuggy, with minor iron oxide and subhedral quartz crystals partially filling vugs. Veins are parallel to and cross-cut foliation and comprise 1-2 percent of the total rock.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07Z289A	65.2740	-146.3988	528063	7238938	06W	Quartz vein; white, occasionally vuggy, with iron oxide in fractures and drusy to euhedral quartz crystals in vugs. Veins are parallel to and cross-cut foliation and comprise 5 percent of the total rock.
07Z303A	65.2388	-146.2579	534681	7235081	06W	Metagrit; gray to olive green, with 10-20 percent white mica, quartz, and 2-60 percent grit grains up to 2 mm in diameter. Cross-cut by white, vuggy veins of interlocking subhedral quartz crystals and iron oxide. Veins comprise 1 percent of the total rock
07Z316A	65.2221	-146.2805	533650	7233207	06W	Quartzite; light gray to greenish gray, with garnet and white mica. Contains 1 percent, occasionally vuggy quartz veins. Foliation surfaces commonly iron-oxide stained.
07Z326B	65.2525	-146.3078	532334	7236576	06W	Quartz vein; strongly iron-oxide-stained, vuggy, with drusy quartz and iron oxide filling fractures and veins.
07Z332A	65.2536	-146.3318	531214	7236686	06W	Quartzite; light gray to tan, iron-oxide-stained, with occasional vuggy quartz veins cross-cutting foliation. Vugs lined with drusy quartz and iron oxide.
07Z338A	65.2214	-146.2057	537147	7233172	06W	Quartz vein; occasionally vuggy, with rare to minor iron oxide and quartz. Veins are hairline to 2 cm thick and cross-cut foliation.
07Z349C	65.3365	-146.0206	545604	7246117	06W	Breccia; orange, vuggy, with angular quartzite and metagrit clasts in a yellow-brown matrix of crushed quartzite and iron oxide.
07Z370A	65.2901	-146.2673	534176	7240789	06W	Quartzite; dark gray to gray, with < 5 percent white mica and trace very fine-grained pyrrhotite as disseminations or discontinuous veinlets.
07Z372A	65.2928	-146.2708	534010	7241096	06W	Quartzite; strongly iron-oxide-stained, with 10 percent white mica, < 1 percent disseminated marcasite cubes up to 3 mm, and trace disseminated, very fine-grained pyrrhotite.
07Z411A	65.2290	-146.3307	531292	7233947	06W	Metagrit; light tan, granular, with 15 percent white mica and 3-4 percent quartz grit grains. Cut by vuggy, white quartz and iron-oxide veins up to 2 cm thick with rare subhedral quartz crystals. Veins comprise 2-3 percent of the total rock.
07Z426A	65.2186	-146.4000	528062	7232757	06W	Metagrit; weakly manganese- and iron-oxide-stained, granular, with 1-2 percent gray quartz grit grains. Contains 1-10 mm quartz veins parallel and cross-cutting foliation.
07Z428B	65.2168	-146.3965	528231	7232561	06W	Breccia; light gray to light yellow, occasionally vuggy, with angular quartzite clasts ≤ 1 cm in diameter in a matrix of crushed quartzite, quartz, and minor iron oxide.

Table 1. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Zone	Description
07Z430B	65.2198	-146.2009	537372	7233000	06W	Breccia; white to gray, subangular to angular quartzite clasts 1-15 mm in diameter in a yellow-orange sandy matrix.
07Z450A	65.2137	-146.3780	529097	7232217	06W	Metagrit; dark gray, blocky, with 5-7 percent white mica and 1-2 percent dark gray quartz grit grains. Cross-cut by white, vuggy quartz and minor iron oxide veins up to 2 cm thick.
07Z456A	65.2328	-146.3098	532264	7234385	06W	Metagrit; light gray, blocky, sucratic, with 2-3 percent gray quartz grit grains. Cross-cut by gray and white, occasionally vuggy quartz and iron oxide veins 2 cm thick.

Table 2. Trace-element geochemical analyses for rocks collected in the northern Fairbanks mining district, Circle Quadrangle, Alaska.
ppm = parts per million, % = percent

Sample Number	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	La	Mg	Mn	Mo
	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm
07JEA40A	0.004	<0.5	3.58	<5	250	0.6	<2	1.2	<0.5	13	64	28	3.49	10	0.81	10	1.06	1005	<1
07JEA71A	0.009	0.5	2.14	91	340	0.6	<2	0.02	<0.5	3	21	13	1.41	<10	0.92	20	0.19	190	<1
07JEA215A	0.002	<0.5	2.39	5	140	<0.5	<2	0.04	<0.5	4	15	11	2.14	10	0.48	10	0.38	222	<1
07JEA291A	0.102	0.5	2.67	155	230	1.1	<2	0.02	<0.5	2	19	3	1.14	10	1.04	10	0.13	96	<1
07JEA299A	0.275	<0.5	8.28	449	1270	2.7	<2	0.07	<0.5	1	3	1	2.55	20	3.79	70	0.33	199	<1
07JEA336C	0.003	<0.5	1.82	8	70	0.5	<2	1.15	<0.5	9	44	10	2.9	<10	0.27	10	0.55	673	<1
07LF10B	0.006	<0.5	2.75	10	190	0.5	<2	0.01	<0.5	3	22	6	1.87	<10	0.6	10	0.08	176	<1
07LF32B	0.027	<0.5	9.03	10	190	3.6	<2	0.18	<0.5	2	1	113	1.37	10	1.12	40	0.17	166	<1
07LF33B	0.006	<0.5	7.6	13	250	1.4	<2	0.81	0.5	15	81	161	6.93	20	0.52	10	1.91	751	<1
07LF35A	<0.001	<0.5	1.78	6	90	<0.5	<2	0.01	<0.5	3	18	10	1.77	<10	0.4	10	0.06	231	<1
07LF40A	0.007	<0.5	2.15	<5	50	<0.5	<2	0.01	<0.5	1	18	8	1.09	<10	0.18	10	0.02	59	<1
07LF42A	<0.001	<0.5	0.11	9	10	<0.5	<2	<0.01	<0.5	<1	10	3	0.83	<10	0.02	<10	0.01	63	<1
07LF44A	<0.001	<0.5	2.11	7	140	<0.5	<2	0.06	<0.5	2	19	6	1.33	<10	0.39	10	0.09	128	<1
07LF47B	<0.001	<0.5	1.1	<5	30	<0.5	<2	0.01	<0.5	2	16	28	2.29	<10	0.19	10	0.04	62	<1
07LF48A	<0.001	<0.5	2.85	6	160	<0.5	<2	0.01	<0.5	2	16	6	1.44	10	0.57	10	0.07	98	<1
07LF77D	0.001	<0.5	1.95	<5	80	<0.5	<2	0.02	<0.5	3	14	6	1.56	<10	0.3	20	0.08	105	<1
07LF81A	<0.001	<0.5	1.29	6	40	<0.5	<2	0.01	<0.5	2	16	4	0.92	<10	0.19	10	0.03	72	<1
07LF83B	0.001	<0.5	0.98	<5	60	<0.5	<2	0.02	<0.5	16	16	4	1.87	<10	0.18	10	0.02	1070	<1
07LF94B	<0.001	<0.5	4.73	8	240	1.2	<2	0.33	<0.5	8	31	28	2.63	10	0.91	20	0.5	477	<1
07LF99A	<0.001	<0.5	2.91	<5	290	<0.5	<2	0.08	<0.5	4	24	13	2.67	10	0.74	10	0.22	622	<1
07LF119B	0.285	<0.5	2.99	1960	220	0.8	<2	0.01	<0.5	21	29	43	2.71	10	0.6	20	0.29	346	<1
07LF121D	0.008	<0.5	1.94	190	150	0.6	<2	0.01	<0.5	6	16	15	4.67	10	0.61	10	0.08	184	<1
07LF125C	0.002	<0.5	1.92	42	230	0.6	<2	0.01	<0.5	4	21	9	2.22	<10	0.61	10	0.28	228	<1
07LF128B	0.01	<0.5	2.16	183	50	0.5	<2	0.03	<0.5	14	52	24	3.88	<10	0.18	10	0.07	374	<1
07LF138A	<0.001	<0.5	7.62	25	820	2.7	<2	0.08	<0.5	6	21	10	2.06	20	2.97	50	0.26	303	<1
07LF161A	0.003	<0.5	7.77	17	790	4.3	<2	0.94	<0.5	5	13	20	2.48	20	2.83	50	0.37	525	<1
07LF163A	0.056	<0.5	1.29	180	100	<0.5	<2	0.01	<0.5	2	12	3	0.76	<10	0.51	10	0.08	45	<1
07LF170B	0.001	<0.5	0.38	7	40	<0.5	<2	<0.01	<0.5	2	10	6	1.17	<10	0.16	<10	0.02	67	<1
07LF177A	0.21	<0.5	1.82	856	220	0.6	<2	0.01	<0.5	1	15	4	1.01	<10	0.8	10	0.11	60	<1
07LF178A	0.235	<0.5	1.94	154	180	0.5	<2	0.01	<0.5	2	14	4	1.01	<10	0.8	10	0.1	377	<1
07LF181B	0.02	<0.5	2.42	86	200	0.6	<2	9.64	<0.5	5	25	18	1.63	<10	1.04	10	0.7	4760	<1
07LF186B	0.01	<0.5	1.15	20	60	<0.5	<2	0.02	<0.5	3	12	2	0.67	<10	0.26	10	0.04	55	<1
07LF186C	0.005	<0.5	0.29	97	20	<0.5	<2	<0.01	<0.5	1	14	2	0.98	<10	0.06	<10	0.01	68	<1

Table 2. (continued)

Sample Number	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn
	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
07JEA40A	0.42	31	240	13	<0.01	<5	11	72	<20	0.29	<10	<10	104	10	44
07JEA71A	0.02	8	90	13	<0.01	<5	2	7	<20	0.08	<10	<10	14	<10	23
07JEA215A	0.66	9	150	6	<0.01	<5	3	35	<20	0.09	<10	<10	19	<10	29
07JEA291A	0.04	3	30	8	0.01	14	3	29	<20	0.1	<10	<10	20	<10	6
07JEA299A	0.04	1	440	22	0.61	21	9	146	30	0.18	<10	<10	17	<10	39
07JEA336C	0.01	19	90	6	<0.01	<5	7	43	<20	0.25	<10	<10	90	<10	29
07LF10B	0.03	12	70	11	<0.01	7	3	54	<20	0.1	<10	<10	18	10	24
07LF32B	6.09	2	210	10	0.05	<5	1	128	<20	0.2	<10	20	6	<10	11
07LF33B	3.03	28	330	15	0.02	<5	20	154	<20	0.55	<10	10	147	<10	70
07LF35A	0.03	9	90	6	<0.01	<5	2	16	<20	0.12	<10	<10	25	<10	16
07LF40A	0.1	5	70	8	<0.01	5	2	61	<20	0.09	<10	<10	13	<10	9
07LF42A	0.01	3	10	2	<0.01	<5	<1	1	<20	<0.01	<10	<10	2	<10	4
07LF44A	0.57	7	100	5	<0.01	<5	2	25	<20	0.07	<10	<10	14	<10	20
07LF47B	0.29	3	70	<2	0.02	<5	1	24	<20	0.04	<10	<10	9	<10	6
07LF48A	0.02	4	210	10	0.01	<5	3	95	<20	0.12	<10	<10	18	<10	23
07LF77D	0.82	12	190	6	0.01	<5	2	41	<20	0.05	<10	<10	11	<10	20
07LF81A	0.34	9	110	2	<0.01	<5	1	27	<20	0.06	<10	<10	9	<10	14
07LF83B	0.05	23	290	2	<0.01	<5	2	19	<20	0.02	<10	<10	9	<10	22
07LF94B	1.64	21	150	23	<0.01	<5	5	191	<20	0.17	<10	<10	28	<10	50
07LF99A	0.95	14	70	18	0.01	<5	3	77	<20	0.13	<10	<10	20	<10	35
07LF119B	0.2	36	120	5	0.01	39	3	82	<20	0.09	<10	<10	22	<10	43
07LF121D	0.02	10	160	8	0.01	92	2	5	<20	0.09	<10	<10	12	<10	31
07LF125C	0.03	11	130	7	<0.01	21	3	4	<20	0.12	<10	<10	23	<10	21
07LF128B	0.05	21	160	4	0.01	40	8	12	<20	0.26	<10	<10	101	<10	50
07LF138A	0.92	8	680	18	<0.01	7	4	40	20	0.25	10	<10	36	<10	63
07LF161A	1.28	12	760	34	0.02	8	7	245	20	0.21	<10	<10	66	10	85
07LF163A	0.03	1	80	3	0.02	6	1	11	<20	0.04	<10	<10	6	<10	8
07LF170B	0.02	2	20	2	<0.01	10	<1	1	<20	0.02	<10	<10	3	<10	8
07LF177A	0.02	3	80	7	0.01	17	1	6	<20	0.07	10	<10	12	<10	16
07LF178A	0.03	11	90	7	0.01	16	1	44	<20	0.07	<10	<10	12	<10	20
07LF181B	0.06	11	580	12	1.35	8	5	503	<20	0.07	10	<10	33	<10	33
07LF186B	0.03	1	10	5	<0.01	26	1	8	<20	0.04	<10	<10	11	<10	15
07LF186C	0.02	1	10	26	<0.01	138	<1	1	<20	0.01	<10	<10	2	<10	22

Table 2. (continued)																			
Sample Number	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	La	Mg	Mn	Mo
	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm
07LF191A	0.137	<0.5	2.73	9270	210	0.6	<2	0.02	<0.5	3	22	11	2.74	10	0.88	10	0.1	70	<1
07LF193A	0.351	0.5	2.32	7230	130	0.5	<2	0.01	<0.5	4	20	12	2.74	<10	0.67	10	0.08	226	<1
07LF193B	0.722	<0.5	3	7580	140	0.7	<2	0.35	<0.5	3	29	52	1.78	<10	0.91	20	0.17	185	<1
07LF193C	0.21	<0.5	2.77	2180	150	0.6	<2	0.02	<0.5	6	21	12	2.45	10	0.71	10	0.2	65	<1
07LF199B	0.242	<0.5	1.13	134	110	<0.5	<2	0.01	<0.5	2	14	22	3.74	<10	0.25	10	0.04	57	<1
07LF232A	0.004	<0.5	1.66	<5	30	1.8	<2	0.03	1.3	15	<1	37	41.2	<10	0.09	30	0.03	123	2
07LF253A	0.001	<0.5	0.37	26	100	<0.5	<2	0.29	2.6	115	<1	7	>50	<10	0.09	150	0.05	2490	3
07LF256A	0.002	0.5	1.02	482	100	0.7	<2	0.23	0.9	44	<1	11	43.5	<10	0.28	40	0.09	2790	3
07MBW18B	0.013	<0.5	1.36	<5	50	<0.5	2	0.02	<0.5	10	20	21	2.61	<10	0.17	10	0.24	312	<1
07MBW19A	0.001	<0.5	1.09	<5	710	<0.5	<2	0.02	<0.5	<1	28	3	1.23	<10	0.26	10	0.15	100	<1
07MBW43B	<0.001	0.9	0.12	6	10	<0.5	<2	<0.01	<0.5	5	16	22	1.09	<10	0.02	<10	0.01	96	<1
07MBW45A	<0.001	<0.5	0.32	<5	70	<0.5	<2	<0.01	<0.5	2	27	11	0.86	<10	0.14	<10	0.02	57	<1
07MBW48A	<0.001	<0.5	3.66	<5	150	0.8	<2	0.3	<0.5	17	80	7	3.65	10	0.36	20	2.66	1095	<1
07MBW51A	<0.001	<0.5	3.75	<5	430	0.7	<2	0.07	<0.5	7	47	12	2.27	10	1.32	10	0.61	353	<1
07MBW56B	<0.001	<0.5	0.13	<5	40	<0.5	<2	0.02	<0.5	2	24	4	0.76	<10	0.07	10	0.02	183	<1
07MBW77A	0.001	<0.5	4.04	6	440	0.7	<2	0.07	<0.5	5	34	8	2.01	10	1.56	10	0.39	311	<1
07MBW87A	<0.001	<0.5	0.14	<5	10	<0.5	<2	0.02	<0.5	3	14	4	0.86	<10	0.04	<10	0.02	74	<1
07MBW93A	<0.001	<0.5	0.02	<5	<10	<0.5	<2	<0.01	<0.5	1	16	3	0.74	<10	0.01	<10	<0.01	63	<1
07MBW161A	<0.001	<0.5	1.97	<5	70	<0.5	<2	0.02	<0.5	2	19	9	1.72	<10	0.27	10	0.25	115	<1
07MBW162A	<0.001	<0.5	2.25	<5	50	0.5	<2	0.04	<0.5	4	19	15	2.73	<10	0.18	10	0.26	130	<1
07MBW165A	0.002	<0.5	0.48	<5	10	<0.5	<2	0.01	<0.5	4	23	12	1.19	<10	0.06	<10	0.02	62	<1
07MBW228A	0.001	<0.5	0.6	5	30	<0.5	<2	0.03	<0.5	7	30	20	1.57	<10	0.1	<10	0.18	176	<1
07MBW234A	<0.001	<0.5	2.36	<5	330	<0.5	<2	0.01	<0.5	5	24	10	1.67	<10	0.92	20	0.22	214	<1
07MBW250A	<0.001	<0.5	0.31	<5	40	<0.5	<2	0.01	<0.5	3	22	3	0.81	<10	0.15	<10	0.04	92	<1
07MBW262A	<0.001	<0.5	0.17	<5	10	<0.5	<2	0.01	<0.5	2	11	2	0.86	<10	0.05	<10	0.07	81	<1
07MBW270A	<0.001	<0.5	3.95	8	410	1.1	<2	0.27	<0.5	8	38	11	2.3	10	1.1	20	0.39	250	<1
07MBW276A	<0.001	0.8	1.23	<5	150	1.7	<2	0.05	<0.5	3	14	4	1.32	<10	0.52	10	0.22	368	<1
07MBW337A	<0.001	<0.5	3.65	14	130	0.7	<2	0.17	0.8	27	62	42	4.18	10	0.53	20	0.94	855	<1
07MBW339A	0.004	<0.5	1.39	<5	90	<0.5	<2	0.01	<0.5	2	19	8	1.25	<10	0.28	10	0.04	115	<1
07MBW340A	0.391	<0.5	0.94	2090	110	<0.5	<2	0.02	<0.5	<1	20	4	0.97	<10	0.3	10	0.03	66	<1
07MBW346A	0.005	<0.5	2.33	<5	100	0.5	<2	<0.01	<0.5	3	21	23	3.27	<10	0.4	10	0.17	111	<1
07MBW391A	0.004	<0.5	0.97	37	110	0.9	<2	0.4	<0.5	2	13	3	1.12	<10	0.14	<10	0.33	310	<1
07MBW392A	0.114	<0.5	3.57	180	260	1.6	<2	0.48	<0.5	2	13	3	1.75	10	1.11	20	0.46	370	<1
07MBW395A	0.002	<0.5	8.03	9	2420	3.5	<2	3.47	0.5	20	59	49	5.93	20	3.71	60	2.52	1195	4

Table 2. (continued)															
Sample Number	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn
	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
07LF191A	0.05	3	110	3580	0.06	2720	3	31	<20	0.08	<10	<10	21	<10	49
07LF193A	0.05	8	80	4	0.5	475	3	62	<20	0.08	<10	<10	18	<10	31
07LF193B	0.05	21	130	95	4.69	>10000	4	113	<20	0.1	10	<10	27	<10	39
07LF193C	0.16	5	150	8	0.34	1140	3	33	<20	0.11	<10	<10	21	<10	34
07LF199B	0.02	<1	160	12	0.03	323	1	15	<20	0.04	<10	<10	9	<10	18
07LF232A	0.05	7	90	3	2.24	31	2	8	<20	0.01	30	<10	7	<10	104
07LF253A	0.07	147	80	<2	0.23	23	1	86	<20	0.02	40	20	6	<10	360
07LF256A	0.08	37	200	<2	0.21	18	2	38	<20	0.02	20	<10	13	<10	101
07MBW18B	0.2	17	120	11	0.01	15	1	12	<20	0.04	<10	<10	10	<10	43
07MBW19A	0.31	4	100	<2	<0.01	9	1	29	<20	0.11	<10	<10	10	<10	12
07MBW43B	0.02	5	<10	168	0.01	6	<1	<1	<20	<0.01	<10	<10	1	<10	10
07MBW45A	0.07	3	20	17	<0.01	7	<1	6	<20	0.01	<10	<10	2	<10	18
07MBW48A	0.56	38	570	10	<0.01	12	8	53	<20	0.29	<10	<10	63	<10	46
07MBW51A	0.68	26	90	256	0.11	5	5	56	<20	0.2	10	<10	35	<10	28
07MBW56B	0.03	2	50	92	0.01	<5	<1	3	<20	0.01	<10	<10	1	<10	5
07MBW77A	1.13	12	110	48	0.01	<5	4	113	<20	0.19	<10	<10	25	<10	45
07MBW87A	0.02	4	20	2	<0.01	5	<1	2	<20	0.01	<10	<10	1	<10	11
07MBW93A	0.02	2	10	<2	<0.01	<5	<1	1	<20	<0.01	<10	<10	<1	<10	<2
07MBW161A	0.39	4	110	5	0.01	5	2	24	<20	0.08	<10	<10	13	<10	21
07MBW162A	0.92	3	150	7	0.01	<5	2	65	<20	0.05	<10	<10	15	<10	27
07MBW165A	0.2	5	60	13	0.01	<5	<1	20	<20	0.01	<10	<10	3	<10	19
07MBW228A	0.05	11	110	15	0.01	<5	1	6	<20	0.02	<10	<10	6	<10	26
07MBW234A	0.56	11	80	7	<0.01	5	2	40	<20	0.12	<10	<10	15	<10	24
07MBW250A	0.02	4	40	2	<0.01	6	1	3	<20	0.03	<10	<10	6	<10	7
07MBW262A	0.02	4	40	<2	<0.01	5	<1	2	<20	0.01	<10	<10	2	<10	5
07MBW270A	0.05	19	150	11	<0.01	10	5	26	<20	0.19	<10	<10	34	<10	44
07MBW276A	0.03	2	100	37	<0.01	<5	1	8	<20	0.05	<10	<10	9	<10	98
07MBW337A	0.53	52	150	54	<0.01	<5	10	21	<20	0.28	<10	<10	96	<10	81
07MBW339A	0.03	4	120	6	0.03	12	1	18	<20	0.05	<10	<10	8	<10	10
07MBW340A	0.03	2	80	2	0.04	13	1	14	<20	0.03	<10	<10	7	<10	6
07MBW346A	0.14	9	160	13	0.01	7	3	26	<20	0.07	<10	<10	18	<10	33
07MBW391A	0.03	2	70	8	<0.01	22	1	45	<20	0.02	<10	<10	5	<10	13
07MBW392A	0.03	1	200	15	0.01	178	3	92	<20	0.11	<10	<10	29	<10	30
07MBW395A	1.39	31	2900	28	0.56	<5	28	736	20	0.58	<10	<10	273	10	219

Table 2. (continued)																			
Sample Number	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	La	Mg	Mn	Mo
	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm
07MBW415A	1.045	8	4.79	4220	210	2	<2	0.12	<0.5	3	55	20	3.04	20	1.34	40	1.24	186	1
07MBW482A	0.041	<0.5	1.26	46	140	<0.5	<2	0.01	<0.5	3	21	10	1.37	<10	0.48	10	0.1	86	<1
07MBW571A	0.012	<0.5	0.39	11	80	<0.5	<2	0.02	<0.5	2	16	4	0.8	<10	0.17	<10	0.02	68	<1
07MBW613A	0.001	<0.5	0.15	<5	<10	<0.5	<2	0.01	<0.5	4	21	7	0.9	<10	0.01	<10	0.04	101	<1
07MBW648A	0.001	<0.5	0.38	<5	20	<0.5	<2	0.05	<0.5	3	24	8	1.2	<10	0.11	<10	0.1	127	<1
07MBW678A	0.002	<0.5	3.62	6	260	0.7	<2	0.37	<0.5	7	34	15	2.19	10	0.85	20	0.4	543	<1
07MBW682C	<0.001	<0.5	3.64	21	350	0.9	<2	0.03	<0.5	8	35	29	2.21	10	1.09	20	0.38	238	<1
07RL21B	0.06	<0.5	2.63	776	230	1.4	<2	0.03	<0.5	2	16	4	2.33	10	0.92	20	0.15	116	<1
07RL31A	0.002	1.1	5.55	16	1180	2	2	0.65	<0.5	6	20	27	2.52	10	2.72	50	0.38	566	3
07RL180A	0.003	<0.5	3.63	<5	50	<0.5	<2	0.06	<0.5	3	28	11	3.5	10	0.17	10	0.76	264	<1
07RL204A	0.002	<0.5	0.05	12	<10	<0.5	<2	<0.01	<0.5	3	24	2	0.8	<10	<0.01	<10	<0.01	69	<1
07RN91A	0.004	<0.5	1.36	<5	100	<0.5	<2	0.01	<0.5	1	21	48	2.26	<10	0.31	10	0.05	47	<1
07RN113A	0.003	<0.5	0.83	<5	90	<0.5	<2	0.01	<0.5	3	18	4	1.56	<10	0.34	<10	0.15	136	<1
07RN116A	0.001	<0.5	0.29	<5	20	<0.5	<2	0.01	<0.5	2	20	6	0.79	<10	0.05	<10	0.02	58	<1
07RN160C	0.001	<0.5	2.8	<5	290	<0.5	<2	0.05	<0.5	7	26	5	2.93	10	0.95	10	0.67	316	<1
07Z17C	0.006	<0.5	2.04	<5	170	0.5	<2	<0.01	<0.5	5	29	13	5.17	<10	0.48	10	0.07	141	<1
07Z23C	0.001	<0.5	2.88	<5	170	0.6	<2	0.01	<0.5	5	28	12	1.61	10	0.53	10	0.08	140	<1
07Z58C	0.005	<0.5	0.53	9	60	<0.5	<2	<0.01	<0.5	2	26	18	1.64	<10	0.11	<10	0.05	63	<1
07Z63B	0.002	<0.5	1.21	<5	80	<0.5	<2	0.01	<0.5	3	32	6	1.19	<10	0.17	<10	0.03	135	<1
07Z83B	0.002	<0.5	1.68	6	80	<0.5	<2	<0.01	<0.5	11	26	5	1.58	<10	0.19	10	0.03	1140	<1
07Z104A	0.003	<0.5	2.93	5	150	0.6	<2	0.09	<0.5	12	22	15	2	10	0.57	20	0.33	426	<1
07Z123B	0.01	<0.5	0.2	828	30	<0.5	<2	<0.01	<0.5	3	17	15	1.02	<10	0.05	<10	0.03	68	<1
07Z124C	0.573	0.7	1.24	1540	150	<0.5	<2	0.01	<0.5	2	25	14	1.49	<10	0.46	10	0.1	167	<1
07Z128A	0.004	<0.5	0.78	28	60	<0.5	<2	0.02	<0.5	3	21	5	0.82	<10	0.27	<10	0.06	103	<1
07Z135A	0.004	<0.5	1.59	10	70	<0.5	<2	0.03	<0.5	2	18	6	1.42	<10	0.32	10	0.17	193	<1
07Z136A	0.004	<0.5	2.9	23	90	0.6	<2	0.01	<0.5	6	22	13	2.26	10	0.35	10	0.3	224	<1
07Z140C	0.01	<0.5	2.41	8	290	0.7	<2	0.01	<0.5	8	22	11	2.54	<10	0.43	10	0.12	188	<1
07Z142A	0.003	<0.5	2.36	<5	280	0.6	<2	0.01	<0.5	4	23	11	1.85	10	0.64	10	0.11	111	<1
07Z146A	<0.001	<0.5	2.12	<5	180	<0.5	<2	0.27	<0.5	3	19	4	1.39	<10	0.51	10	0.15	442	<1
07Z158A	0.003	<0.5	1.82	17	180	0.7	<2	0.12	<0.5	2	16	7	1.12	<10	0.45	10	0.15	225	<1
07Z173C	0.033	<0.5	2.15	119	160	0.8	<2	0.02	<0.5	4	24	11	2.07	<10	0.78	10	0.18	213	2
07Z175A	0.01	<0.5	2.17	30	140	1.1	<2	0.38	<0.5	<1	23	8	1.29	10	0.57	10	0.08	61	2
07Z185B	0.006	<0.5	2.26	124	200	0.9	<2	0.02	<0.5	18	21	14	1.46	10	0.7	10	0.15	993	<1
07Z202B	0.002	<0.5	0.14	9	10	<0.5	<2	0.01	<0.5	2	19	3	0.78	<10	0.04	<10	0.02	127	<1

Table 2. (continued)															
Sample Number	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn
	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
07MBW415A	0.03	7	1000	18	0.06	124	13	85	<20	0.27	<10	<10	145	<10	38
07MBW482A	0.04	4	170	10	0.01	20	2	13	<20	0.07	<10	<10	13	<10	12
07MBW571A	0.08	2	80	7	<0.01	<5	<1	4	<20	0.02	<10	<10	2	<10	3
07MBW613A	0.06	2	20	<2	<0.01	<5	<1	<1	<20	0.01	<10	<10	5	<10	3
07MBW648A	0.02	3	50	<2	<0.01	<5	1	<1	<20	0.04	<10	<10	17	<10	4
07MBW678A	1.13	14	100	10	<0.01	<5	4	106	<20	0.16	10	<10	25	<10	31
07MBW682C	0.66	14	110	24	<0.01	<5	5	54	<20	0.14	<10	<10	29	<10	39
07RL21B	0.03	3	170	3	0.01	26	3	20	<20	0.07	10	<10	23	<10	22
07RL31A	0.9	10	260	30	0.01	<5	7	325	20	0.14	<10	<10	28	<10	71
07RL180A	1.31	11	160	8	<0.01	5	4	43	<20	0.16	<10	<10	27	<10	57
07RL204A	0.02	2	<10	<2	<0.01	<5	<1	<1	<20	<0.01	<10	<10	<1	<10	<2
07RN91A	0.03	1	230	7	0.01	11	2	66	<20	0.07	10	<10	14	<10	9
07RN113A	0.1	5	60	3	<0.01	<5	1	8	<20	0.05	<10	<10	8	<10	17
07RN116A	0.16	3	30	<2	<0.01	<5	<1	12	<20	0.01	<10	<10	2	<10	3
07RN160C	0.43	12	230	8	<0.01	6	3	34	<20	0.1	<10	<10	18	<10	57
07Z17C	0.03	15	80	12	0.01	5	2	18	<20	0.08	<10	<10	13	<10	46
07Z23C	0.06	10	130	6	<0.01	<5	3	33	<20	0.11	<10	<10	20	<10	28
07Z58C	0.03	4	30	<2	0.04	5	1	11	<20	0.01	<10	<10	5	<10	7
07Z63B	0.03	4	60	4	<0.01	5	1	9	<20	0.06	<10	<10	7	<10	10
07Z83B	0.02	14	40	7	<0.01	<5	2	8	<20	0.09	<10	<10	11	<10	31
07Z104A	0.71	26	80	13	0.05	<5	3	42	<20	0.13	10	<10	21	<10	34
07Z123B	0.02	2	10	2	0.03	11	<1	2	<20	0.01	<10	<10	2	<10	4
07Z124C	0.03	4	50	19	0.05	16	1	12	<20	0.05	<10	<10	10	<10	26
07Z128A	0.03	2	30	<2	<0.01	<5	<1	2	<20	0.03	<10	<10	3	<10	6
07Z135A	0.08	8	80	17	0.01	19	1	16	<20	0.07	<10	<10	9	<10	20
07Z136A	0.08	16	100	9	0.01	37	3	21	<20	0.12	<10	<10	18	<10	33
07Z140C	0.05	15	110	8	0.01	40	3	24	<20	0.11	<10	<10	17	<10	35
07Z142A	0.04	5	120	7	0.01	21	3	17	<20	0.12	<10	<10	19	<10	16
07Z146A	0.04	4	90	11	<0.01	5	2	33	<20	0.1	<10	<10	14	<10	23
07Z158A	0.39	2	130	5	<0.01	<5	2	28	<20	0.08	<10	<10	11	<10	37
07Z173C	0.04	7	110	12	0.01	6	3	14	<20	0.11	<10	<10	19	<10	23
07Z175A	0.04	3	100	3	0.01	10	2	17	<20	0.06	10	<10	17	<10	9
07Z185B	0.05	11	140	7	<0.01	12	2	20	<20	0.09	<10	<10	15	<10	36
07Z202B	0.02	<1	20	2	<0.01	<5	<1	<1	<20	0.01	<10	<10	1	<10	2

Table 2. (continued)																			
Sample Number	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	K	La	Mg	Mn	Mo
	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm
07Z218A	0.003	<0.5	2.62	8	190	0.6	<2	0.02	<0.5	4	20	7	1.79	<10	0.64	10	0.29	224	<1
07Z221B	0.003	<0.5	3.35	37	230	0.8	<2	0.06	<0.5	6	24	18	2.89	10	0.78	10	0.64	468	<1
07Z223A	0.001	<0.5	1.35	18	60	<0.5	<2	0.04	<0.5	2	17	6	1.12	<10	0.27	10	0.13	135	<1
07Z226A	0.213	<0.5	1.15	768	110	0.5	<2	<0.01	<0.5	<1	17	5	1.29	<10	0.41	10	0.06	55	<1
07Z230A	0.003	0.5	1.26	9	80	<0.5	<2	<0.01	<0.5	1	14	5	1.01	<10	0.26	10	0.04	88	<1
07Z234A	0.004	<0.5	1	61	80	<0.5	<2	<0.01	<0.5	2	14	18	2.73	<10	0.25	10	0.04	46	<1
07Z245A	0.003	<0.5	3.33	<5	280	0.7	<2	<0.01	<0.5	6	20	24	2.15	10	0.71	10	0.16	140	<1
07Z253C	0.004	<0.5	1.89	212	130	0.7	<2	0.01	<0.5	3	21	54	5.52	<10	0.64	10	0.14	80	<1
07Z270A	0.004	<0.5	0.91	<5	20	<0.5	<2	0.03	<0.5	1	21	7	1.25	<10	0.16	10	0.06	76	<1
07Z274A	0.003	<0.5	1.55	<5	170	<0.5	<2	0.01	<0.5	2	21	6	1.74	<10	0.46	30	0.05	549	<1
07Z276B	0.002	<0.5	3.31	<5	240	0.7	<2	0.05	<0.5	6	29	13	2.44	10	0.66	10	0.36	117	<1
07Z287B	0.005	<0.5	1.08	10	90	<0.5	<2	0.01	<0.5	1	21	4	0.8	<10	0.35	10	0.05	51	<1
07Z289A	0.008	<0.5	1.58	24	120	<0.5	<2	0.01	<0.5	3	21	9	1.04	<10	0.54	10	0.06	90	<1
07Z303A	0.002	<0.5	3.09	5	470	0.6	<2	0.03	<0.5	5	31	7	1.85	10	1.28	20	0.28	337	<1
07Z316A	0.001	<0.5	2.27	8	90	<0.5	<2	0.12	<0.5	6	26	7	2.27	10	0.31	10	0.36	575	<1
07Z326B	0.002	<0.5	4.4	11	140	1.1	<2	0.09	<0.5	10	25	21	2.75	10	0.36	10	0.34	230	<1
07Z332A	0.001	<0.5	1.99	5	140	<0.5	<2	0.03	<0.5	34	19	5	1.67	<10	0.1	10	0.11	4090	<1
07Z338A	0.002	<0.5	1.14	<5	130	<0.5	<2	0.07	<0.5	3	20	12	1.29	<10	0.49	10	0.13	156	<1
07Z349C	<0.001	<0.5	1.89	8	180	<0.5	<2	0.01	<0.5	3	21	8	1.75	<10	0.47	10	0.07	177	<1
07Z370A	<0.001	<0.5	2.91	<5	140	0.5	<2	0.09	<0.5	15	23	11	2.22	10	0.54	20	0.39	481	<1
07Z372A	<0.001	<0.5	2.41	<5	140	0.5	<2	0.01	<0.5	6	18	19	2.38	10	0.59	10	0.08	175	<1
07Z411A	<0.001	<0.5	0.94	<5	90	<0.5	<2	0.01	<0.5	<1	18	8	1.56	<10	0.19	<10	0.04	337	<1
07Z426A	<0.001	<0.5	1.42	<5	50	<0.5	<2	0.03	<0.5	8	22	9	1.5	<10	0.14	10	0.02	317	1
07Z428B	<0.001	<0.5	2.19	<5	390	<0.5	<2	0.02	<0.5	4	22	7	1.55	<10	0.76	10	0.17	221	<1
07Z430B	<0.001	<0.5	2.85	<5	430	<0.5	<2	0.01	<0.5	5	26	10	2.02	10	1.37	10	0.2	315	<1
07Z450A	<0.001	<0.5	1.97	<5	270	<0.5	<2	0.06	<0.5	3	32	6	1.33	<10	0.63	10	0.16	201	<1
07Z456A	<0.001	<0.5	1.78	5	150	<0.5	<2	0.02	<0.5	4	21	12	1.48	<10	0.39	10	0.05	188	<1

Table 2. (continued)															
Sample Number	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn
	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
07Z218A	0.29	8	170	8	0.01	<5	3	34	<20	0.1	<10	<10	15	<10	27
07Z221B	0.4	14	210	27	<0.01	<5	4	32	<20	0.11	<10	<10	28	<10	62
07Z223A	0.05	5	110	2	<0.01	5	1	4	<20	0.05	<10	<10	13	<10	10
07Z226A	0.06	2	70	76	0.06	30	1	33	<20	0.03	<10	<10	6	<10	5
07Z230A	0.03	4	80	2	<0.01	7	1	10	<20	0.07	10	<10	12	<10	8
07Z234A	0.03	2	260	5	0.01	27	1	5	<20	0.02	10	<10	7	<10	8
07Z245A	0.08	21	220	9	0.01	7	3	62	<20	0.11	<10	<10	19	<10	42
07Z253C	0.05	12	540	11	0.02	16	3	20	<20	0.04	10	<10	23	<10	35
07Z270A	0.21	3	160	4	0.01	<5	1	24	<20	0.03	10	<10	4	<10	9
07Z274A	0.28	3	100	4	<0.01	<5	2	19	<20	0.07	<10	<10	11	<10	11
07Z276B	0.71	17	190	6	0.06	<5	4	36	<20	0.14	<10	<10	25	<10	49
07Z287B	0.03	1	160	3	0.02	6	1	19	<20	0.04	<10	<10	9	<10	4
07Z289A	0.03	3	140	4	0.01	<5	2	15	<20	0.08	<10	<10	14	<10	9
07Z303A	0.66	8	130	15	<0.01	<5	3	59	<20	0.18	10	<10	22	<10	26
07Z316A	0.63	11	140	13	<0.01	5	3	31	<20	0.09	<10	<10	19	<10	37
07Z326B	2.1	20	210	12	0.02	8	3	153	<20	0.06	10	<10	20	<10	47
07Z332A	1.12	85	100	28	<0.01	<5	2	49	<20	0.07	<10	<10	11	<10	53
07Z338A	0.05	6	140	6	<0.01	<5	2	13	<20	0.08	<10	<10	23	<10	13
07Z349C	0.03	7	80	4	0.01	<5	2	15	<20	0.08	<10	<10	13	<10	17
07Z370A	0.75	23	160	12	0.04	<5	3	45	<20	0.1	<10	<10	20	<10	42
07Z372A	0.04	12	140	9	0.01	<5	3	21	<20	0.12	10	<10	22	<10	26
07Z411A	0.39	2	60	8	<0.01	<5	1	14	<20	0.03	<10	<10	5	<10	15
07Z426A	0.57	15	170	9	0.02	<5	2	24	<20	0.06	<10	<10	9	<10	23
07Z428B	0.47	7	100	8	<0.01	<5	2	35	<20	0.1	<10	<10	13	<10	18
07Z430B	0.47	10	90	8	<0.01	<5	3	32	<20	0.13	<10	<10	18	<10	27
07Z450A	0.58	6	80	7	<0.01	<5	2	34	<20	0.1	<10	<10	15	<10	11
07Z456A	0.58	9	70	10	<0.01	<5	2	42	<20	0.06	<10	<10	11	<10	15

Table 3. Location and description of rocks collected for major-oxide, minor-oxide, and trace-element analyses in the in the northern Fairbanks . mining district, Circle Quadrangle, Alaska. Rock names in ( ) are derived from geochemical data and rock textures in hand samples.

Sample Number	Latitude	Longitude	UTM E	UTM N	Description
07JEA173A	65.3153	-146.2959	532810	7243588	Schist; (meta-mafic) with magnetite, biotite (altered to chlorite), garnet, white mica, and quartz.
07JEA249A	65.3452	-146.2901	533046	7246917	Schist; (meta-mafic) with chlorite, up to 20 percent garnet, white mica, and quartz.
07JEA250A	65.3422	-146.2928	532925	7246584	Schist; (meta-mafic) green, with chlorite.
07JEA299A	65.3631	-146.4484	525659	7248839	Granite porphyry; (altered monzo-granite) yellow-white to pink, with feldspar and quartz phenocrysts in a sericite-altered matrix.
07LF15B	65.322	-146.1586	539198	7244415	Schist; with 5-10 percent pink garnet (1-2 mm), 15 percent biotite + chlorite lenses, 30 percent white mica, and quartz.
07LF56A	65.2889	-146.3123	532078	7240630	Schist; (meta-mafic) fine grained, with chlorite, calcite, and feldspar.
07LF70A	65.3045	-146.257	534639	7242402	Schist; (meta-mafic) green, fine grained, with quartz, chlorite, and 10 percent feldspar.
07LF146B	65.3436	-146.2655	534190	7246751	Granite porphyry; (monzo-granite) with trace smoky quartz (1-2 mm) and feldspar (5-8 mm) phenocrysts in a light tan-green, waxy matrix.
07LF158A	65.3797	-146.4321	526401	7250695	Granodiorite; (monzo-granite) with trace garnet, 5 percent K-feldspar, 10-15 percent quartz, and 30 percent biotite + hornblende (1-3 mm) phenocrysts.
07LF159A	65.3778	-146.4321	526403	7250493	Granodiorite; (monzo-granite) with 5 percent K-feldspar (3-5 mm), 10 percent quartz, and 30 percent hornblende phenocrysts.
07LF162C	65.3757	-146.4321	526403	7250256	Monzonite porphyry; (quartz monzonite) with trace garnet (5 mm) and 15-30 percent biotite (1-10 mm) phenocrysts in a fine- to very fine-grained matrix. Contains inclusions of quartz and quartzite, and pyrrhotite.
07LF163A	65.3754	-146.4323	526395	7250215	Diorite porphyry; (quartz monzonite) with biotite (5-10 mm long) and 40 percent plagioclase (1 mm) phenocrysts in a fine-grained, gray groundmass. Contains 0.5-2 percent pyrrhotite in clots.
07LF221B	65.3446	-146.2103	536761	7246904	Schist; (meta-mafic) with 10-15 percent garnet, feldspar, 20-30 percent calcite, and < 60 percent white mica + chlorite.
07LF222A	65.3452	-146.2105	536749	7246967	Semischist; (meta-mafic) with 5-10 percent garnet, 10 percent calcite, 20 percent white mica + chlorite, and feldspar.

Table 3. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Description
07LF224B	65.3498	-146.0928	542222	7247555	Amphibolite; light green, poorly foliated, with 1 percent, very fine-grained garnet, 1-3 percent pyrite, 5 percent plagioclase, and dark green to black amphibole.
07MBW25B	65.2881	-146.1034	541824	7240671	Schist; (meta-mafic) with chlorite.
07MBW29A	65.2852	-146.1065	541686	7240344	Schist; gray, fine grained, and foliated, with 5 percent garnet (red porphyroblasts up to 2 mm in diameter), white mica, quartz, plagioclase?, and chlorite.
07MBW273A	65.3811	-146.2008	537149	7250976	Porphyritic granite; (syeno-granite) pale brown, with 1-2 percent biotite (2 mm), 15-20 percent euhedral quartz (< 6 mm), and 20-25 percent euhedral feldspar (< 8 mm) phenocrysts in a fine-grained granular groundmass (≤ 0.2 mm ave.).
07MBW275A	65.3848	-146.1986	537249	7251386	Porphyritic granite; (syeno-granite) pale gray, with 10 percent euhedral to subround, gray quartz (< 2 mm), and 10 percent euhedral feldspar (< 2 mm) phenocrysts in a very fine grained to aphanitic groundmass. Possible chilled margin of intrusion.
07MBW290A	65.3903	-146.1816	538030	7252012	Porphyritic granite; (syeno-granite) pale orangey tan, with 2 percent biotite (< 2 mm), 13 percent euhedral feldspar (< 2.5 mm long), and 8 percent gray, euhedral quartz (< 3 mm) phenocrysts in a very fine grained groundmass (0.1 mm).
07MBW320A	65.3601	-146.1728	538481	7248649	Schist; (meta-mafic) green, poorly foliated, with 5(?) percent garnet, 15(?) percent plagioclase, chlorite, and white mica.
07MBW326A	65.3547	-146.1625	538971	7248054	Schist; gray, fine grained, and foliated, with 5 percent plagioclase, 20 percent garnet, and chlorite.
07MBW335A	65.3984	-146.1403	539937	7252942	Porphyritic granite; (syeno-granite) pinkish gray, with biotite.
07MBW365A	65.3252	-146.4041	527758	7244635	Schist; (meta-mafic) with 5 percent quartz(?), 35-40 percent garnet, and chlorite.
07MBW367A	65.3232	-146.4042	527757	7244414	Schist; (meta-mafic) grayish green, fine grained, foliated, with 25 percent red garnet (< 1.5 mm), 25 percent white plagioclase (< 1.5 mm), and chlorite.
07MBW382A	65.3855	-146.3571	529879	7251378	Porphyry; (monzo-granite) gray, with 5 percent green hornblende (< 0.5 cm long), 12 percent feldspar (< 0.5 cm long), and 20 percent biotite phenocrysts in a groundmass of intergrown feldspar and mafic minerals.
07MBW393A	65.3917	-146.3548	529978	7252071	Porphyry; (monzo-granite) pale tannish gray, with 4 percent hornblende (< 1 cm long) and 20 percent feldspar (< 0.5 cm long) in a groundmass of intergrown hornblende, feldspar, biotite (3 percent) and quartz(?).
07MBW395A	65.3935	-146.3585	529808	7252275	Plutonic rock; (quartz monzonite) pale green-gray, medium grained, roughly equigranular, with < 1 percent deep red, anhedral garnet (< 5 mm), 2-3 percent disseminated, fresh pyrrhotite (or pyrite?), 30-40 percent brown biotite, and 65 percent gray feldspar.

Table 3. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N	Description
07MBW487A	65.3787	-146.131	540399	7250746	Schist; (meta-mafic) color banded, with 5 percent red, euhedral garnet (1 mm), 5 percent plagioclase + quartz, 90 percent chlorite, and locally < 15 percent iron oxide (likely after carbonate).
07MBW627A	65.3488	-146.1141	541233	7247430	Schist; (meta-mafic) isoclinally folded, with garnet and chlorite.
07MBW646A	65.3321	-146.2067	536943	7245511	Schist; (meta-mafic) green, fine grained, foliated, with 5 percent plagioclase, 20 percent red, euhedral garnet (1 mm), and chlorite.
07RL37B	65.3976	-146.4542	525355	7252687	Granodiorite; (monzo-granite) white weathered, with 5 percent hornblende (0.5 cm) and 10 percent biotite (1 cm).
07Z35A	65.3457	-146.0713	543229	7247108	Schist; medium to dark green, with white mica, 40 percent plagioclase, and chlorite. Possible metabasalt.
07Z36A	65.3473	-146.0673	543410	7247285	Amphibolite; green and white, poorly foliated, with 2-3 percent disseminated pyrite, amphibolite, chlorite, and 30-60 percent feldspar.
07Z40A	65.3514	-146.0617	543667	7247746	Amphibolite; dark green, foliated, with trace biotite, 2-3 percent epidote, calcite, 2-3 percent amphibole, 30 percent feldspar, chlorite, and trace disseminated pyrite.
07Z87A	65.3646	-146.004	546328	7249267	Semischist; (meta-mafic) dark gray to dark green, granular, with brown biotite, 20(?) percent calcite, epidote, plagioclase, and abundant chlorite.
07Z156C	65.3853	-146.4175	527074	7251325	Granite; (monzo-granite) tan weathered, very fine to fine grained, altered, with hornblende and feldspar in a gray to gray-green groundmass.
07Z159A	65.3862	-146.4136	527253	7251429	Granite porphyry; (monzo-granite) white to light gray, with 10 percent feldspar (3 mm) and 30 percent hornblende + biotite.
07Z160B	65.3869	-146.411	527372	7251512	Granite; (quartz monzonite) pale green, very fine grained, with hornblende and biotite (altered to chlorite) in an aphanitic to very fine grained groundmass. Probable chilled margin or border phase of hornblende granite.
07Z161A	65.3864	-146.41	527421	7251459	Quartz diorite?; (granodiorite) dark gray, with 40 percent biotite (< 6 mm long) phenocrysts in a very fine grained groundmass. Contains quartz xenoliths up to 3 cm long.
07Z215A	65.333	-146.3848	528650	7245516	Schist; (meta-mafic) gray to green weathered, with chlorite, white mica, calcite, and abundant pink garnet.
07Z235A	65.3489	-146.3883	528472	7247288	Quartzite; green, semi-massive, with magnetite (very fine grained), white mica, chlorite, and feldspar(?).
07Z255A	65.3415	-146.344	530542	7246479	Semischist; (meta-mafic) pale green, with feldspar(?), 25 percent garnet (0.25 mm ave.), and chlorite.
07Z377A	65.297	-146.2857	533309	7241547	Schist; poorly foliated, with 60 percent feldspar in a black and green matrix of calcite, chlorite, and white mica.

Table 4. Major-oxide, minor-oxide analyses for rocks collected in the northern Fairbanks mining district,Circle Quadrangle, Alaska.

Sample	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
07JEA173A	50.6	18	13.96	3.52	5.1	2.46	1.54	0.02	1.61	0.14	0.14	0.01	0.03	2.56	99.7
07JEA249A	49.72	15.96	14.81	6.44	5.85	1.77	0.52	0.03	2.04	0.17	0.107	0.01	0.01	2.36	99.8
07JEA250A	65.61	10.75	10.45	2.92	4.37	1.14	0.46	0.02	1.33	0.13	0.064	0.01	0.01	2.57	99.84
07JEA299A	61.67	19.39	3.89	1.04	0.88	0.17	6.88	<0.01	0.35	0.13	0.136	0.05	0.32	5	99.91
07LF15B	88.21	4.61	2.33	0.29	0.52	1.1	0.65	<0.01	0.27	0.05	0.035	<0.01	0.01	0.44	98.53
07LF56A	42.73	17	15.16	3.67	6.45	2.03	1.15	0.02	4.3	0.22	0.808	0.02	0.04	6.23	99.82
07LF70A	53.01	16	12.03	6.89	5.09	2.68	0.32	0.02	1.29	0.16	0.09	0.02	0.01	2.2	99.81
07LF146B	67.34	15.27	2.51	2.33	0.69	3.25	4.04	<0.01	0.47	0.03	0.176	0.03	0.1	3.53	99.76
07LF158A	65.87	15.97	3.76	2.56	1.31	3	4.94	<0.01	0.43	0.07	0.169	0.13	0.26	1.42	99.89
07LF159A	66.03	15.96	3.73	3.09	1.28	2.75	4.93	<0.01	0.42	0.07	0.164	0.13	0.23	1.12	99.91
07LF162C	57.62	14.88	7.48	4.12	4.14	1.5	4.79	0.01	0.85	0.14	0.458	0.08	0.33	3.32	99.72
07LF163A	59.79	15.57	5.83	3.11	2.7	2.23	5.35	0.01	0.64	0.1	0.321	0.09	0.33	3.82	99.9
07LF221B	50	13.98	11.58	8.48	5.84	0.92	0.42	0.03	1.43	0.14	0.075	0.02	0.01	7.07	99.99
07LF222A	53.66	15.46	11.18	8.56	4.75	1.79	0.31	0.02	1.14	0.14	0.077	0.02	<0.01	2.73	99.84
07LF224B	42.44	9.04	15.31	12.21	12.61	1.13	0.35	0.11	2.56	0.24	0.763	0.03	0.02	2.9	99.7
07MBW25B	42.73	15.5	17.92	1	12.71	0.06	0.01	0.1	1.15	0.23	0.221	<0.01	<0.01	8.2	99.84
07MBW29A	51.07	23.56	10.33	0.42	2.89	0.56	5.13	0.01	1.1	0.18	0.13	0.02	0.11	4.18	99.69
07MBW273A	76.14	12.73	2.12	0.22	0.1	2.72	4.93	<0.01	0.05	0.03	0.014	<0.01	<0.01	0.85	99.9
07MBW275A	74.45	14.09	1.42	0.65	0.04	3.71	4.56	<0.01	<0.01	0.04	0.012	0.01	<0.01	0.85	99.83
07MBW290A	74.72	13.88	1.58	0.6	0.04	3.61	4.47	<0.01	<0.01	0.03	0.011	<0.01	<0.01	0.9	99.84
07MBW320A	48.68	14.15	14.54	8.75	6.96	1.47	0.2	0.03	1.89	0.2	0.075	0.01	<0.01	2.89	99.85
07MBW326A	55.98	17.5	11.34	1.85	3.5	1.53	2.97	0.02	1.23	0.11	0.101	0.01	0.03	3.54	99.71
07MBW335A	74.76	12.95	2.15	0.7	0.15	2.23	5.27	<0.01	0.05	0.03	0.011	<0.01	0.01	1.56	99.86
07MBW365A	53.55	16.96	13.16	3.04	4.61	2.87	0.96	0.02	1.39	0.14	0.165	0.02	0.02	2.94	99.83
07MBW367A	52.27	15.38	14.04	5	6.22	1.05	0.23	0.03	1.56	0.18	0.094	0.01	0.01	3.81	99.87
07MBW382A	66.12	15.74	3.68	2.75	1.3	2.55	5.04	<0.01	0.4	0.07	0.159	0.12	0.25	1.65	99.83
07MBW393A	65.7	15.9	3.72	2.99	1.31	2.52	5.27	<0.01	0.43	0.08	0.166	0.12	0.24	1.31	99.75
07MBW395A	55.72	14.95	8.27	5.25	4.19	1.79	4.47	0.01	0.99	0.16	0.574	0.07	0.28	3.17	99.89
07MBW487A	45.01	14.04	16.31	6.82	6.93	0.11	0.94	0.03	2.11	0.22	0.111	0.01	0.02	7.09	99.76
07MBW627A	48.97	16.8	11.67	10.05	4.87	0.51	0.37	0.02	1.22	0.16	0.078	0.02	0.01	5.11	99.86
07MBW646A	50.92	11.7	15.69	8.23	7.4	1.31	0.2	0.04	2.32	0.22	0.069	0.01	0.01	1.83	99.94
07RL37B	66	15.74	3.73	2.59	1.25	2.62	5.27	<0.01	0.41	0.07	0.163	0.12	0.24	1.79	99.99
07Z35A	57.04	16.46	11.22	0.85	4.11	2.52	2.37	0.02	1.21	0.12	0.111	0.02	0.05	3.77	99.88
07Z36A	45	18.25	11.6	10.34	4.55	3.27	0.38	0.02	3.13	0.14	0.319	0.11	0.07	2.76	99.93

Table 4. (continued)

Sample	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	Cr2O3	TiO2	MnO	P2O5	SrO	BaO	LOI	Total
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
07Z40A	48.65	19.96	11.46	2.91	5.15	2.55	2.57	0.02	1.31	0.16	0.271	0.01	0.08	4.81	99.92
07Z87A	41.14	13.68	11.92	8.3	9.79	3.02	0.42	0.05	3.24	0.19	0.663	0.05	0.01	7.38	99.85
07Z156C	62.44	17.76	4.57	3.22	0.82	2.4	5.39	<0.01	0.34	0.12	0.132	0.16	0.29	2.21	99.85
07Z159A	64.46	16.3	4.02	3.54	1.45	2.7	4.87	<0.01	0.49	0.07	0.183	0.14	0.26	1.26	99.75
07Z160B	62.01	17.06	4.13	3.2	0.76	2.63	5.78	<0.01	0.32	0.12	0.123	0.14	0.28	3.37	99.92
07Z161A	58.37	14.66	7.9	4.49	4.4	1.45	4.17	0.01	0.96	0.13	0.497	0.07	0.3	2.53	99.94
07Z215A	48.49	16.14	13.43	6.55	5.49	1.47	0.8	0.02	1.65	0.2	0.138	0.01	0.01	5.37	99.77
07Z235A	82.03	7.28	4.53	0.12	1.34	1.88	0.52	<0.01	0.26	0.03	0.06	0.02	0.04	1.25	99.36
07Z255A	50.69	16.7	13.09	7.57	5.48	2.28	0.24	0.02	1.36	0.17	0.117	0.02	0.01	2.13	99.87
07Z377A	60.45	15.54	9.85	0.43	3.65	3.38	1.18	0.02	1.12	0.1	0.058	0.01	0.03	3.7	99.52

Table 5. Location of stream-sediment samples collected for trace - element geochemical analyses in the northern Fairbanks mining district, Circle Quadrangle, Alaska.

Sample Number	Latitude	Longitude	UTM E	UTM N
07SEH01	65.3353	-146.1294	540539	7245913
07SEH02	65.3374	-146.1289	540560	7246151
07SEH03	65.3430	-146.1433	539883	7246760
07SEH04	65.3472	-146.1483	539641	7247225
07SEH05	65.2511	-146.1171	541243	7236538
07SEH06	65.2487	-146.1139	541399	7236276
07SEH07	65.2426	-146.1142	541394	7235589
07SEH07rerun1	65.2426	-146.1142	541394	7235589
07SEH07rerun2	65.2426	-146.1142	541394	7235589
07SEH08	65.3024	-146.2252	536123	7242188
07SEH09	65.3051	-146.2489	535014	7242471
07SEH10	65.3145	-146.2683	534101	7243510
07SEH10rerun	65.3145	-146.2683	534101	7243510
07SEH11	65.3049	-146.2849	533337	7242437
07SEH12	65.3269	-146.2594	534496	7244893
07SEH13	65.3370	-146.2335	535691	7246035
07SEH14	65.3443	-146.1797	538184	7246878
07SEH15	65.3104	-146.1135	541320	7243145
07SEH16	65.3147	-146.1116	541399	7243633
07SEH17	65.3169	-146.0962	542116	7243888
07SEH18	65.2817	-146.2033	537173	7239898
07SEH19	65.2769	-146.1740	538549	7239379
07SEH19rerun	65.2769	-146.1740	538549	7239379
07SEH20	65.2769	-146.1794	538296	7239372
07SEH21	65.2136	-146.1640	539110	7232328
07SEH22	65.2275	-146.0818	542929	7233928
07SEH23	65.2819	-146.0807	542895	7239994
07SEH24	65.2801	-146.0823	542824	7239796
07SEH25	65.2597	-146.0280	545392	7237554
07SEH26	65.2598	-146.0193	545799	7237572
07SEH27	65.2702	-145.9998	546688	7238746
07SEH28	65.3045	-146.0461	544469	7242537
07SEH28rerun	65.3045	-146.0461	544469	7242537
07SEH29	65.3017	-146.0015	546555	7242257
07SEH30	65.3016	-146.0038	546449	7242239
07SEH31	65.2249	-146.0336	545188	7233669
07SEH32	65.2253	-146.0355	545098	7233718
07LF209A	65.2614	-146.1307	540592	7237676
07LF210A	65.2606	-146.1321	540531	7237582
07LF211A	65.3025	-146.2248	536142	7242199
07LF220A	65.3447	-146.2090	536821	7246910
07LF223A	65.3509	-146.0904	542331	7247673
07LF224A	65.3498	-146.0928	542222	7247555
07LF226A	65.2885	-146.1245	540842	7240694
07LF228A	65.2881	-146.1274	540704	7240657
07LF229A	65.2948	-146.1420	540013	7241389
07LF233A	65.2966	-146.1540	539451	7241587
07LF234A	65.2967	-146.1634	539013	7241591
07LF235A	65.2986	-146.1711	538651	7241799

Table 5. (continued)

Sample Number	Latitude	Longitude	UTM E	UTM N
07LF235Arerun	65.2986	-146.1711	538651	7241799
07LF236A	65.2469	-146.1799	538315	7236029
07LF237A	65.2470	-146.1772	538442	7236044
07LF238A	65.2464	-146.1772	538442	7235976
07LF239A	65.2277	-146.1762	538517	7233889
07LF240A	65.2267	-146.1722	538705	7233777
07LF241A	65.2351	-146.0963	542240	7234765
07LF242A	65.2792	-146.0675	543517	7239697
07LF243A	65.2755	-146.0628	543739	7239289
07LF246A	65.2699	-146.0457	544548	7238682
07LF247A	65.2491	-146.0538	544203	7236359
07LF248A	65.2499	-146.0573	544040	7236447
07LF248Arerun	65.2499	-146.0573	544040	7236447
07LF249A	65.2830	-146.0016	546585	7240168
07LF250A	65.2837	-145.9990	546705	7240255
07LF251A	65.2594	-145.9868	547316	7237548
07LF254A	65.3025	-146.0607	543795	7242307
07LF255A	65.3041	-146.0617	543742	7242481
07LF257A	65.2384	-146.0000	546737	7235197
07LF259A	65.2453	-145.9928	547062	7235979
07LF260A	65.2411	-145.9952	546957	7235503
07LF261A	65.2267	-146.0897	542563	7233836
07LF231A	65.2950	-146.1499	539646	7241404
07RL202A	65.2141	-146.1691	538870	7232374
07Z440.1B	65.2216	-146.1755	538559	7233213

Table 6. Concentrations of trace elements in stream-sediment samples collected in the northern Fairbanks mining district, Circle Quadrangle, Alaska. Note: --- = not analyzed

Sample Number	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Fe	Hf	K	La
	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	%	ppm
07SEH01	1.8	0.1	5.85	4	491	2	0.2	0.6	0.2	70	16.1	106.6	17.4	3.51	0.8	1.57	36.7
07SEH02	2.9	0.1	6.18	9	542	1	0.3	1.03	0.5	105	60.1	262.4	43.8	6.15	0.8	1.43	39.9
07SEH03	1.2	<.1	6.57	3	221	1	0.1	1.95	0.3	44	23.6	127.8	46.6	7.15	0.3	0.86	21.1
07SEH04	2.0	0.1	6.54	5	469	1	0.2	1.03	0.3	68	26.8	409.4	49.4	4.81	0.6	1.52	34.2
07SEH05	<.5	<.1	5.07	4	519	1	0.1	0.69	0.3	64	11	51.1	11.9	2.63	1.2	1.4	35
07SEH06	1.5	0.1	5.23	5	580	1	0.1	0.61	0.2	68	13.3	209.5	14.1	2.59	1.2	1.49	35
07SEH07	34.5	<.1	4.62	6	471	1	0.1	0.4	0.1	62	9.3	341.4	11.5	2.35	1.1	1.34	34
07SEH07rerun1	2.3	0.1	4.95	8	510	1	0.1	0.47	0.1	73	9.9	342.8	13.5	2.56	1.3	1.49	34.9
07SEH07rerun2	5.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07SEH08	0.6	<.1	5.95	5	256	1	0.1	0.81	0.1	42	21.4	90.2	26.7	4.25	0.4	0.82	20
07SEH09	1.1	<.1	6.09	11	242	1	0.1	0.79	0.2	37	27.7	101	73.4	5.56	0.2	0.94	17.7
07SEH10	12.6	0.1	6.63	7	550	2	0.2	0.97	0.4	75	21.4	304.1	35.1	4.4	1	1.42	36.9
07SEH10rerun1	4.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07SEH11	0.6	<.1	6.09	7	296	1	0.1	0.74	0.2	42	25.5	165.3	53.5	5.39	0.3	1.14	21
07SEH12	2.9	<.1	5.92	4	348	1	0.2	1.29	0.2	62	24.1	190.4	46.1	5.66	0.4	1.11	30.4
07SEH13	0.5	<.1	5.93	3	279	1	0.1	1.29	0.2	40	20.2	83.6	33.4	5.02	0.2	0.91	20.5
07SEH14	1.8	0.1	6.3	5	405	1	0.1	1.1	0.2	60	21.8	369.4	42.2	4.69	0.9	1.27	32
07SEH15	1.4	<.1	5.77	7	661	1	0.2	0.56	0.3	63	7.9	370.7	13.8	2.4	1	1.6	34.2
07SEH16	2.4	0.1	6.09	10	649	1	0.2	0.68	0.2	69	12.2	151.3	13	3.15	0.9	1.58	36.9
07SEH17	4.8	<.1	5.33	6	591	1	0.1	0.91	0.2	49	9	283.6	14.7	2.48	1	1.47	25.6
07SEH18	<.5	<.1	5.58	8	552	2	0.2	0.36	0.3	53	14.7	61.6	15.9	3.11	0.6	1.76	26.3
07SEH19	14.1	0.1	5.49	7	614	1	0.2	0.75	0.2	73	16.7	374.4	19.4	3.17	1.1	1.39	39.2
07SEH19rerun1	2.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07SEH20	1.6	0.1	6.69	6	749	1	0.2	1.09	0.3	89	16.7	146.7	21.7	3.51	1.2	1.77	47.6
07SEH21	1.6	0.1	6.76	6	765	1	0.2	1.13	0.4	88	17.1	141.6	23.3	3.49	1.2	1.75	49.3
07SEH22	2.8	<.1	3.82	5	435	1	0.1	0.24	<.1	44	7.2	27.9	8.4	1.78	0.7	1.21	22.9
07SEH23	1.0	<.1	4.86	3	534	1	0.1	0.33	0.1	49	11.3	44.7	9.8	2.66	0.3	1.36	26.5
07SEH24	1.8	0.1	6.44	7	626	2	0.1	0.8	0.1	73	14.3	279.5	16.5	3.37	0.8	1.58	40.7
07SEH25	2.4	<.1	5.48	3	640	1	0.1	0.76	0.2	65	8.9	268.3	9.7	2.4	1.2	1.54	33.9
07SEH26	2.3	0.1	6.35	6	677	1	0.2	0.95	0.2	75	26.1	168.3	13.8	3.43	1.3	1.68	37.5
07SEH27	2.5	0.1	6.69	15	805	1	0.2	0.93	0.2	100	27.6	198	17.6	6.65	1.4	1.86	51
07SEH28	4.1	0.1	6.21	13	734	1	0.2	0.88	0.2	95	18.1	282.2	18.4	4.93	1.2	1.58	52
07SEH28rerun1	2.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 6. (continued)

Sample Number	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Sn	Sr	Ta	Th
	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
07SEH01	36.6	0.81	819	3.2	0.853	10.8	30.8	0.056	15	70.2	0.1	0.7	11	1.7	111	1	11.4
07SEH02	35.5	1.2	2857	9.3	0.676	8.9	65.5	0.059	15.7	67.3	0.1	1.2	18	1.8	97	0.6	10.3
07SEH03	32.5	1.59	1544	2.1	1.027	8	45.1	0.041	8.9	37.1	0.1	0.8	30	1.1	80	0.6	5.6
07SEH04	42	1.5	894	18	1.039	9.3	86.5	0.054	14.3	67.3	0.1	1.4	15	1.6	118	0.8	9.1
07SEH05	26.5	0.68	616	0.5	1.137	10.5	20	0.039	12.6	60.4	0.1	0.5	8	1.2	134	1	10.9
07SEH06	31.1	0.63	747	10.5	0.97	8.7	41.2	0.038	14.4	68.5	<.1	1.2	8	1.4	119	0.8	11.5
07SEH07	25	0.56	283	19.8	0.917	8.1	58	0.034	15.3	61.6	<.1	1.1	6	1.2	101	0.7	11
07SEH07rerun1	30.2	0.62	332	20.9	1.09	10	69.9	0.042	18	69.6	0.1	1.5	7	1.4	113	0.9	11.6
07SEH07rerun2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07SEH08	28	1.07	1502	0.9	1.718	12.6	38	0.054	6.5	34.3	0.1	0.9	15	1.1	120	0.9	5.1
07SEH09	33.8	1.36	947	1.1	1.45	11	49	0.058	8.2	40	0.1	2.3	19	1.1	98	0.8	4.9
07SEH10	37.9	1.16	1032	12.8	1.066	10.9	64.1	0.063	15.1	64.7	0.1	1.7	15	1.6	136	0.9	10.3
07SEH10rerun1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07SEH11	31	1.21	1014	4.9	1.092	10.1	56.3	0.056	9	49.1	<.1	1.5	18	1.3	87	0.8	6.1
07SEH12	30.6	1.2	1515	6.9	0.894	7.7	53.7	0.045	10.3	51.9	0.1	0.8	22	1.3	87	0.5	7.2
07SEH13	28.1	1.27	1579	0.6	1.249	7	31.8	0.043	8.9	38.9	0.1	0.4	21	1.2	85	0.6	5.5
07SEH14	30.1	1.37	714	15.6	1.061	9.9	69.8	0.054	13	53.6	0.1	1.7	15	1.5	115	0.8	7.7
07SEH15	41	0.66	271	19.2	0.809	8.9	62.3	0.041	15.3	72.4	0.1	1.4	9	1.6	120	0.8	10.8
07SEH16	44.9	0.68	551	5.4	0.768	8.5	39.3	0.051	16.6	73	0.1	1.1	10	1.6	127	0.7	11.9
07SEH17	26.1	0.76	366	14.1	1.16	8.5	50.5	0.041	12.3	57.8	<.1	1.1	9	1.2	144	0.7	8.9
07SEH18	36.9	0.61	996	0.7	0.883	8.3	26	0.032	15.2	68.4	<.1	0.8	8	1.5	105	0.7	8.5
07SEH19	35.5	0.78	663	17.3	0.982	10	71.8	0.052	15.6	57.9	0.1	1.1	9	1.6	130	0.8	10.4
07SEH19rerun1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07SEH20	42.5	0.92	931	3.7	1.131	11.2	42.9	0.063	19.4	76.9	0.1	0.9	12	1.8	173	1	13.3
07SEH21	42.1	0.91	927	4.2	1.129	11.2	42.8	0.062	19.1	77.4	0.1	1	12	1.7	176	0.9	13.8
07SEH22	21.4	0.44	200	0.4	0.665	5.5	12.8	0.027	9.8	58	<.1	0.4	5	0.8	71	0.5	8
07SEH23	35.8	0.7	432	0.6	0.868	8.4	24.3	0.045	10.9	59	<.1	0.4	7	1.2	103	0.6	6.6
07SEH24	36.7	0.98	585	13.8	1.422	18.4	59.9	0.082	18.1	71	0.1	1.1	10	1.5	180	1.4	11
07SEH25	22.8	0.69	339	13.6	1.23	8.6	42.8	0.037	12.8	65	<.1	0.7	8	1.5	134	0.7	11.5
07SEH26	25.5	0.84	2919	6.3	1.374	10.4	50.7	0.047	14.9	76.1	0.1	0.8	10	1.5	164	0.9	10.9
07SEH27	39.1	0.85	1271	8.1	0.961	10.9	43.8	0.066	18.3	89.7	0.1	0.9	11	1.6	174	0.9	13.2
07SEH28	37.7	0.82	1817	12	1.152	13.2	63.1	0.074	15.1	70.2	0.1	0.7	10	1.4	171	1.1	13
07SEH28rerun1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Table 6. (continued)							
Sample Number	Ti	U	V	W	Y	Zn	Zr
	%	ppm	ppm	ppm	ppm	ppm	ppm
07SEH01	0.471	2.8	88	1.2	15.8	67	27.6
07SEH02	0.48	2.2	147	0.9	22.2	111	18.6
07SEH03	0.56	1.4	166	0.5	38.3	78	6.8
07SEH04	0.567	2.1	164	1.1	17.7	92	17.1
07SEH05	0.412	2.9	60	1.5	10.4	59	34.4
07SEH06	0.369	3.1	69	1.1	10.7	60	40.1
07SEH07	0.328	2.2	54	1	8	50	31.2
07SEH07rerun1	0.384	2.6	62	1.1	8.6	54	40
07SEH07rerun2	---	---	---	---	---	---	---
07SEH08	0.561	1.1	126	0.8	15	56	9.9
07SEH09	0.618	1.1	172	0.7	14.6	75	8.1
07SEH10	0.504	2.5	132	1.4	19	85	26
07SEH10rerun1	---	---	---	---	---	---	---
07SEH11	0.524	1.1	149	1	14.4	77	9.5
07SEH12	0.451	2.1	124	0.7	26.1	78	10.8
07SEH13	0.487	1.3	141	0.6	20.4	64	7.9
07SEH14	0.627	2.1	151	1.2	16.6	76	17.7
07SEH15	0.351	2.1	76	1.6	10	59	30.8
07SEH16	0.345	2.4	77	1.4	13.4	73	29.5
07SEH17	0.352	1.8	79	1.2	10.5	50	33.1
07SEH18	0.299	2.2	71	20.6	7.9	67	19
07SEH19	0.4	4.3	84	1.2	12.9	73	32.9
07SEH19rerun1	---	---	---	---	---	---	---
07SEH20	0.449	6.2	101	1.5	16.4	94	37
07SEH21	0.442	6.5	103	1.3	16.6	93	38
07SEH22	0.195	3.3	41	0.4	6.6	39	27.3
07SEH23	0.239	2.5	57	0.8	9.6	63	10.9
07SEH24	0.481	4.2	83	1.3	14.6	74	28
07SEH25	0.378	1.7	71	5.5	10.5	56	38.5
07SEH26	0.431	3.1	85	1.4	16	79	40.8
07SEH27	0.352	2.8	105	4.4	19.3	82	39.8
07SEH28	0.472	4	87	1.2	16.2	79	39.6
07SEH28rerun1	---	---	---	---	---	---	---

Table 6. (continued)																	
Sample Number	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Fe	Hf	K	La
	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	%	ppm
07SEH29	1.1	<.1	6.11	8	633	1	0.2	0.38	0.2	66	12.4	64.8	19	3.18	1	1.88	34.8
07SEH30	<.5	<.1	5.32	5	534	1	0.1	0.34	0.2	74	11.2	67	11.8	2.65	0.8	1.52	38.1
07SEH31	<.5	<.1	5.62	4	540	1	0.1	0.2	0.1	58	9.4	41	12.3	2.58	0.5	1.81	30.1
07SEH32	1.6	0.1	6.22	11	686	1	0.2	0.48	0.1	83	17.8	88.1	28	4.59	0.8	2.09	47.1
07LF209A	2.7	<.1	4.18	4	475	1	0.1	0.31	0.1	43	10.5	58.9	14.6	2.29	0.4	1.43	23.1
07LF210A	1.7	0.1	6.43	6	670	1	0.2	1.33	0.1	107	16	197.7	22.5	3.85	0.7	1.93	61.8
07LF211A	3.4	0.1	6.12	9	524	1	0.2	0.79	0.2	60	14.7	226.7	20.6	4.11	0.8	1.36	29.2
07LF220A	2.3	<.1	6.16	4	273	1	0.1	1.4	0.2	44	20.6	119.3	44.3	6.04	0.3	0.98	23.2
07LF223A	1.8	0.1	6.01	13	372	1	0.2	1.3	0.1	65	18	137	30.3	5.41	0.4	1.25	33.4
07LF224A	2.0	0.1	6.96	13	454	2	0.3	1.07	0.1	69	29	374.1	61.5	6.49	0.5	1.75	35.9
07LF226A	3.6	0.1	6.26	9	702	2	0.3	0.53	0.2	104	14.5	104.9	23.6	3.31	1.1	1.9	50
07LF228A	4.9	0.1	6.37	7	758	2	0.2	0.84	0.3	81	13.2	318.7	27.8	3.4	1	1.84	45.9
07LF229A	6.0	0.1	5.92	10	661	2	0.3	0.76	0.2	70	14	235.5	19.4	3.2	1.1	1.77	38.3
07LF233A	4.5	0.1	4.99	7	622	1	0.2	0.74	0.1	50	10.5	193.5	12.7	2.47	1.4	1.56	27.3
07LF234A	1.5	0.1	5.39	7	595	2	0.2	0.52	0.2	93	70.6	279.6	19.6	2.98	1.1	1.66	48.5
07LF235A	6.6	0.1	6.2	7	627	2	0.2	0.77	0.2	72	19.4	342.8	24.8	3.76	1.1	1.77	39.1
07LF235Arerun1	4.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07LF236A	3.3	<.1	6.05	10	636	1	0.2	0.85	0.2	71	16.2	400	21.5	3.41	0.8	1.65	39
07LF237A	2.1	0.1	5.07	9	575	1	0.2	0.68	0.1	80	22.8	62	18.7	3.26	0.7	1.53	39.8
07LF238A	1.5	0.1	5.47	7	630	1	0.1	0.72	0.1	61	11.7	381.1	13.1	3.22	1.1	1.64	33
07LF239A	2.8	0.1	4.98	8	557	1	0.1	0.69	0.2	58	14.7	308.5	16.1	2.99	0.9	1.52	31.1
07LF240A	3.9	0.1	5.05	7	611	1	0.1	0.59	0.2	62	12.3	402.6	15.9	2.98	1.1	1.75	33.2
07LF241A	1.9	0.1	4.15	9	510	1	0.2	0.74	0.2	54	10.1	49.9	15.2	2.35	0.9	1.54	29.4
07LF242A	<.5	<.1	4.34	6	468	1	0.1	0.44	<.1	41	9.1	53.7	10.3	2.71	0.7	1.28	22.1
07LF243A	1.2	0.1	5.43	8	618	1	0.2	0.89	0.3	67	18.6	235.1	17.7	3.53	1.1	1.51	36.6
07LF246A	5.4	0.1	6.28	8	750	2	0.2	0.8	0.2	75	20.5	87.7	29.9	3.97	1.1	1.81	41.7
07LF247A	1.7	<.1	4.29	9	540	1	0.1	0.68	0.1	54	11.3	46.2	12.1	5.77	0.9	1.22	29.9
07LF248A	3.1	<.1	4	3	450	1	0.1	0.54	0.1	48	6.6	357.7	9.4	1.78	1.1	1.07	26.4
07LF248Arerun1	3.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07LF249A	8.1	0.1	6.33	11	700	1	0.2	1.21	0.3	81	17.8	256.8	22.8	3.61	1.3	1.63	44.7
07LF250A	3.0	0.1	5.21	25	520	1	0.2	0.82	0.3	99	23	58.3	15.9	3.94	0.6	1.27	48.3
07LF251A	1.0	<.1	5.45	4	587	1	0.1	0.89	0.1	68	10.8	541.4	20.7	2.76	1.4	1.5	37
07LF254A	1.9	0.1	6.44	9	823	1	0.2	0.81	0.4	91	30.4	215.8	24.5	4.48	1.4	1.8	48.9
Table 6. (continued)																	

Table 6. (continued)																	
Sample Number	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Sn	Sr	Ta	Th
	ppm	%	ppm	ppm	%	ppm	ppm	%		ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
07SEH29	42.5	0.63	699	0.8	0.76	9.4	25	0.038	22.2	89.2	<.1	1.2	9	1.6	115	0.7	11.4
07SEH30	36.3	0.6	849	1.5	0.761	7.5	23.4	0.039	13.8	69.7	<.1	0.5	7	1.1	102	0.7	9.5
07SEH31	38.6	0.71	344	0.7	1.01	9.2	18.2	0.055	13.7	83.5	<.1	0.4	7	1.6	91	0.7	10.9
07SEH32	44.2	0.71	3017	2.9	0.708	8.8	34.7	0.048	19.1	99.8	0.1	0.6	9	1.6	129	0.7	15
07LF209A	23.8	0.55	621	1.7	0.787	8.3	22.3	0.028	11.2	62.3	<.1	0.4	7	0.8	94	0.7	8.3
07LF210A	40	1.86	688	7.2	1.14	26.9	54.2	0.131	28.4	90.2	0.1	0.5	12	1.6	349	1.7	14.4
07LF211A	29.6	0.92	659	9.8	0.908	11.2	49.7	0.064	15.4	65.2	<.1	0.9	12	1.7	122	0.8	8.5
07LF220A	28.9	1.23	1534	3	0.984	6.8	42.9	0.042	9.8	43.7	0.1	0.6	28	1.3	78	0.5	5.9
07LF223A	33.7	1.19	1254	4	1.192	13.7	39.2	0.094	12.3	52.6	0.1	1.5	20	1.4	147	1.1	9
07LF224A	45.1	1.67	1109	14.1	0.935	12.8	88.5	0.081	17.7	78.9	0.4	1.7		1.9	131	1.1	
07LF226A	47.7	0.78	637	2.1	0.925	11.4	36.3	0.054	22.5	89.5	<.1	0.9	10	1.7	134	0.9	12.7
07LF228A	51.6	0.91	442	13.6	0.954	13.5	69.8	0.063	22.3	88.2	0.1	1.2	10	1.9	148	1.1	13
07LF229A	47.5	0.8	599	10	0.902	9.9	55.1	0.051	16.8	82.8	0.1	1.1	10	1.8	134	0.8	11.7
07LF233A	36.7	0.64	436	7.4	0.923	9.3	39	0.041	15.4	66.1	<.1	1.5	8	1.3	127	0.8	9.8
07LF234A	46.4	0.63	1565	12.8	0.857	10	116.3	0.037	15.4	74.5	<.1	0.8	8	1.6	111	0.8	10.4
07LF235A	42.5	0.9	823	14.2	0.964	11.8	68.7	0.05	16.2	81.7	<.1	0.9	12	1.9	134	1	11.2
07LF235Arerun1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07LF236A	39.7	0.91	655	19.3	1.243	15	68.3	0.055	18.7	76.1	<.1	0.7	9	1.7	160	1.3	10.7
07LF237A	37.5	0.83	1282	1.1	0.845	10.4	32.3	0.054	17.3	70.1	0.1	0.5	8	1.3	134	0.9	10.5
07LF238A	27.5	0.86	575	17.5	1.269	13.6	59.9	0.05	16.4	72	<.1	0.5	9	1.5	150	1.1	9.1
07LF239A	32.1	0.78	653	13.3	1.1	12.1	59.8	0.049	15	66.1	0.1	0.5	9	1.3	141	1	9.4
07LF240A	33.8	0.7	489	21.2	0.928	9.1	63.6	0.042	16.9	80.3	<.1	0.6	8	1.5	120	0.8	11.2
07LF241A	32.6	0.63	284	0.4	0.665	7.6	19.6	0.039	15.3	66.3	<.1	0.5	7	1.3	122	0.6	10.1
07LF242A	26	0.77	424	0.6	0.966	15	22	0.048	11.3	46.3	<.1	0.5	7	1.2	113		6.1
07LF243A	29.4	0.94	1045	9.4	1.252	16.2	52.1	0.072	16.9	71	<.1	0.5	9	1.4	184	1.2	10.3
07LF246A	32.3	1.13	1067	1.2	1.041	20.5	33.2	0.082	20	91.7	0.1	0.7	11	1.8	178	1.4	11.9
07LF247A	21.7	0.53	528	0.4	0.873	7	17.1	0.041	11.9	56.3	0.1	0.7	7	0.9	111	0.5	8.3
07LF248A	16.5	0.51	279	17.7	1.031	8.5	47.2	0.027	10.4	48.1	<.1	0.6	6	1	101	0.8	8.3
07LF248Arerun1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
07LF249A	35.4	1.14	1345	10.3	1.283	21.1	60.8	0.089	20.3	78.5	0.1	0.7	12	1.8	234	1.5	11.6
07LF250A	35.8	0.81	1866	0.9	0.927	13.3	35.4	0.052	13	60	0.1	0.6	10	1.3	164	1	9.1
07LF251A	27.9	0.82	549	25.9	1.192	14.3	84.4	0.062	11.9	72	<.1	0.7	10	1.5	161	1.1	
07LF254A	46.5	0.88	3116	7.3	0.923	14.8	75.5	0.072	19.6	94.7	0.1	0.7	12	1.9	159	1.2	13.3
Table 6. (continued)																	

Table 6. (continued)							
Sample Number	Ti	U	V	W	Y	Zn	Zr
	%	ppm	ppm	ppm	ppm	ppm	ppm
07SEH29	0.308	3	75	1.1	10.3	76	31.6
07SEH30	0.267	2.5	62	1	8.4	58	24.8
07SEH31	0.247	1.7	54	1.1	8.2	58	14.5
07SEH32	0.251	4.1	55	1	15.3	81	25
07LF209A	0.249	1.7	46	1.3	9	48	13.8
07LF210A	0.468	3.3	116	1.2	17.1	92	24.5
07LF211A	0.42	2.1	106	4.1	18.5	74	26.9
07LF220A	0.466	1.4	139	0.7	28.2	73	10.1
07LF223A	0.528	2	120	2.8	26.2	71	12.7
07LF224A	0.591	2	162	1.6	22.7	96	15
07LF226A	0.373		84	2.1	10.3	97	38.1
07LF228A	0.425	5.6	82	1.5	13.6	86	33
07LF229A	0.363	2.9	85	4.9	12.3	81	34.5
07LF233A	0.354	2.1	74	1.5	9.8	55	43.1
07LF234A	0.342	2.9	71	5	21.3	115	32.8
07LF235A	0.469	3.3	108	1.6	14.7	79	34.7
07LF235Arerun1	---	---	---	---	---	---	---
07LF236A	0.484	2.6	83	8.5	12.8	76	28.5
07LF237A	0.334	3.4	74	1	12.1	85	24.4
07LF238A	0.444	1.8	85	7.4	10.6	62	35
07LF239A	0.392	3.5	69	1.1	11.3	67	27.3
07LF240A		2.9	70	7.8	9.5	66	40.9
07LF241A	0.262	2.6	58	0.9	8.6	56	27.1
07LF242A	0.316	1.2	62	0.6	8.4	52	20.2
07LF243A	0.437	3	86	0.9	13.4	81	36.3
07LF246A	0.451	2.5	101	1.2	13.5	71	36.4
07LF247A	0.254	1.5	63	0.5	10.7	60	27
07LF248A	0.355	1.4	52	6.3	7.4	37	40
07LF248Arerun1	---	---	---	---	---	---	---
07LF249A	0.481	5.4	97	1.4	14.7	77	36.9
07LF250A	0.316	5.4	67	0.7	22.7	75	21.5
07LF251A	0.437	2.1	77	5.6	13.5	56	46.8
07LF254A	0.46	4.7	97	4.6	14.5	98	46.4
Table 6. (continued)							

Sample Number	Au	Ag	Al	As	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cu	Fe	Hf	K	La
	ppb	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	%	ppm
07LF255A	2.3	0.1	6.05	19	667	2	0.2	0.74	0.4	85	32.3	239.7	22.4	4.54	1.3	1.58	43.7
07LF257A	2.2	<.1	7.54	5	846	2	0.2	0.63	0.2	80	13.3	285.5	17.4	5.12	1	2.26	44.2
07LF259A	2.9	<.1	6.49	4	758	1	0.1	0.95	0.2	81	10.2	329.5	15.7	3.13	1.7	1.81	44.3
07LF260A	4.1	0.1	6.77	11	846	2	0.2	0.87	0.2	102	21.3	178.7	20.4	7.76	1	2.15	55
07LF261A	1.4	<.1	6.06	5	657	2	0.1	0.82	0.1	70	11.4	422.5	13.5	3.05	1.6	1.73	37.9
07LF231A	2.9	0.1	6.91	10	613	3	0.2	0.4	0.6	90	34	70.4	32.2	3.76	1	2.04	47.2
07RL202A	2.8	<.1	4.21	9	425	1	0.1	0.49	0.1	47	11.2	292.3	12.9	2.58	0.6	1.33	25.4
07Z440.1B	5.9	<.1	5.44	8	569	1	0.2	0.48	0.1	65	11.2	273.4	14.8	2.99	1.1	1.84	36.9

Sample Number	Li	Mg	Mn	Mo	Na	Nb	Ni	P	Pb	Rb	S	Sb	Sc	Sn	Sr	Ta	Th
	ppm	%	ppm	ppm	%	ppm	ppm	%		ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
07LF255A	44.3	0.76	1874	9.8	0.853	9.8	77.5	0.06	19.1	77.7	0.1	0.9	11	1.5	132	0.8	12
07LF257A	47	1.09	459	11.4	1.322	19	53	0.1	17.1	108.9	0.1	0.5	12	2.3	151	1.3	11.3
07LF259A	31.1	0.96	362	14.1	1.428	11.5	55.6	0.057	17.8	88.2	<.1	0.7	11	1.9	167	1	13.3
07LF260A	36.3	0.94	627	6.3	0.998	13.1	41.7	0.073	19.6	102.3	0.2	0.5	13	2.1	152	1	14.8
07LF261A		0.82	438	18.9	1.487	12.2	65.2	0.046	14.7	81	<.1	0.6	10	1.7	159	1.1	10.8
07LF231A	55.1	0.7	1640	0.8	0.848	10.9	47.4	0.052	20.5	98.5	0.1	1	10	2	119	0.8	13.3
07RL202A	25.2	0.57	732	17.7	0.914	7.3	56.7	0.034	13	57.9	<.1	0.6	8	1.2	104	0.7	8
07Z440.1B	31.1	0.67	491	14.4	1.074	11.8	49.5	0.046	17.1	79.3	0.1	0.6	8	1.6	114	1.1	11.9

Sample Number	Ti	U	V	W	Y	Zn	Zr
	%	ppm	ppm	ppm	ppm	ppm	ppm
07LF255A	0.371	2.9	93	1.7	14.8	99	40.9
07LF257A	0.483	1.9	97	7.3	15.3	90	33.8
07LF259A	0.433	2.7	86	1.7	14	63	54.1
07LF260A	0.373	3.1	104	5.3	20.9	100	34
07LF261A	0.484	1.9	75	1.6	10.9	59	49.6
07LF231A	0.346	2.8	81	1.6	13.5	125	32.1
07RL202A	0.266	2	56	0.8	9.8	48	19.3
07Z440.1B	0.454	2.1	73	1.2	8.8	59	31.6

Table 7. Detection limits for rock geochemical analyses. Analytical methods include: FA-ICP-AES = Fire Assay-Inductively Coupled Plasma-Atomic Emission Spectroscopy; ICP-AES = Inductively Coupled Plasma-Atomic Emission Spectroscopy. Digestions include: 4 acid = HNO3-HClO4-HF + HCl; --- = digestion not applicable. NOTE: * = possibly incomplete digestion dependent on mineralogy.

		ALS Chemex			
Element	Units	Lower Detection Limit	Upper Detection Limit	Analytical Method	Digestion
Au	ppm	0.001	10	FA-ICP-AES	---
Ag	ppm	0.5	100	ICP-AES	4 Acid
Al	%	0.01	50	ICP-AES	4 Acid
As	ppm	5	10,000	ICP-AES	4 Acid
Ba*	ppm	10	10,000	ICP-AES	4 Acid
Be	ppm	0.5	1,000	ICP-AES	4 Acid
Bi	ppm	2	10,000	ICP-AES	4 Acid
Ca	%	0.01	50	ICP-AES	4 Acid
Cd	ppm	0.5	1,000	ICP-AES	4 Acid
Co	ppm	1	10,000	ICP-AES	4 Acid
Cr*	ppm	1	10,000	ICP-AES	4 Acid
Cu	ppm	1	10,000	ICP-AES	4 Acid
Fe	%	0.01	50	ICP-AES	4 Acid
Ga	ppm	10	10,000	ICP-AES	4 Acid
K	%	0.01	10	ICP-AES	4 Acid
La	ppm	10	1,000	ICP-AES	4 Acid
Mg	%	0.01	50	ICP-AES	4 Acid
Mn	ppm	5	100,000	ICP-AES	4 Acid
Mo	ppm	1	10,000	ICP-AES	4 Acid
Na	%	0.01	10	ICP-AES	4 Acid
Ni	ppm	1	10,000	ICP-AES	4 Acid
P	ppm	10	10,000	ICP-AES	4 Acid
Pb	ppm	2	10,000	ICP-AES	4 Acid
S	%	0.01	10	ICP-AES	4 Acid
Sb	ppm	5	10,000	ICP-AES	4 Acid
Sc	ppm	1	10,000	ICP-AES	4 Acid
Sr	ppm	1	10,000	ICP-AES	4 Acid
Th	ppm	20	10,000	ICP-AES	4 Acid
Ti*	%	0.01	10	ICP-AES	4 Acid
Tl	ppm	10	10,000	ICP-AES	4 Acid
U	ppm	10	10,000	ICP-AES	4 Acid
V	ppm	1	10,000	ICP-AES	4 Acid
W*	ppm	10	10,000	ICP-AES	4 Acid
Zn	ppm	2	10,000	ICP-AES	4 Acid

Table 8. Detection limits for major-oxide and minor-oxide analyses. Analytical methods include: LBF-XRF = Lithium borate fusion and X-ray fluorescence spectroscopy. Note: Fe_2O_3 = total iron as Fe_2O_3; LOI* = loss on ignition; --- = not applicable.

		ALS Chemex		
Element	Units	Lower Detection Limit	Upper Detection Limit	Analytical Method
SiO2	%	0.01	100	LBF-XRF
Al2O3	%	0.01	100	LBF-XRF
Fe2O3	%	0.01	100	LBF-XRF
CaO	%	0.01	100	LBF-XRF
MgO	%	0.01	100	LBF-XRF
Na2O	%	0.01	100	LBF-XRF
K2O	%	0.01	100	LBF-XRF
Cr2O3	%	0.01	100	LBF-XRF
TiO2	%	0.01	100	LBF-XRF
MnO	%	0.01	100	LBF-XRF
P2O5	%	0.01	100	LBF-XRF
SrO	%	0.01	100	LBF-XRF
BaO	%	0.01	100	LBF-XRF
LOI*	%	0.01	100	Gravimetric
Total	%	---	---	Calculation

Table 9. Detection limits for stream sediment geochemical analyses. Analytical methods include: ICP-MS = Inductively Coupled Plasma-Mass Spectrometry. Digestions include: Aqua-Regia = HCl + HNO_3; 4 acid = HNO_3-$HClO_4$-HF + HCl. NOTE: * = possibly incomplete digestion dependent on mineralogy; ** = Volatilization during fuming may result in some loss of certain elements.

		Acme Labs			
Element	Units	Lower Detection Limit	Upper Detection Limit	Analytical Method	Digestion
Au	ppb	0.5	10,000	ICP-MS	Aqua-Regia
Ag	ppm	0.1	200	ICP-MS	4 Acid
Al*	%	0.01	20	ICP-MS	4 Acid
As**	ppm	1	10,000	ICP-MS	4 Acid
Ba*	ppm	1	10,000	ICP-MS	4 Acid
Be*	ppm	1	1,000	ICP-MS	4 Acid
Bi	ppm	0.1	4,000	ICP-MS	4 Acid
Ca	%	0.01	40	ICP-MS	4 Acid
Cd	ppm	0.1	4,000	ICP-MS	4 Acid
Ce	ppm	1	2,000	ICP-MS	4 Acid
Co	ppm	0.2	4,000	ICP-MS	4 Acid
Cr*	ppm	1	10,000	ICP-MS	4 Acid
Cu	ppm	0.1	10000	ICP-MS	4 Acid
Fe*	%	0.01	60	ICP-MS	4 Acid
Hf*	ppm	0.1	1000	ICP-MS	4 Acid
K	%	0.01	10	ICP-MS	4 Acid
La	ppm	0.1	2000	ICP-MS	4 Acid
Li	ppm	0.1	2,000	ICP-MS	4 Acid
Mg*	%	0.01	30	ICP-MS	4 Acid
Mn*	ppm	1	10000	ICP-MS	4 Acid
Mo	ppm	0.1	4,000	ICP-MS	4 Acid
Na	%	0.001	10	ICP-MS	4 Acid
Nb	ppm	0.1	2,000	ICP-MS	4 Acid
Ni	ppm	0.1	10,000	ICP-MS	4 Acid
P	%	0.001	5	ICP-MS	4 Acid
Pb	ppm	0.1	10,000	ICP-MS	4 Acid
Rb	ppm	0.1	2,000	ICP-MS	4 Acid
S	%	0.1	10	ICP-MS	4 Acid
Sb**	ppm	0.1	4000	ICP-MS	4 Acid
Sc	ppm	1	200	ICP-MS	4 Acid
Sn*	ppm	0.1	2,000	ICP-MS	4 Acid
Sr	ppm	1	10,000	ICP-MS	4 Acid
Ta*	ppm	0.1	2,000	ICP-MS	4 Acid
Th	ppm	0.1	4,000	ICP-MS	4 Acid
Ti	%	0.001	10	ICP-MS	4 Acid
U	ppm	0.1	4,000	ICP-MS	4 Acid
V	ppm	1	10,000	ICP-MS	4 Acid
W*	ppm	0.1	200	ICP-MS	4 Acid
Y	ppm	0.1	2,000	ICP-MS	4 Acid
Zn	ppm	1	10,000	ICP-MS	4 Acid
Zr*	ppm	0.1	2,000	ICP-MS	4 Acid