UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

DESCRIPTIONS OF THE RUTH CREEK, LILLIAN CREEK, GRIFFIN, OLD SMOKY, SUNSHINE NO. 2, AND OLIVE CREEK LODE PROSPECTS, LIVENGOOD DISTRICT, ALASKA

By

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Open-file report

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

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Introduction

Analyses of rock, soil, and stream-sediment samples collected during the examination of six lode prospects in the Livengood district, east-central Alaska, indicate anomalously high concentrations of arsenic, gold, silver, antimony, molybdenum, mercury, and other metals.

Bedrock gold deposits in the Livengood district occur in siliceous graywacke-argillite near Lillian, Olive, and Ruth Creeks; in altered breccias and igneous rock on Ruth and Olive Creeks; and in silica-carbonate-talc rock at the Griffin prospect. These deposits are spatially related to monzonitic stocks and dikes which cut the siliceous graywacke-argillite. On the basis of present information the known gold lode deposits are economically unattractive owing to their limited tonnages and/or low grade. The lode deposits, nevertheless, may be significant in that they suggest the possibility of valuable mineral deposits in a seemingly favorable lithic and structural subsurface environment.

The chemical analyses presented here (tables 1 - 6) provide additional data necessary for geochemical orientation studies prior to district evaluation.

Ruth Creek prospect.--Slightly auriferous (samples ACE-110, ACE-111, table 1) altered igneous breccia (fig. 2) is in unconformable contact with an overlying deformed graywacke-argillite sequence (Dms). The igneous breccia, prehnite metadiorite (Pzmd), silica-carbonate-talc ($Pzsp^1$), and serpentinite ($Pzsp^2$) are thought to represent an extensively altered northeast-trending fault zone complex. A monzonitic stock, which crops out approximately 1000 feet farther to the southeast (upstream) in the Ruth Creek valley, probably cuts both the fault-zone rocks and the metasedimentary strata; minor metalliferous vein deposits appear to be associated with this late phase of igneous activity. Stream sediments contained anomalously high concentrations of arsenic, boron, molybdenum, and antimony; the metalliferous stream water from Ruth Creek has a field- and laboratory-measured pH of approximately 2.75. Chemical data from rock and stream sediment analyses are given in table 1.

Lillian Creek prospect.--Narrow auriferous arsenopyrite-quartz-scorodite veins occur in and near a limonite-stained dike (Tm) in altered and contorted graywacke-argillite (Dms) country rock (fig. 3). Samples contain from <.02 to 48 ppm gold as determined by atomic absorption analysis (samples ACE-218 to ACE-235, table 2). North of the prospect, light gray porphyritic latite (?) and dark gray to black porphyritic felsic rock (Tm) intrude argillite (Dms) and are thought to be facies of the monzonitic stock complex which crops out on Ruth Creek approximately 1500 feet to the north. Anomalously high concentrations of arsenic, silver, gold, and antimony in Lillian Creek stream sediments and arsenic, silver, beryllium, and molybdenum in soil samples (B-horizon) probably indicate the presence of small metalliferous veins and(or) discordant igneous bodies. Histograms showing the concentrations in parts per million of arsenic, gold, silver, antimony, beryllium, molybdenum, and zinc from analyses of 89 soil samples are given in figure 4.

Griffin prospect.--Massive, sulfide-bearing, green-stained silica-carbonate-talc rock (Pzsp) with quartz veining crops out near lithologically similar adit and pit tailings (fig. 5); these rocks contain up to 3.9 ppm gold as determined by atomic absorption analysis (number ACE-350, table 3). The nature of the contact between the pyritiferous metasedimentary strata (Dms, southwest of the adit) and the silica-carbonate-talc rock is unknown; anomalously high concentrations of gold in soils near this interface indicate the presence of epigenetic metals in the underlying bedrock. The nickel-chromium concentrations of the metalliferous silica-carbonate-talc rock indicate that these rocks are the metasomatic derivatives of serpentinite. Chemical data from grab and selected rock samples, and soil samples are given in table 3.

Old Smoky prospect.--Trenching near the head of Olive Creek has exposed narrow, northwesterly-trending auriferous arsenopyrite-quartz veins in the ferruginous quartzite footwall (Dms) near the intersection of an altered porphyritic biotite monzonite dike (Tm) and a potassium feldspar-porphyry dike (Tm). Selected samples from the prospect (samples ACE-343 to ACE-346, table 4) contain 3 to 13 ppm gold as determined by atomic absorption, and 1.6 to 7.0 ppm gold as determined by fire assay-atomic absorption. A sketch map, sample locations, and chemical data from chip and selected rock samples are given in figure 5 and table 4 respectively.

Sunshine No. 2 prospect.--A northwesterly-trending, crumbly auriferous felsic dike (Tm) with internal limonite veinlets (fig. 5) has cut and altered argillite country rock (Dms). Anomalously high concentrations of mercury (table 5) were detected in rock samples from this prospect (samples ACE-370 to ACE-375). Recent trenching is within a hundred feet of the upper of two north-northwesterly trending adits on the old Hudson mercury prospect; an incomplete arrastre is present at the old mill site. Abundant cinnabar nuggets were found in a clean-up at a gold placer operation (Olive Creek Mines, August, 1967) on Olive Creek about half a mile downstream from the Sunshine No. 2. These data designate the Olive Creek terrane as a potential mercury target which warrants systematic exploration.

Olive Creek prospect.--A sulfide-bearing light to dark gray (limonite stained on weathered surface), shattered, and altered porphyritic latite(?) plug (Tm) cuts graywacke-argillite (Dms). Anomalous concentrations of arsenic, silver, bismuth, cobalt, copper, zinc, tin, molybdenum, and tungsten (samples ACE-26, -39, -42, -44, -52, -53, -57, -58, -59, -74, -75, -76, -78, -80, -81, table 6) were detected in soil sample analyses; bismuth, copper, and molybdenum (sample ACE-83, -84, and -85, table 6) from rock samples probably reflect mineralized peripheral portions of the plug and(or) contact zones in juxtaposition with the intrusive complex (fig. 6). Sample ACE-82, a stream sediment sample, contains an above-background concentration of arsenic and molybdenum. Histograms showing concentrations in parts per million of arsenic, silver, bismuth, cobalt, copper, zinc, tin, molybdenum, and tungsten from analyses of 50 soil samples are given in figure 7.

Table 1.--Ruth Creek prospect chemical analyses.

Spectographic analyses by Arnold Farley, Jr.

1/ Gold analyses by A. L. Meier, R. L. Miller and T. A. Roemer

Analysts:

Analyses, unless noted, are semiquantitative spectrographic and are reported on the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: A = not detected; < = detected or below limit of determination; - = not looked for; > = greater than; I = interference

No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/	Pb	Pd 3/	Pt 3/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																																				Percent			
	ACE-092		A(.5)	A(200)	A(10)	<.02		10	<100	A	A(10)	A(20)	70	3000		20		A(20)	A(5)	1500	<20	3000		A(10)				I	10	A(10)	A(100)			30	A(50)	7	A(200)	30	7	10	.15	.02
	-093		A	A	A	<.02		150	<100	A	A	A	300	3000		20		A	A	1000	<20	3000		A				A(200)	15	A	A			90	A	A	A	A(10)	10	10	.5	.015
	-094		A	A	A	<.02		70	<100	A	A	A	70	300		500		A	A	1500	<20	150		A				I	70	A	A			200	A	10	A	100	10	7	10	.5
	-095		A	A	A	<.02		100	<100	A	A	A	70	3000		50		A	A	500	A(20)	1500		A				I	7	A	A			30	A	A	A	A	7	10	7	.007
	-096		A	A	A	<.02		70	<100	A	A	A	100	3000		30		A	A	700	A	3000		A				I	7	A	A			20	A	A	A	A	10	10	1	.02
	-097		A	A	A	<.02		70	100	5	A	A	100	1500		30		A	A	1500	<20	3000		A				I	20	A	A			70	A	I	A	A	10	10	1.5	.003
	-098		A	A	A	<.02		<10	<100	A	A	A	70	3000		15		A	A	1000	A	2000		A				I	10	A	A			90	A	7	A	A	7	10	.3	.005
	-099		A	A	A	<.02		15	<100	A	A	A	100	2000		10		A	A	300	A	2000		A				I	7	A	A			30	A	A	A	A	7	10	.7	.007
	-100		A	A	A	<.02		50	200	A	A	A	100	50		70		100	A	1500	<20	700		A				A	70	A	150			200	A	A	<200	100	15	5	3	>1
	-101		A	A	A	<.02		30	<100	A	A	A	50	700		30		A	A	700	<20	700		A				I	7	A	A			20	A	20	A	A	5	7	.3	.007
	-102		A	A	A	<.02		15	100	A	A	A	150	3000		30		A	A	1500	A	1500		A				I	15	A	300			30	A	A	A	A	7	7	2	.007
	-103		A	700	A	<.02		150	2000	5	A	A	<10	150		30		100	15	300	50	100		20				A	15	A	150			200	A	50	A	300	15	.5	.15	.007
	-104		A	A	A	<.02		70	100	3	A	A	70	3000		20		A	A	700	30	10		A				I	10	A	A			70	A	A	A	A	15	10	.7	.007
	-105		A	A	A	<.01		15	<100	<1	A	A	50	2000		30		A	A	1500	30	1000		A				I	7	A	A			50	A	5	A	A	10	10	.5	.5
	-106		A	A	A	<.01		<10	<100	<1	A	A	50	3000		20		A	A	2000	A	150		A				I	10	A	1000			30	A	A	A	A	15	>10	20	.007
	-107		A	A	A	<.01		10	300	A	A	A	50	300		50		A	A	1500	<20	50		10				A	50	A	150			200	A	15	A	70	15	5	7	.5
	-108		A	A	A	<.02		20	200	A	A	A	70	300		200		A	A	1500	<20	50		10				A	70	A	100			300	A	10	A	100	15	5	5	.7
	-109		A	A	A	<.02		70	700	<1	A	A	70	300		30		A	A	2000	<20	70		A				A	70	A	100			300	A	I	100	150	20	3	3	>1
	-110		A	A	A	.1		50	700	<1	A	A	70	300		150		A	A	2000	<20	100		A				A	50	A	100			500	A	I	200	150	20	2	5	1
	-111		A	A	A	<.05		70	1000	<1	A	A	100	150		100		A	A	1500	<20	70		A				A	70	A	A			300	A	I	200	150	>10	1.5	.7	>1
	-112		A	A	A	<.02		100	1500	<1	A	A	70	150		50		A	A	2000	<20	70		A				A	30	A	200			200	A	30	<200	70	15	3	.15	.3
	-113		A	A	A	<.02		20	200	A	A	A	70	300		20		A	A	2000	<20	150		A				A	70	A	150			500	A	I	200	150	20	1.5	5	>1
	-114		A	700	A	<.02		150	3000	7	A	A	<10	200		30		100	10	200	70	100		30				200	15	A	150			200	A	30	200	500	15	.7	.15	.5
	-115		A	A	A	<.02		50	700	A	A	A	150	300		100		A	A	1500	<20	1000		A				A	100	A	A			500	A	I	200	150	20	1.5	3	>1
	-116		A	A	A	<.02		30	200	A	A	A	70	5000		150		A	A	1500	<20	1500		A				I	20	A	100			200	A	20	<100	100	15	1.5	2	.2

Limits of determination [illegible]

Table 2.-- Lillian Creek prospect chemical analyses. Sheet 1 of 4

Spectrographic analyses by B. E. Martinez, and G. W. Sears, Jr.

1/ Gold analyses by A. L. Meier, R. L. Miller, T. A. Roemer

Analysts:

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols.
A = not detected; < = detected or below limit of determination; -- = not looked for; > = greater than; * = 200 ppm limit of determination
G = greater than 10%

Map No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 1/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 1/	Pb	Pd 3/	Pt 3/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																																				Percent			
	ACE-218					.2																																				
	-219					<.02																																				
	-220		1.5	>10,000	A	4.0		150	1000	5	A	A	A	70		150		50	15	300	10	15		50				100	20	A	1000			200	50	20	<200	150	5	.2	.1	.2
	-221		.5	G	A	3.5		100	700	5	A	A	A	10		200		100	15	150	20	10		30				<100	15	A	1000			100	70	50	<200	300	7	.05	.1	.2
	-222					<.02																																				
	-223					<.02																																				
	-224		1.5	G	10	30		100	500	1.5	A	A	A	50		300		A	A	100	<10	7		15				100	10	A	300			70	A	5	<200	50	7	.1	.05	.1
	-225		1.5	G	10	23		30	300	2	A	A	A	20		200		A	5	100	<10	10		<10				<100	15	A	1500			50	A	A	<200	30	7	.07	.07	.05
	-226		2	G	<10	48		300	500	2	A	A	A	50		500		A	10	70	<10	7		20				200	15	A	700			70	A	10	<200	50	10	.1	<.05	.1
	-227		1.5	G	15	20		100	200	1.5	A	A	A	20		300		A	A	70	<10	7		<10				100	7	A	100			70	A	A	<200	20	10	.07	<.05	.1
	-228		[illegible]	G	15	25		70	150	1.5	A	A	7	10		500		<20	A	70	<10	15		<10				300	10	A	A			30	A	<5	<200	<10	10	.05	<.05	.05
	-229					.08																																				
	-230		.5	G	A	1.3		<10	150	1.5	A	A	10	5		15		70	A	[illegible]	15	20		<10				A	10	A	1000			50	70	50	<200	200	7	.1	.3	.2
	-231					.2																																				
	-232		A	G	A	1.4		70	50	<1	A	A	50	<5		10		A	A	500	10	15		30				500	A	A	700			<10	150	A	200	A	20	.02	.2	.007
	-233		.5	1500	A	.05		200	1000	5	A	<20	15	500		200		A	5	700	<10	200		15				150	15	A	200			70	A	50	1000	70	7	1.5	1	.15
	-234		2	10,000	A	.7		500	1000	3	A	A	20	30		150		100	10	500	30	100		20				1500	15	A	700			70	50	50	300	500	7	.2	2	2
	-235		1.5	3000	A	.5		200	1500	3	A	A	30	50		100		100	5	1000	15	100		100				1500	20	A	1000			100	<50	50	300	200	7	1	1.5	.2
	-236		A	A	A	.04			[illegible]	1.5	A	A	3	70		70		30	A	150	10	30		20	A	A		A		A	150	A	A	70	A	30	A	300	2	.7	.7	.3
	-237		A	A	A	.02			700	1	A	A	7	70		50		30	A	300	<10	30		15	A	A		A		A	100	A	A	70	A	15	A	150	3	.7	.7	.3
	-238		A	A	A	<.02			700	A	A	A	7	70		30		30	A	300	10	30		15	A	A		A		A	150	A	A	70	A	20	A	200	2	.7	1	.3
	-239		A	A	A	<.02			1000	1.5	A	A	10	100		30		50	A	300	10	50		20	A	A		A		A	150	A	A	100	A	30	A	300	7	1	1.5	.5
	-240		A	A	A	.03			1000	1	A	A	10	100		50		50	A	1000	10	50		20	A	A		A		A	200	A	A	150	A	30	A	300	7	.7	1.5	.5
	-241		A	A	A	.06			1000	1.5	A	A	7	100		50		70	A	300	10	30		20	A	A		A		A	150	A	A	100	A	30	A	300	3	.7	1	.7
	-242		A	A	A	<.02			1000	1	A	A	7	70		70		50	A	300	10	30		15	A	A		A		A	150	A	A	70	A	30	A	150	2	.7	1	.5
	-243		A	A	A	<.02			1000	1.5	A	A	7	70		150		50	A	500	10	50		20	A	A		A		A	150	A	A	100	A	30	A	200	3	5	1	.5
	-244		A	A	A	<.02			1000	1.5	A	A	10	70		70		70	A	300	15	50		30	A	A		A		A	150	A	A	100	A	50	A	300	3	.7	1	5
	-245		A	A	A	.06			1000	1.5	A	A	15	70		30		100	A	300	30	30		30	A	A		A		A	150	A	A	100	A	70	A	700	5	1	1.5	.7
	-246		A	2000	A	.4			1000	2	A	A	7	70		50		100	A	300	30	30		30	A	A		A		A	150	A	A	70	A	50	A	700	3	.7	1	.7
	-247		A	<2000	A	.04			1000	1.5	A	A	10	70		50		70	A	300	15	30		15	A	A		A		A	200	A	A	150	A	30	A	300	5	1	.7	.5
	Limits of determination		.5	[illegible]	[illegible]	.02	.005	10	5	1	10	20		5	.005	5	.01	20	5	10	2	5	10	10	[illegible]	.004	.005	100	5	10	5			10	50	10	200	10	.05	.02	.05	[illegible]

1/ Atomic absorption
2/ Fire assay [illegible] atomic absorption
3/ [illegible] instrumental or chemical method

Table 2.--Lillian Creek prospect chemical analyses.

Analysts:

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols. A = not detected; < = detected or below limit of determination; - = not looked for; > = greater than

No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/	Pb	Pd 3/	Pt 3/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																																				Percent			
	ACE-248		A	A	A	<.02			1000	1.5	A	A	10	100		70		50	A	300	10	30		20	A	A		A		A	150	A	A	150	A	30	A	300	3	1	1.5	.5
	-249		A	10000	A	.3			1500	3	A	A	50	70		300		70	3	1500	<10	150		50	A	A		700		A	300	A	A	200	A	50	700	150	10	.7	.7	.3
	-250		A	A	A	-			700	A	A	A	3	30		100		A	A	150	A	15		10	A	A		A		A	70	A	A	50	A	<10	A	70	1	.3	.7	.2
	-251		A	A	A	-			500	A	A	A	7	20		50		A	A	300	A	15		A	A	A		<200		A	50	A	A	30	A	10	A	70	1.5	.3	1	.15
	-252		A	A	A	-			700	A	A	A	7	70		50		A	A	200	A	30		10	A	A		A		A	70	A	A	70	A	15	A	150	1.5	.2	.3	.3
	-253		A	3000	A	.1			1000	1.5	A	A	15	300		50		70	A	500	15	100		20	A	A		<1000		A	200	A	A	100	A	70	A	500	7	1.5	1.5	.7
	-254		A	<2000	A	1			1500	1.5	A	A	15	150		70		50	A	700	10	70		20	A	A		A		A	200	A	A	150	A	50	A	300	5	1.6	1.5	.5
	-255		A	2000	A	.1			1500	3	A	A	7	70		100		50	A	300	10	30		30	A	A		A		A	150	A	A	100	A	50	A	500	3	.7	.7	.3
	-256		A	2000	A	.1			1000	2	A	A	7	70		50		50	A	300	15	30		30	A	A		A		A	150	A	A	70	A	30	A	300	5	.7	.7	.5
	-257		A	A	A	.1			1000	A	A	A	7	70		70		30	A	200	<10	20		15	A	A		A		A	100	A	A	70	A	20	A	200	3	.5	.7	.3
	-258		A	A	A	.02			1500	1	A	A	10	100		70		70	A	300	10	50		20	A	A		A		A	150	A	A	100	A	30	A	300	3	1	1	.5
	-259		A	<2000	A	.06			1000	1.5	A	A	7	70		50		A	A	300	<10	30		20	A	A		A		A	100	A	A	100	A	20	A	300	5	1	.7	.3
	-260		A	A	A	.04			1000	1.5	A	A	7	100		50		50	A	300	10	30		15	A	A		A		A	150	A	A	100	A	20	A	300	3	1	1	.5
	-261		A	A	A	<.02			1000	1	A	A	10	100		30		70	A	300	10	30		20	A	A		A		A	200	A	A	150	A	30	A	300	5	1	1.5	.7
	-262		A	A	A	<.02			1000	1	A	A	5	70		100		50	A	200	<10	20		15	A	A		A		A	150	A	A	100	A	20	A	200	2	.7	1	.5
	-263		A	A	A	.02			1500	1	A	A	7	100		70		70	A	300	10	20		15	A	A		A		A	200	A	A	100	A	30	A	300	3	.7	1	.5
	-264		A	A	A	<1			1000	1	A	A	7	100		50		70	A	300	10	30		15	A	A		A		A	100	A	A	100	A	20	A	300	5	.7	1	.5
	-265		A	<2000	A	2.0			1000	A	A	A	20	150		50		A	A	1500	<10	100		15	A	A		<200		A	150	A	A	100	A	15	A	150	3	1	.7	.3
	-266		A	A	A	-			500	A	A	A	A	50		15		A	A	200	<10	30		15	A	A		<200		A	70	A	A	50	A	<10	A	70	1	.3	.5	.15
	-267		A	A	A	.06			700	A	A	A	7	100		70		30	A	150	<10	50		15	A	A		A		A	150	A	A	70	A	15	A	150	2	.5	.7	.3
	-268		A	A	A	.1			1000	A	A	A	7	100		100		70	A	150	10	50		10	A	A		A		A	150	A	A	100	A	15	A	150	2	.5	.7	.3
	-269		A	A	A	-			700	A	A	A	A	70		30		30	A	200	<10	30		30	A	A		A		A	70	A	A	70	A	15	A	150	1.5	.3	.5	.3
	-270		A	A	A	.02			1000	1	A	A	10	150		50		50	A	300	10	100		15	A	A		A		A	150	A	A	100	A	30	A	300	3	2	1.5	.7
	-271		A	A	A	.04			700	A	A	A	10	100		30		30	A	300	A	70		15	A	A		A		A	70	A	A	70	A	15	A	100	1.5	1.5	1	.2
	-272		A	3000	A	1.2			1500	1.5	A	A	15	150		70		50	A	1000	10	70		30	A	A		A		A	200	A	A	100	A	10	A	200	5	1	1	.5
	-273		A	A	A	.04			1000	1	A	A	7	100		50		50	A	500	10	30		15	A	A		A		A	150	A	A	100	A	15	A	300	3	.7	1	.5
	-274		A	A	A	<.02			1000	1	A	A	7	150		50		50	A	500	10	20		20	A	A		A		A	300	A	A	150	A	20	A	300	3	.7	1.5	.7
	-275		A	A	A	.04			1000	1	A	A	10	70		100		A	A	300	<10	30		20	A	A		A		A	100	A	A	70	A	15	A	150	3	.7	.5	.2
	-276		A	A	A	.04			1500	A	A	A	7	100		70		70	A	500	<10	30		15	A	A		A		A	150	A	A	150	A	30	A	200	2	.7	1	.5
	-277		A	A	A	<.02			1500	A	A	A	10	100		20		70	A	300	10	50		20	A	A		A		A	200	A	A	150	A	30	A	150	3	1	1.6	.5
	Limits of determination		.5	200	[illegible]	.02	.05	10	5	1	10	20	5	5	[illegible]	5	.01	[illegible]	5	10	2	5	10	10	.01	.004	.005	200	5	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	200	10	.05	.02	.05	[illegible]

1/ Atomic absorption

2/ Fire assay or fire assay-atomic absorption

3/ Specific instrumental or chemical method

Table 2.--Lillian Creek prospect chemical analyses.

Analysts:

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols. A = not detected; < = detected or below limit of determination, - = not looked for, > = greater than

Parts per million (Ag through Ni3/):

No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/
	ACE-278		A	A	A	.02			1000	A	A	A	7	70		70		A	A	200	<10	30	
	-279		A	A	A	.06			1000	A	A	A	15	300		30		50	A	500	<10	70	
	-280		A	A	A	<.02			1000	A	A	A	20	300		50		30	A	500	<10	150	
	-281		A	A	A	<.02			1000	A	A	A	15	150		30		50	A	300	A	100	
	-282		A	A	A	.06			700	A	A	A	7	70		50		A	A	500	A	70	
	-283		A	A	A	<.02			1000	A	A	A	10	150		30		30	A	300	<10	70	
	-284		A	A	A	.2			1000	A	A	A	7	100		30		50	A	700	A	30	
	-285		A	A	A	.04			700	A	A	A	5	70		20		50	A	300	A	20	
	-286		A	A	A	.02			1000	1.5	A	A	10	100		30		70	A	300	A	30	
	-287		A	A	A	<.02			1500	2	A	A	15	100		50		100	3	1000	15	50	
	-288		A	A	A	<.02			1500	1.5	A	A	10	100		50		70	A	300	10	30	
	-289		A	A	A	.05			1500	1	A	A	7	100		30		70	A	300	10	30	
	-290		A	A	A	<.02			1500	1	A	A	7	100		30		50	A	200	<10	10	
	-291		A	A	A	.06			1000	1	A	A	5	70		30		50	A	200	10	20	
	-292		A	A	A	—			700	A	A	A	3	30		50		30	A	150	A	15	
	-293		A	A	A	—			1000	1	A	A	5	70		50		70	A	200	10	15	
	-294		A	A	A	—			1500	1	A	A	7	70		50		100	A	[illegible]	30	20	
	-295		A	A	A	<.02			[illegible]	1	A	A	7	70		50		30	A	300	A	30	
	-296		A	A	A	.02			1500	A	A	A	7	70		50		70	A	500	10	20	
	-297		A	A	A	<.02			1500	1	A	A	5	100		50		70	3	150	10	20	
	-298		A	A	A	.08			1500	1	A	A	5	70		70		30	A	150	10	20	
	-299		A	A	A	—			1500	1	A	A	3	70		30		70	3	200	15	15	
	-300		A	A	A	<.02			2000	1.5	A	A	7	100		50		100	3	200	20	30	
	-301		A	A	A	<.02			1500	1.5	A	A	10	70		30		70	A	200	15	30	
	-302		A	A	A	<.02			1000	1	A	A	7	70		50		70	A	500	15	20	
	-303		A	A	A	<.02			1000	1	A	A	10	70		30		50	A	300	10	30	
	-304		A	A	A	<.02			1000	A	A	A	A	1.5		100		70	A	50	30	5	
	-305		A	A	A	—			1000	1.5	A	A	3	30		20		70	A	200	15	15	
	-306		A	A	A	—			1500	2	A	A	5	70		20		70	A	200	20	15	
	-307		A	A	A	.04			1500	2	A	A	10	70		30		100	A	300	20	30	
	Limits of determination		[illegible]	200		[illegible]				1	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	.01	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]

Parts per million (Pb through Zr); Percent (Fe through Ti):

Lab. No.	Pb	Pd 3/	Pt 3/	Rh 1/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
ACE-278	15	A	A		A		A	100	A	A	70	A	20	A	150	2	.7	.7	.3
-279	20	A	A		A		A	150	A	A	100	A	30	A	150	3	1.5	1	.3
-280	20	A	A		A		A	150	A	A	150	A	15	A	100	5	3	1	.5
-281	20	A	A		A		A	200	A	A	150	A	20	A	200	5	1.5	1.5	.5
-282	15	A	A		A		A	70	A	A	50	A	15	A	70	1.5	1	1	.15
-283	20	A	A		A		A	150	A	A	150	A	15	A	150	3	1.5	1	.5
-284	20	A	A		A		A	150	A	A	100	A	20	A	150	2	.7	1	.3
-285	15	A	A		A		A	150	A	A	70	A	30	A	200	1.5	.5	.7	.3
-286	15	A	A		A		A	200	A	A	100	A	30	A	200	5	.7	1.5	.5
-287	30	A	A		A		A	200	A	A	150	A	30	A	300	5	1	1	.5
-288	15	A	A		A		A	200	A	A	150	A	50	A	200	5	1	1	.5
-289	20	A	A		A		A	200	A	A	100	A	30	A	200	5	1	1	.5
-290	20	A	A		A		A	200	A	A	100	A	20	A	200	5	.7	1	.5
-291	20	A	A		A		A	150	A	A	70	A	30	A	200	2	.7	.7	.3
-292	15	A	A		A		A	70	A	A	50	A	20	A	150	1.5	.3	.5	.1
-293	20	A	A		A		A	150	A	A	100	A	30	A	300	3	.5	.7	.5
-294	30	A	A		A		A	150	A	A	100	A	70	A	300	3	.5	.7	.5
-295	15	A	A		A		A	100	A	A	100	A	30	A	150	3	.5	.7	.3
-296	15	A	A		A		A	150	A	A	100	A	30	A	300	3	.5	.7	.5
-297	20	A	A		A		A	150	A	A	150	A	30	A	300	3	.5	.5	.5
-298	20	A	A		A		A	150	A	A	150	A	30	A	300	3	.7	.7	.5
-299	15	A	A		A		A	150	A	A	150	A	30	A	300	2	.5	.5	.5
-300	30	A	A		A		A	200	A	A	150	A	70	A	300	7	.7	1	.5
-301	30	A	A		A		A	200	A	A	150	A	50	A	300	7	.7	1.5	.5
-302	30	A	A		A		A	150	A	A	100	A	30	A	300	5	.7	1.5	.5
-303	20	A	A		A		A	150	A	A	100	A	30	A	300	7	1	1	.5
-304	20	A	A		A		A	70	A	A	A	A	70	A	500	1	.05	.05	.5
-305	20	A	A		A		A	150	A	A	50	A	50	A	200	2	.3	.5	.3
-306	30	A	A		A		A	200	A	A	100	A	30	A	300	5	.7	.7	.5
-307	30	A	A		A		A	200	A	A	150	A	30	A	500	5	.7	1	.5
Limits of determination	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]

Table 2.--Lillian Creek prospect chemical analyses.

Analysts:

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: A = not detected; < = detected or below limit of determination; — = not looked for; > = greater than

No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/	Pb	Pd 3/	Pt 3/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																																				Percent			
	ACE-308		A	A	A	.06			1500	1.5	A	A	10	100		30		70	A	300	15	30		30	A	A		A		A	300	A	A	150	A	50	A	300	7	1	1.5	.7
	-309		A	A	A	.06			2000	1	A	A	A	3		70		150	A	200	50	3		30	A	A		A		A	100	A	A	A	A	100	A	700	3	.07	.03	.5
	-310		A	A	A	<.02			1000	1.5	A	A	15	70		30		70	A	500	15	50		30	A	A		A		A	150	A	A	100	A	50	A	500	7	.7	1	.5
	-311		A	A	A	<.02			1500	1	A	A	7	70		15		70	A	300	20	30		30	A	A		A		A	150	A	A	100	A	30	A	500	7	.7	.7	.5
	-312		A	A	A	<.02			2000	7	A	A	7	2		15		200	A	200	70	70		30	A	A		A		15	70	A	A	T	A	100	700	1000	7	.5	.02	.3
	-313		A	A	A	—			1500	1	A	A	5	70		30		100	A	200	15	15		30	A	A		A		A	300	A	A	100	A	30	A	300	3	.5	.5	.7
	-314		A	A	A	<.02			1000	A	A	A	7	70		20		70	A	300	<10	15		20	A	A		A		A	150	A	A	100	A	10	A	200	7	.7	.7	.5
	-315		A	A	A	<.02			1500	1.5	A	A	7	70		20		70	3	300	10	30		30	A	A		A		A	200	A	A	100	A	30	A	500	7	.7	1	.5
	-316		A	A	A	<.02			1500	2	A	A	10	70		30		100	7	300	30	30		50	A	A		A		A	300	A	A	150	A	70	A	500	7	.7	.7	.7
	-317		A	A	A	<.02			2000	2	A	A	7	100		50		70	7	300	30	30		30	A	A		A		A	300	A	A	100	A	50	A	500	7	.7	.7	.5
	-318		A	A	A	<.02			1500	1.5	A	A	7	70		30		70	3	300	20	30		20	A	A		A		A	300	A	A	150	A	50	A	500	7	1	1	.7
	-319		A	A	A	<.02			1500	1.5	A	A	10	100		50		70	A	300	20	50		30	A	A		A		A	300	A	A	150	A	50	A	500	7	.7	1	.5
	-320		A	A	A	<.02			1500	3	A	A	7	100		50		70	3	300	30	30		30	A	A		A		A	200	A	A	150	A	50	A	300	7	.7	1	.5
	-321		A	A	A	<.02			1500	3	A	A	5	70		50		100	A	200	20	30		30	A	A		A		A	200	A	A	150	A	50	A	300	7	.7	1	.5
	-322		A	A	A	—			2000	2	A	A	7	150		70		100	A	300	20	30		30	A	A		A		A	300	A	A	200	A	50	A	300	5	.7	.7	.7
	-313		A	A	A	<.02			1500	1.5	A	A	7	100		30		150	A	300	30	20		20	A	A		A		A	200	A	A	150	A	50	A	500	3	1	1.5	.7
	-324		A	A	A	.2			1500	2	A	A	10	100		50		50	A	300	15	30		30	A	A		A		A	200	A	A	150	A	30	A	300	7	1.5	1	.5
	-325		1	A	A	<.02			2000	2	A	A	7	150		150		70	3	150	10	70		20	A	A		A		A	200	A	A	300	A	30	A	200	5	.5	.5	.3
	-326		<1	A	A	<.02			2000	2	A	A	10	100		150		70	3	500	10	70		30	A	A		A		A	200	A	A	150	A	50	A	200	7	1	.7	.5
	-327		3	A	A	—			1500	2	A	A	5	100		150		A	A	200	<10	50		30	A	A		A		A	150	A	A	150	A	20	A	150	3	.7	.3	.3
	-328		A	A	A	—			2000	2	A	A	10	150		70		30	3	300	10	70		20	A	A		A		A	200	A	A	200	A	30	A	150	7	1	.7	.5
	-329		A	A	A	.04			1500	1.5	A	A	7	100		70		70	3	300	15	50		30	A	A		A		A	200	A	A	200	A	30	A	300	7	.7	.7	.5
	-330		1	15000	A	8.2			2000	3	A	A	15	150		150		100	10	500	20	100		70	A	A		300		A	300	A	A	300	A	30	500	150	7	1	.3	.3
	Limits of Determination		.5	200	10	.02	.05	10	3	1	10	20	5	5	200	5	.01	20	5	10	2	5	10	10	.01	.004	.005	100	5	10	50			10	50	10	200	10	.05	.02	.05	.002

1/ Atomic absorption
2/ Fire assay or fire assay-atomic absorption
3/ Specific instrumental or chemical method

Table 3.--Griffin prospect chemical analyses.

Spectrographic analyses by E. E. Martinez and D. J. Grimes

1/ Gold analyses by A. L. Meier, R. L. Miller and T. A. Roemer

Analysts:

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: A = not detected; < = detected or below limit of determination; - = not looked for; > = greater than

No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/	Pb	Pd 3/	Pt 3/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																																				Percent			
	ACE-347		A	1500	A	.2		A	15	<1	A	A	70	5000		30		A	A	1000	A	700		10				A	15	A	300			70	A	A	<200	A	7	7	2	.05
	-348		<.5	700	A	<.02		A	<5	<1	A	A	30	1500		20		A	A	700	A	700		10				A	5	A	70			20	A	A	<200	A	5	7	1.5	.0015
	-349		A	1500	A	13		<10	30	<1	A	A	50	1000		2		A	<5	1000	A	1000		15				300	7	A	700			30	A	A	<200	A	5	7	10	.05
	-350		.5	10,000	A	3.9		<10	A	<1	A	A	20	700		<2		A	A	1000	A	300		<10				200	<5	A	200			10	A	A	200	A	3	3	2	.003
	-351		<.5	700	A	.04		A	30	<1	A	A	30	2000		30		A	A	700	A	700		50				A	7	A	70			20	A	A	<200	A	3	5	1	.001
	-352		A	200	A	.1		300	1000	1	A	A	7	200		10		20	A	200	A	150		20				A	15	A	100			200	A	15	A	150	3	2	.15	.5
	-353		A	700	A	.1		A	30	<1	A	A	30	3000		15		A	A	700	A	700		20				A	7	A	150			20	A	A	200	A	3	7	1.5	.01
	-354		.5	500	A	.5		70	700	2	A	A	7	100		30		20	A	500	<10	30		30				A	10	A	70			100	A	15	A	150	3	.7	.5	.5
	-355		A	500	A	.4		50	700	1	A	A	20	200		30		20	A	700	<10	100		30				A	15	A	200			100	A	15	A	200	5	.7	.5	.3
	-356		A	700	A	.2		50	500	1	A	A	7	300		30		20	A	300	<10	150		15				A	10	A	<50			70	A	10	A	100	1.5	.5	.5	.3
	-357		A	A	A	<.02		200	1500	1	A	A	20	300		30		30	A	300	<10	150		10				A	20	A	50			150	A	20	A	150	5	2	.07	.5
	-358		A	<200	A	.2		50	700	1	A	A	5	150		30		30	A	500	<10	30		20				A	7	A	100			70	A	15	A	200	1.5	.3	.3	5
	-359		A	<200	A	.08		50	700	1	A	A	7	150		30		30	A	300	10	30		20				A	15	A	150			100	A	15	A	300	3	7	.5	.7
	-360		A	300	A	.2		70	700	1	A	A	7	150		30		30	A	300	<10	30		20				A	15	A	70			100	A	15	A	300	2	.5	.3	5
	-361		A	700	A	.8		70	700	1	A	A	15	200		30		30	A	500	<10	100		20				A	15	A	100			100	A	20	A	200	5	.7	.5	.7
	-362		A	700	A	.4		100	1000	1	A	A	20	300		30		50	A	700	10	150		15				A	20	A	300			100	A	30	A	300	7	1	7	7
	-363		A	A	A	.06		50	1000	1	A	A	A	200		30		30	A	300	10	30		20				A	15	A	300			150	A	20	A	300	3	.7	.5	.7
	-364		A	500	A	.3		70	500	1	A	A	5	70		30		30	A	300	<10	30		10				A	10	A	<50			70	A	15	A	150	2	.5	.2	3
	-365		<.5	700	A	.3		10	200	<1	A	A	50	700		70		A	A	1500	A	300		30				A	10	A	300			50	A	10	A	20	3	3	3	.1
	-366		A	300	A	.2		300	1000	2	A	A	15	200		30		30	A	500	<10	100		15				A	15	A	200			150	A	15	A	150	3	1.5	.5	.5
	-367		A	700	A	.2		A	70	<1	A	A	20	5000		7		A	A	300	A	700		A				A	7	A	<50			30	A	A	200	A	5	5	<.05	.01
	Limits of determination		.5	200	10	.02	.05	10	5	1	10	20	5	5	100	5	.02	20	5	10	20	5	10	10	.01	.004	.005	100	5	10	50	-	--	10	50	10	200	20	.05	.02	.05	.001

1/ Atomic absorption

2/ Fire assay or fire-assay-atomic absorption

3/ Specific instrumental or chemical method

Table 4.--Old Smoky prospect chemical analyses.

Analysts: Spectrographic analyses by [illegible], and E. [illegible] Martinez.
1/ Gold analyses by A. L. Meier, R. L. Miller, and T. A. Roemer.
2/ Gold analyses by W. D. Goss, L. C. Huff, and T. L. Yager.

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: A = not detected; < = detected but below limit of determination; - = not looked for; > = greater than; G = greater than 10%.

Geo. No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/	Pb	Pd 3/	Pt 1/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																																				Percent			
	ACE-331		A	A	A	<.02		20	1000	1	A	A	5	300		30		70	A	100	A	20		15				A	15	A	300			150	A	20	<200	150	5	1.5	.1	.5
	-332		<.5	700	A	.2		50	3000	3	10	A	A	30		30		100	A	20	A	2		70				A	15	10	1000			100	A	30	A	150	3	.3	.1	.3
	-333		.5	1000	A	.2		30	7000	3	A	A	A	50		30		150	A	30	A	10		70				A	15	A	1500			100	<50	30	A	300	5	.7	.1	.5
	-334		A	300	A	.04		10	3000	2	A	A	5	150		30		50	A	70	A	15		50				A	7	A	1000			70	70	15	A	150	3	1	.15	.3
	-335		A	300	A	.07		10	2000	2	A	A	A	150		30		30	A	30	A	15		70				A	10	A	1500			70	70	15	A	150	5	.5	.1	.3
	-336		A	500	A	<.02		<10	3000	3	A	A	5	200		30		100	A	50	A	15		50				A	15	A	1500			70	A	15	A	200	3	.5	.15	.3
	-337		<.5	1000	A	.08		20	3000	3	A	A	A	150		30		70	A	30	A	10		100				A	15	A	2000			70	70	15	A	200	3	.3	.1	.3
	-338		A	700	A	<.02		10	5000	2	A	A	A	10		30		100	A	20	A	5		70				A	10	A	1500			70	50	20	A	200	5	.2	.05	.3
	-339		A	500	A	.06		<10	2000	2	A	A	A	100		50		70	A	30	A	15		50				A	10	A	1000			70	A	15	A	150	5	.5	.05	.3
	-340		A	1000	A	.3		20	7000	3	A	A	A	200		50		70	A	50	A	15		50				A	15	A	1500			70	A	15	A	200	5	.7	.05	.3
	-341		A	700	A	<.02		<10	2000	3	A	A	5	300		70		100	A	100	A	15		30				A	15	10	2000			100	A	15	A	150	5	1.5	.1	.3
	-342		A	700	A	<.02		<10	2000	3	A	A	A	300		30		70	A	70	A	10		70				A	10	10	3000			70	<50	15	A	150	3	1	.15	.5
	-343		A	>10,000	A	7.3	1.6	150	150	2	A	A	10	200		50		A	A	100	<10	10		10				100	5	A	150			50	<50	A	<200	70	10	.1	.07	.07
	-344		A	G	A	13	7.0	100	50	2	A	A	20	20		100		A	A	100	<10	50		A				300	A	A	A			15	A	A	200	A	20	<.02	<.05	.007
	-345		A	G	A	3	4.6	100	100	2	A	A	7	50		15		A	A	150	<10	7		A				300	<5	A	A			20	A	A	<200	20	20	<.02	<.05	.03
	-346		.5	G	<10	3	3.8	300	150	3	A	A	5	30		500		50	A	100	10	7		<10				100	20	A	150			70	<50	15	<200	100	10	.07	.15	.1

Limits of determination

	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/	Pb	Pd 3/	Pt 1/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

1/ Atomic absorption
2/ Fire assay–[illegible] atomic absorption
3/ [illegible]

Table 5.--Sunshine No. 2 prospect chemical analyses.
Spectrographic analyses by D. J. Grimes
1/ Gold analyses by A. L. Meier, [illegible] Miller, and T. A. [illegible]
2/ Mercury analyses by J. V. Desmond
Analysts:

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols. = not detected; < = detected or below limit of determination, = not looked for > = greater than

No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/	Pb	Pd 3/	Pt 3/	Rh 3/	Sb	Sc	Sn	Sr	Te	Th	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
			Parts per million																																				Percent			
	ACE-370		A	300	A	.2		A	3000	1	A	A	5	20		30	>10	70	A	100	<10	30		70				A	16	A	2000			100	A	20	A	150	6	.3	.07	.5
	-371		<.5	700	A	.2		20	5000	3	A	A	A	30		30	>10	100	A	50	10	7		50				A	10	10	5000			150	A	30	A	200	15	.3	.07	.5
	-372		A	1000	A	.2		200	3000	3	A	A	A	150		50	>10	150	A	100	15	30		50				A	15	A	2000			150	50	30	A	200	5	.7	.1	.5
	-373		<.5	>10,000	A	.8		<10	700	3	A	A	A	20		30	>10	200	A	30	15	3		30				<100	7	A	1000			70	50	50	A	500	3	2	.07	.3
	-374		A	3000	A	.2		70	3000	3	A	A	7	100		70	1.40	150	A	150	15	50		70				A	15	A	1500			150	<50	30	A	300	10	.7	.15	.5
	-375		A	2000	A	.5		100	2000	3	A	A	7	300		30	7.6	100	A	100	15	30		50				A	15	A	700			100	70	30	A	200	7	.7	.07	.3

Table C.--Olive Creek prospect chemical analyses.

Spectrographic analyses by Arnold Farley, Jr.

1/ Gold analyses by A. L. Meier, R. L. Miller, and T. A. Roemer.

Analysts:

Analyses, unless noted, are semiquantitative spectrographic an[illegible] the series 0.1, 0.15, [illegible], 0.3, 0.5, 0.7, [illegible] 1.5, and so on, or by the [illegible] symbols. [illegible] = not detected; < = detected [illegible] below limit of determination [illegible] = not looked for; > = greater than; I = interference.

Parts per million (Ag through Zr); Percent (Fe, Mg, Ca, Ti)

No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2	B	Ba	Be	Bi	Cd	Co	Cr	Cr	Cu	Hg 3/	La	Mo	Mn	Nb	Ni	Ni 3/
	ACE-001		A(.5)	300	A(10)	<.02		50	700	7	A(10)	A(20)	A(10)	A(10)		10		150	5	150	70	A(2)	
	-002		A	A(200)	A	<.02		100	700	10	A	A	A	A		50		200	15	150	200	A	
	-003		A	1500	A	.04		100	2000	20	A	A	A	A		50		300	10	150	300	A	
	-004		A	200	A	<.02		100	1500	15	A	A	A	15		70		200	6	150	300	A	
	-005		A	500	A	.02		100	2000	15	A	A	A	A		30		200	7	100	200	A	
	-006		A	500	A	<.02		100	2000	10	A	A	A	10		30		200	15	150	200	200	
	-007	67AF-2	A	A	A	<.02		50	500	3	A	A	70	700		50		50	10	1500	<20	3	
	-008		A	200	A	<.02		100	700	3	A	A	<10	15		70		150	15	300	150	A	
	-009		A	A	A	<.02		70	1000	3	A	A	<10	A		100		100	5	700	30	50	
	-010		A	<200	A	<.02		100	1000	5	A	A	A	200		70		70	10	150	<20	A	
	-011		A	A	A	<.02		100	1000	3	A	A	A	A		50		150	5	500	50	<2	
	-012		A	A	A	<.02		100	700	3	A	A	<10	A		30		100	5	1000	50	2	
	-013		A	A	A	<.02		100	1000	3	A	A	<10	A		70		100	A(5)	1500	70	<2	
	-014		A	A	A	<.02		70	700	2	A	A	A	A		30		100	A	2000	50	A	
	-015		A	A	A	<.02		70	700	3	A	A	<10	A		30		100	7	1500	70	<2	
	-016		A	A	A	<.02		100	700	3	A	A	A	A		30		100	7	1000	70	<2	
	-017		A	A	A	<.02		70	700	5	A	A	A	20		30		100	10	1500	70	2	
	-018		A	<200	A	<.02		100	1000	7	A	A	A	20		30		200	15	300	200	30	
	-019		A	<200	A	<.02		100	1000	2	A	A	A	A		20		300	5	500	200	30	
	-020		A	<200	A	<.02		100	1000	2	A	A	A	10		30		500	15	500	300	50	
	-021		A	300	A	<.02		100	1000	15	A	A	A	20		20		300	15	500	300	30	
	-022		A	500	A	<.02		100	1000	15	A	A	A	10		15		300	A	500	200	30	
	-023		A	700	A	<.02		100	1000	15	A	A	30	30		30		300	7	700	200	300	
	-024		A	1000	A	<.02		100	1000	15	A	A	<10	30		30		300	5	300	200	300	
	-26		3	A	A	<.02		100	700	A(1)	A	A	50	500		300		70	A	1000	30	150	
	-27		A	A	A	<.02		10	100	A	A	A	A	50		30		50	A	150	A(20)	30	
	-28		A	A	A	<.02		<10	<100	A	A	A	A	30		10		70	A	200	A	30	
	-29		A	A	A	<.02		<10	200	A	A	A	A	30		20		70	A	200	A	20	
	-30		A	A	A	<.02		10	200	A	A	A	A	50		10		70	A	150	A	30	
	-31		A	A	A	<.02		30	500	A	A	A	10	70		30		50	A	700	A	30	
			[illegible]	200	[illegible]	.02	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Lab. No.	Pb	Pd 3/	Pt 3/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
ACE-001	50				A(200)	A(5)	20	A(100)			15	A(50)	70	<200	>1000	5	.7	<.05	.2
-002	70				A	10	30	A			20	A	150	<200	>1000	7	.5	<.05	.5
-003	70				A	10	50	A			20	A	150	300	>1000	10	.7	<.05	.5
-004	100				A	10	30	A			20	A	150	200	>1000	10	.7	<.05	.5
-005	70				A	15	50	A			20	A	150	200	>1000	15	.7	<.05	.5
-006	70				A	10	50	A			15	A	150	300	>1000	10	.7	<.05	.5
-007	A(10)				I	30	A([illegible])	500			200	A	15	<200	150	15	1.5	5	1
-008	70				A	A	A	100			15	A	100	200	500	15	.7	.15	1
-009	70				A	A	A	100			10	A	70	300	300	10	.5	.2	.7
-010	<10				I	20	A	A			1000	A	20	A	200	7	.7	.1	.5
-011	70				A	A	A	100			50	A	50	<200	300	10	.7	.15	.7
-012	70				A	A	A	A			20	A	70	<200	300	10	.7	.15	.7
-013	50				A	A	A	100			20	A	70	300	300	7	.7	.2	.7
-014	50				A	A	A	150			20	A	70	200	300	10	.7	.3	.5
-015	50				A	A	A	A			20	A	70	200	300	10	.7	.1	.7
-016	30				A	A	A	A			30	A	70	300	300	10	.7	.07	7
-017	30				A	A	A	A			70	A	70	200	300	10	.7	.15	1
-018	70				A	10	50	A			100	A	200	A	>1000	7	.7	.005	.2
-019	100				A	A	50	A			15	A	200	700	>1000	10	.7	.1	.2
-020	100				A	20	70	A			70	A	>200	700	>1000	10	.7	.007	.3
-021	100				A	15	70	A			20	A	>100	700	>1000	15	.7	1	.3
-022	70				A	10	30	100			15	A	>200	500	>1000	7	.7	.007	.2
-023	100				A	15	50	A			15	A	200	700	>1000	10	.7	.007	.3
-024	70				A	15	70	A			15	A	200	700	>1000	10	.7	.007	.3
-26	30				A	30	A	150			200	A	30	A	200	10	1.5	2	.7
-27	<10				A	A	A	A			30	A	10	A	A(20)	1	.5	.7	.05
-28	<10				A	A	A	A			20	A	10	A	A	.7	.5	1	.02
-29	<10				A	A	A	A			30	A	10	A	A	.7	.5	1.5	.2
-30	<10				A	5	A	A			30	A	5	A	A	.7	5	1	.3
-31	<10				A	10	A	A			70	A	10	A	100	1.5	.7	.7	.15

1/ Atomic absorption [illegible]

2/ Fire assay [illegible]

3/ [illegible] instrumental [illegible]

Table 6.--Olive Creek prospect chemical analyses. Sheet 2 of 3

Spectrographic analyses by Arnold Farley, Jr.

1/ Gold analyses by A. L. Meier, R. L. Miller, and T. A. Roemer

Analysis:

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols: A = not detected; < = detected or below limit of determination; - = not looked for; > = greater than

Parts per million

No.	Lab. No.	Field No.	Ag	As	Au	Au 1/	Au 2/	B	Ba	Be	Bi	Cd	Co	Cr	Cr 3/	Cu	Hg 3/	La	Mo	Mn	Nb	Ni
	ACE-32		A(.5)	A(200)	A(10)	<.02		10	300	A(1)	A(10)	A(20)	A(10)	30		20		70	A(5)	300	A(20)	10
	-33		A	A	A	<.02		15	500	A	A	A	A	50		30		70	A	700	A	30
	-34		A	A	A	<.02		30	700	1	A	A	A	70		30		70	A	1000	A	50
	-35		A	A	A	<.02		100	1000	<1	A	A	20	150		30		70	A	1000	A	50
	-36		A	A	A	<.02		100	700	<1	A	A	15	150		50		70	A	700	A	70
	-37		A	A	A	<.02		70	700	<1	A	A	A	70		20		70	A	300	A	20
	-38		A	A	A	<.02		30	200	<1	A	A	A	70		15		70	A	200	A	10
	-39		.5	A	A	<.02		15	300	<1	A	A	A	70		15		70	A	1000	A	20
	-40		A	A	A	<.02		100	700	1.5	A	A	30	200		50		70	A	1500	<20	150
	-41		A	A	A	<.02		100	700	1.5	A	A	10	150		30		70	A	1000	<20	100
	-42		.5	A	A	<.02		100	700	1	A	A	70	500		70		70	A	1500	30	200
	-43		A	A	A	<.02		100	700	<1	A	A	20	150		50		70	A	700	<20	50
	-44		A	A	A	<.02		300	700	1.5	A	A	70	300		50		70	5	2000	20	150
	-45		A	A	A	<.02		30	300	<1	A	A	A	70		30		70	A	200	<20	15
	-46		A	A	A	<.02		100	700	<1	A	A	15	200		30		70	A	1500	<20	100
	-47		A	<200	A	<.02		100	700	<1	A	A	50	1500		30		70	A	1000	20	500
	-48		A	A	A	<.02		100	700	<1	A	A	10	200		50		70	A	1500	20	70
	-49		A	A	A	<.02		100	700	<1	A	A	<10	100		30		100	A	300	A	20
	-50		A	A	A	<.02		100	700	<1	A	A	30	100		30		70	A	1500	A	20
	-51		A	A	A	<.02		100	700	<1	A	A	20	150		30		70	A	1000	A	70
	-52		1	A	A	<.02		70	1000	2	A	A	70	500		70		70	A	1500	20	150
	-53		A	A	A	<.02		100	1000	1	A	A	70	500		50		50	A	1500	30	150
	-54		A	A	A	<.02		100	1000	1	A	A	30	300		50		100	A	1000	<20	100
	-55		A	A	A	<.02		100	1000	1	A	A	20	300		50		150	A	700	<20	100
	-56		A	A	A	<.02		50	700	<1	A	A	10	150		30		150	A	700	<20	70
	-57		A	A	A	<.02		10	150	<1	<10	A	A	30		15		150	A	200	A	10
	-58		A	A	A	<.02		15	200	<1	<10	A	A	70		15		150	A	150	A	15
	-59		A	A	A	<.02		10	150	<1	A	A	A	70		20		150	A	200	A	20
	-60		A	A	A	<.02		100	1000	<1	A	A	50	300		70		70	A	1000	20	150
	-61		A	A	A	<.02		70	1000	1	A	A	10	150		30		100	A	1000	<20	50

Parts per million (continued); Fe, Mg, Ca, Ti in Percent

Lab. No.	Ni 3/	Pb	Pd 3/	Pt 3/	Rh 3/	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
ACE-32		A(10)				A(100)	5	A(10)	A(100)			30	A(50)	7	A(200)	A(10)	.7	.7	.7	.3
-33		A				A	10	A	A			50	A	15	A	70	1.5	.5	.7	.15
-34		A				A	15	A	100			70	A	15	A	100	1.5	.5	1	.2
-35		<10				A	50	A	150			150	A	15	A	150	3	.7	1.5	.3
-36		15				A	50	A	150			150	A	15	A	200	2	.7	1.5	.3
-37		20				A	7	A	700			70	A	10	A	100	1.5	.5	1.5	.15
-38		20				A	7	A	700			50	A	5	A	20	1	.5	1.5	.1
-39		15				A	A	A	1500			20	A	A(5)	A	A	1	1	1.5	.03
-40		30				I	50	A	100			100	A	15	A	100	10	1	1.5	.5
-41		<10				A	10	A	A			150	A	15	A	150	5	.7	1	.3
-42		50				I	70	A	150			200	A	15	A	200	15	2	2	1
-43		30				A	30	A	150			150	A	10	A	150	7	1	1.5	.5
-44		30				I	70	A	100			200	A	15	A	200	15	1.5	2	.7
-45		10				A	5	A	700			70	A	5	A	50	3	.3	1.5	.15
-46		10				A	30	A	100			150	A	10	A	200	7	1.5	1.5	.5
-47		50				I	50	A	100			200	A	15	A	200	15	3	1.5	.3
-48		20				A	30	A	150			150	A	15	A	200	7	1	1.5	.7
-49		15				A	30	A	100			100	A	10	A	150	3	.7	1.5	.15
-50		20				A	30	A	100			70	A	10	A	100	3	.7	1.5	.2
-51		30				A	30	A	100			100	A	15	A	100	5	1	1.5	.3
-52		30				A	30	A	100			200	A	30	A	300	10	1.5	1.5	.7
-53		30				A	50	A	150			200	A	20	A	300	10	2	1.5	.5
-54		20				A	30	A	150			150	A	30	A	300	7	1.5	2	.5
-55		20				A	20	A	100			150	A	15	A	300	7	1.5	1.5	.5
-56		15				A	10	A	<100			100	A	15	A	200	5	.7	1.5	.2
-57		A				A	A	A	A			15	50	A	A	A	.07	.7	1.5	.03
-58		A				A	A	A	A			50	50	5	A	<20	2	.7	.7	.1
-59		<10				A	A	A	A			20	50	7	A	<20	1.5	.7	1	.07
-60		20				A	30	A	150			150	A	15	A	200	1.5	2	2	.5
-61		10				A	15	A	<100			150	A	15	A	100	5	1	1	.15

Table 6.--Olive Creek prospect chemical analyses. Sheet 3 of 3

Spectrographic analyses by Arnold Farley, Jr.
1/ Gold analyses by A. L. Meier, R. L. Miller, and T. A. Roemer

Analysts:

Analyses, unless noted, are semiquantitative spectrographic and are reported in the series 0.1, 0.15, 0.2, 0.3, 0.5, 0.7, 1.0, 1.5, and so on, or by the following symbols
A = not detected; < = detected but below limit of determination; -- = not looked for; > = greater than; I = interference

Ag through Zr: Parts per million; Fe, Mg, Ca, Ti: Percent

No.	Lab. No.	Field No.	Ag	As	Au	Au[1]	Au[2]	B	Ba	Be	Bi	Cd	Co	Cr	Cr[3]	Cu	Hg[3]	La	Mo	Mn	Nb	Ni	Ni[3]	Pb	Pd[3]	Pt[3]	Rh[3]	Sb	Sc	Sn	Sr	Ta	Te	V	W	Y	Zn	Zr	Fe	Mg	Ca	Ti
	ACE-62		A(.5)	A(200)	A(10)	<.02		200	1000	<1	A(10)	A(20)	50	300		30		70	A(5)	1500	<20	150		10				A(100)	30	A(10)	150			200	A(50)	70	A(200)	150	15	1.5	2	.5
	-63		A	A	A	<.02		70	1000	1	A	A	20	300		30		100	A	1000	<20	150		<10				A	20	A	150			150	A	20	A	200	7	1.5	2	.5
	-64		A	A	A	<.02		100	1000	<1	A	A	20	300		50		70	A	1000	20	100		10				A	30	A	150			200	A	15	A	300	10	1.5	2	.7
	-65		A	A	A	<.02		100	1000	<1	A	A	20	500		50		70	A	1000	20	150		15				A	30	A	200			200	A	15	A	300	10	1.5	2	.7
	-70		A	A	A	<.02		100	1000	2	A	A	20	150		30		100	A	700	20	100		30				A	15	A	200			150	A	30	A	300	7	1	2	.7
	-71		A	A	A	<.02		200	1000	1	A	A	20	200		30		100	A	500	<20	100		20				A	10	A	150			150	A	15	A	150	3	1.5	1	.5
	-72		A	A	A	<.02		100	700	1	A	A	50	500		50		70	A	1500	<20	150		30				A	30	A	200			200	A	20	A	200	5	2	1.5	.7
	-73		A	A	A	<.02		70	500	<1	A	A	A	150		20		100	A	300	<20	50		<10				A	7	A	A(100)			100	A	20	A	100	10	.7	1	.15
	-74		A	<200	A	<.02		100	700	3	A	A	10	150		30		70	7	200	50	30		50				A	10	A	150			200	A	30	A	500	2	.7	.7	1
	-75		A	A	A	<.02		100	700	7	A	A	A	100		10		150	5	150	100	15		Tr				A	5	10	A			70	A	100	A	1000	10	.7	.3	.3
	-76		.5	A	A	<.02		70	1000	3	A	A	10	200		30		70	A	200	70	100		30				A	15	A	300			150	A	30	A	500	5	1	.7	>1
	-77		A	A	A	<.02		70	1000	2	A	A	15	200		20		70	A	300	20	150		30				A	20	A	300			150	A	20	A	150	7	1.5	1.5	>1
	-78		A	A	A	<.02		100	1000	2	A	A	70	700		30		70	A	1500	20	300		50				A	30	A	200			200	A	20	A	150	10	2	2	.7
	-79		A	A	A	<.02		100	300	<1	A	A	A	100		10		150	A	500	<20	150		<10				A	7	A	A			70	A	15	A	100	15	.7	.7	.15
	-80		A	300	A	.1		100	1500	2	A	A	50	300		50		100	15	1000	20	200		50				A	30	A	200			200	A	50	200	200	2	.7	.3	.7
	-81		A	A	A	<.02		100	700	15	A	A	A	70		20		200	15	150	200	10		200				A	7	70	A			30	A	100	300	>1000	15	.7	.1	.7
	-82		A	700	A	.03		70	1000	3	A	A	50	300		30		100	7	1500	30	200		70				A	10	A	150			200	A	70	300	300	15	1	.3	1
	-83	67AF-8	A	A	A	<.02		30	700	7	10	A	A	A(10)		1000		200	30	100	200	20		150				A	7	50	A			<10	A	150	A	>1000	10	.2	.2	.7
	-84	67AF-9	A	A	A	<.02		70	1000	10	<10	A	A	A		70		300	7	30	200	30		150				A	10	100	A			<10	A	200	A	>1000	15	2	<.05	1
	-85	67AF-10	A	A	A	<.02		20	300	5	A	A	A	A		20		200	10	30	150	15		50				A	7	10	A			<10	A	150	A	>1000	3	15	<.05	.3

Limits of determination

.5 | 200 | 10 | .02 | [illegible] | 20 | 5 | 1 | 10 | 20 | [illegible] | 5 | 100 | 5 | [illegible] | [illegible] | 5 | 10 | 7 | 5 | 10 | 10 | [illegible] | [illegible] | [illegible] | [illegible] | 5 | 1 | [illegible] | ... | 0 | [illegible]

1/ Atomic absorption
2/ Fire assay or fire assay-atomic absorption
3/ By [illegible] instrumental or [illegible] methods

Table 7.--Sample descriptions (fig. 2 and table 1)

Sample No.	Description
ACE-092	Grab rock sample; talc-carbonate rock
-093	Grab rock sample; serpentinite with minor carbonate
-094	Grab rock sample; prehnite-epidote-chlorite metadiorite
-095	Grab rock sample; quartz-carbonate-serpentine breccia
-096	Grab rock sample; serpentinite with minor carbonate
-097	Grab rock sample; serpentine-carbonate breccia
-098	Grab rock sample; talc-carbonate rock
-099	Grab rock sample; talc-carbonate rock
-100	Grab rock sample; epidote-chlorite-carbonate metadiorite
-101	Grab rock sample; carbonate-serpentine breccia
-102	Selected rock sample; carbonate-chlorite rock
-103	Stream sediment sample; stream water pH ~ 2.75
-104	Grab rock sample; silica-carbonate rock
-105	Grab rock sample; carbonate-serpentine-talc rock
-106	Grab rock sample; foliated silica-carbonate rock
-107	Grab rock sample; carbonate-chlorite-metadiorite
-108	Grab rock sample; quartz-carbonate-chlorite metadiorite
-109	Grab rock sample; carbonate-quartz-opaque cataclasite
-110	Selected rock sample; carbonate-quartz-chlorite-opaque cataclasite
-111	Selected rock sample; altered breccia
-112	2.5-foot chip sample (4-inch interval); massive carbonate replacing breccia
-113	Selected rock sample; carbonate cataclasite
-114	Stream sediment sample
-115	Grab rock sample; carbonate-quartz-opaque cataclasite
-116	Grab rock sample; chert pebble metaconglomerate.

Table 7.--Sample descriptions (fig. 3 and table 2)

Sample No.	Description
ACE-218	10-foot chip sample (2-inch interval); limonite-stained (weathered surface) light gray siltstone
-219	3-foot vertical channel; black argillite-limonite-stained siltstone
-220	10-chip sample (2-inch interval) rusty quartz zone in pyritiferous siltstone below argillite
-221	Selected rock samples; from ACE-220 zone
-222	Grab rock sample; pyritiferous siltstone
-223	Selected rock sample; silty mudstone near massive sulfosalts
-224	Selected rock sample; 2-inch sulfosalt vein flanked by gray silty mudstone
-225	7-foot chip sample (2-inch interval); narrow (<2 inches) quartz-sulfosalt vein
-226	Selected rock sample; ACE-225 vein material
-227	Selected rock sample; quartz-sulfosalt vein material
-228	Selected rock sample; quartz-sulfosalt vein
-229	5-foot chip sample (2-inch interval); across 1.6-foot altered dike
-230	Grab rock sample; altered dike rock
-231	Grab rock sample; siltstone country rock
-232	Selected rock sample; sulfosalt material from dike
-233	10-foot chip sample (2-inch interval); limonite-stained siltstone
-234	5-foot chip sample (2-inch interval); across altered dike
-235	Selected material; reddish siltstone with quartz veinlets
-236 to -264	Soil samples (B-horizon where developed)
-265	Stream sediment sample
-266 to -279	Soil samples (B-horizon where developed)

Table 7.--Sample descriptions (fig. 3 and table 2)--Continued

Sample No.	Description
ACE-280	Stream sediment sample
-281 to -303	Soil samples (B-horizon where developed)
-304	Grab rock sample; altered porphyritic latite (chill zone facies?)
-305 to -308	Soil samples (B-horizon where developed)
-309	Grab rock sample; altered porphyritic latite
-310 to -311	Soil samples
-312	Grab rock sample; sheared and altered porphyritic latite
-313 to -329	Soil samples (B-horizon where developed)
-330	Stream sediment sample

Table 7.--Sample descriptions (fig. 5 and table 3)

Sample No.	Description
ACE-347	Grab rock sample; greenish-gray, foliated talc-carbonate rock
-348	Grab rock sample; green-gray, massive talc-carbonate rock
-349	Selected rock sample from adit tailings; green-stained, sulfide-bearing, gray talc-carbonate rock.
-350	Selected rock sample from adit tailings; green-stained, sulfide-bearing, gray talc-carbonate rock.
-351	Grab rock sample; greenish-gray, foliated talc-carbonate rock
-352	Grab rock sample; gray, pyritiferous limy mudstone
-353	Selected rock sample; greenish-gray talc carbonate rock with sulfides and green staining near quartz veining
-354 to -356	Soil samples (B-horizon where developed)
-357	Grab rock sample (scree); gray, pyritiferous limy mudstone
-358 to -364	Soil samples (B-horizons where developed)
-365	Selected rock sample; green-stained, sulfide-bearing talc-carbonate rock
-366	Grab rock sample; pyritiferous mudstone
-367	Grab rock sample; vuggy, limonite-talc-carbonate rock

Table 7.--Sample descriptions (fig. 5 and table 4)

Sample No.	Description
ACE-331	Grab rock sample; argillite hornfels
-332	5-foot chip sample (approx. 2-inch interval); biotite monzonite(?)
-333	5-foot chip sample (approx. 2-inch interval); biotite monzonite
-334	5-foot chip sample (approx. 2-inch interval); altered biotite monzonite
-335	6-foot chip sample (approx. 2-inch interval); altered biotite monzonite
-336	5-foot chip sample (approx. 2-inch interval); altered biotite monzonite
-337	5-foot chip sample (approx. 2-inch interval); altered biotite monzonite and k-spar porphyry
-338	5-foot chip sample (approx. 2-inch interval); k-spar porphyry dike
-339	5-foot chip sample (approx. 2-inch interval); k-spar porphyry and footwall altered biotite monzonite.
-340	5-foot chip sample (approx. 2-inch interval); altered biotite monzonite
-341	5-foot chip sample (approx. 2-inch interval); altered biotite monzonite
-342	5-foot chip sample (approx. 2-inch interval); altered biotite monzonite
-343	5-foot chip sample (approx. 2-inch interval); biotite monzonite-quartzite contact zone with 3 narrow arsenopyrite-quartz veins in the quartzite
-344	Vein grab sample
-345	Vein grab sample
-346	Vein grab sample

Table 7.--Sample descriptions (fig. 5 and table 5)

Sample No.	Description
ACE-370	10-foot channel sample; limonitic dike rock
-371	Grab rock sample; altered dike rock
-372	10-foot channel sample; altered dike rock and argillite
-373	Grab rock sample; altered dike rock
-374	10-foot channel sample; limonitic dike rock and argillite
-375	Grab sample; limonitic tailings material

Table 7.--Sample descriptions (fig. 6 and table 6)

Sample No.	Description
ACE-001	10-foot chip sample (continuous in soft material, 2-inch interval in bedrock); altered porphyritic latite(?)
-002	10-foot chip sample; altered porphyritic latite(?)
-003	10-foot chip sample; altered porphyritic latite(?)
-004	10-foot chip sample; altered porphyritic latite(?)
-005	10-foot chip sample; altered porphyritic latite(?)
-006	10-foot chip sample; altered porphyritic latite(?)
-007	Grab rock sample; latite(?) replaced by carbonate-chlorite
-008	10-foot chip sample; altered felsite
-009	Grab rock sample; altered felsite
-010	Grab rock sample; black argillite inclusion(?)
-011	10-foot chip sample; altered felsite
-012	10-foot chip sample; altered felsite
-013	10-foot chip sample; altered felsite
-014	Grab rock sample; altered felsite
-015	10-foot chip sample; altered felsite
-016	10-foot chip sample; altered felsite
-017	6-foot chip sample above hornfelsed argillite
-018	10-foot chip sample; altered felsite between black argillite inclusions
-019	Grab rock sample; sulfide-bearing porphyritic latite(?) with silica nests and veinlets.
-020	10-foot chip sample; altered felsite and argillite

Table 7.--Sample descriptions (fig. 6 and table 6)--Continued

Sample No.	Description
-021	10-foot chip sample; altered felsite
-022	10-foot chip sample; altered felsite
-023	12-foot chip sample; altered felsite
-024	10-foot chip sample; altered felsite
-26 to -81	Soil samples(B-horizon where developed)
-82	Stream sediment; stream water pH ~ 6.
-83	Grab rock sample; porphyritic latite(?)
-84	Grab rock sample; porphyritic latite(?)

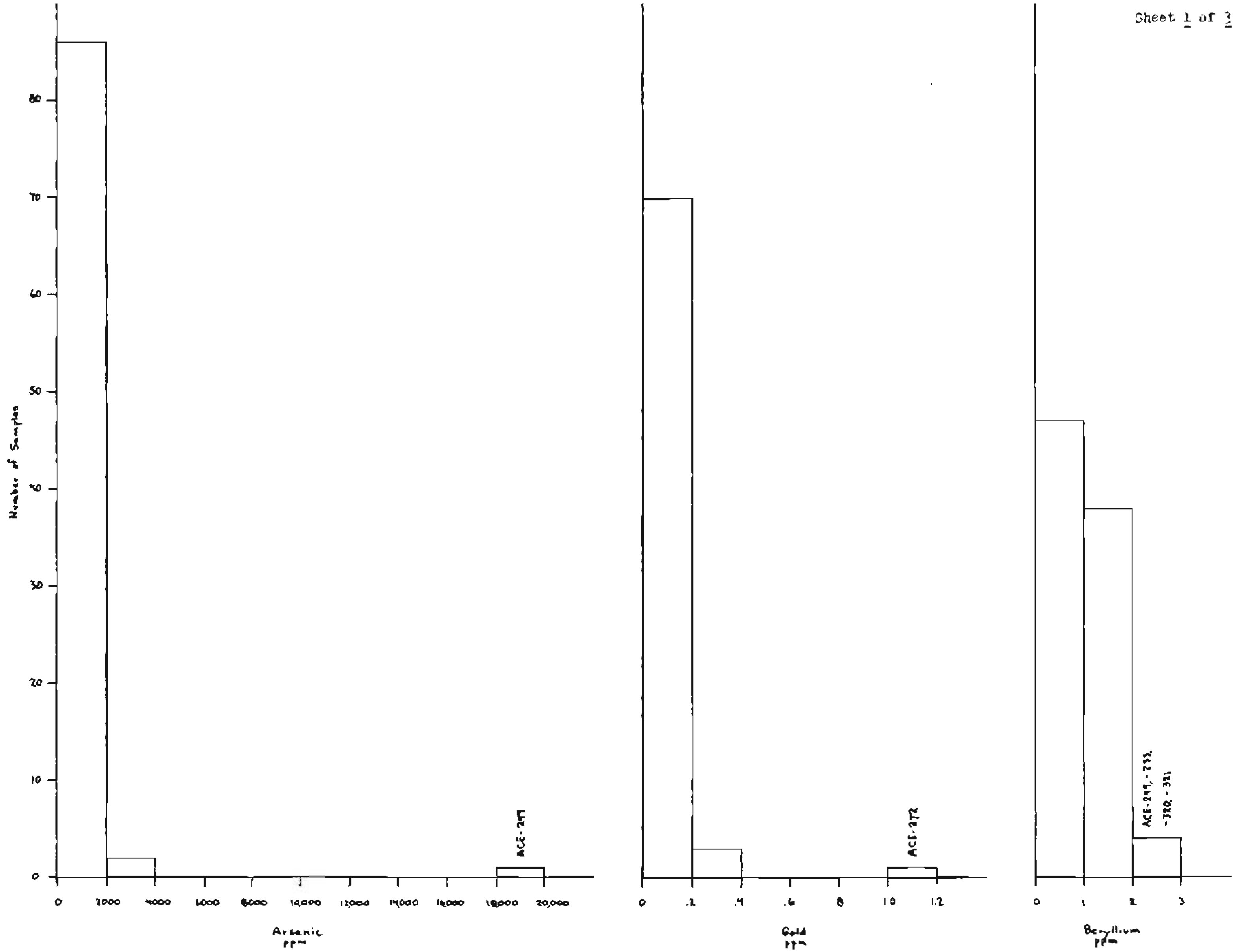

Figure [illegible] prospect soil chemistry histograms.

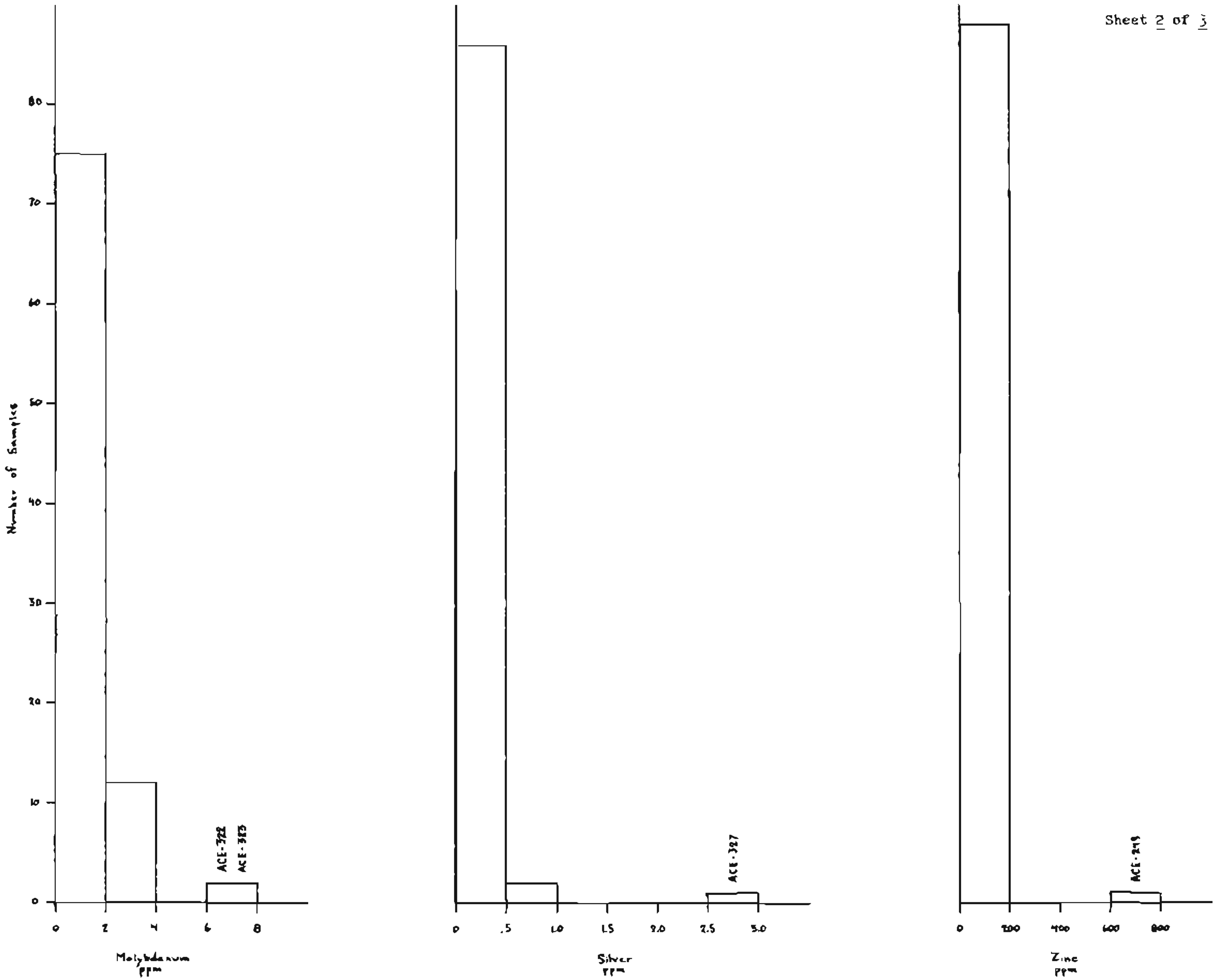

Figure 4.--Gillian Creek prospect soil chemistry histograms.

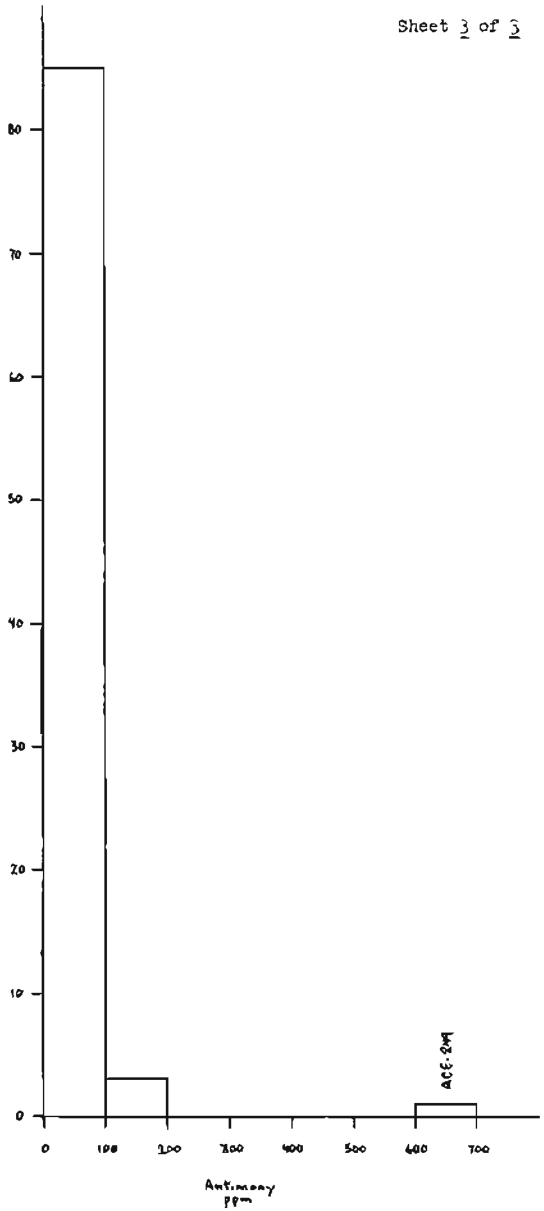

Figure 4.--Lillian Creek prospect soil chemistry histograms.

Sheet 1 of 2

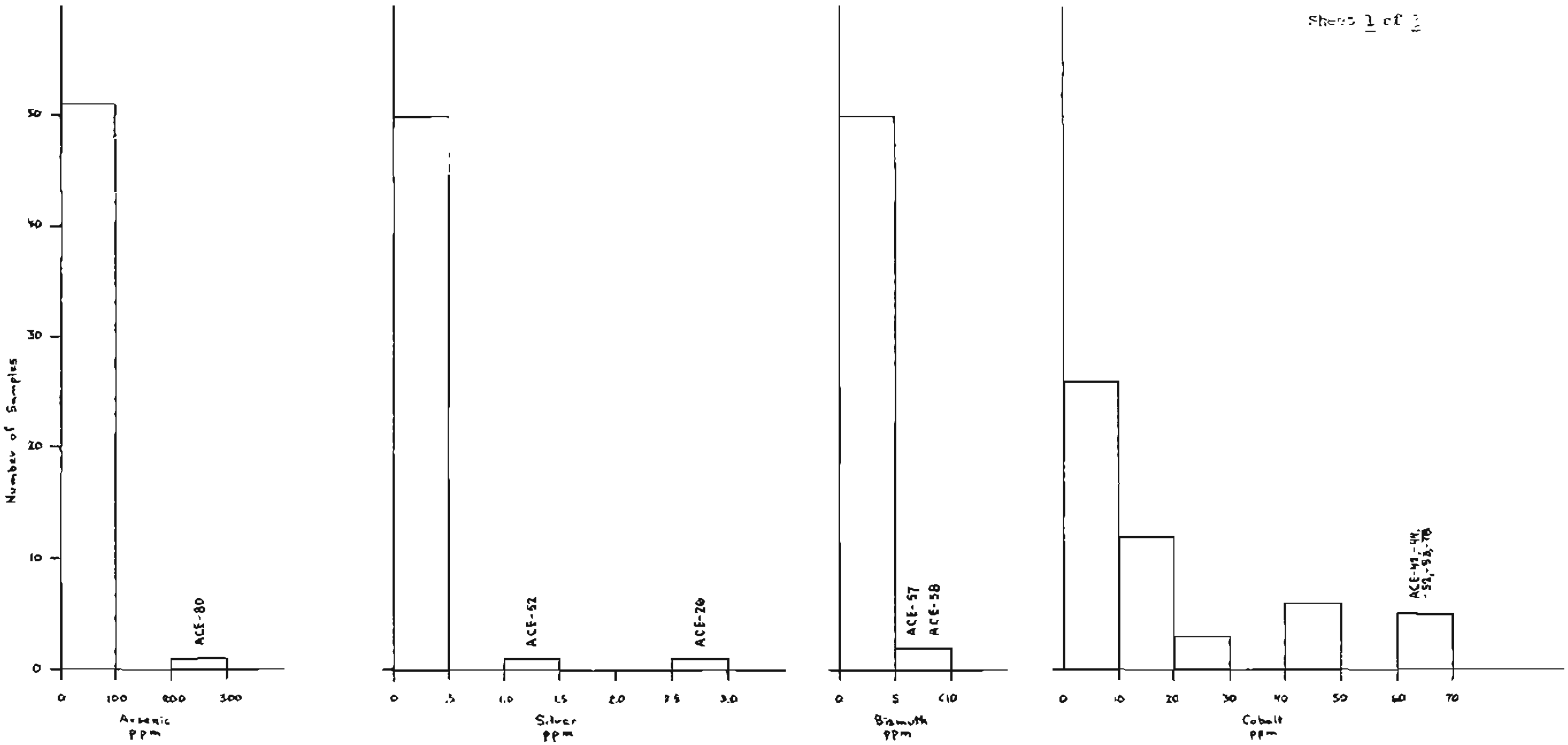

Figure 7.--Olive Creek prospect soil chemistry histograms.

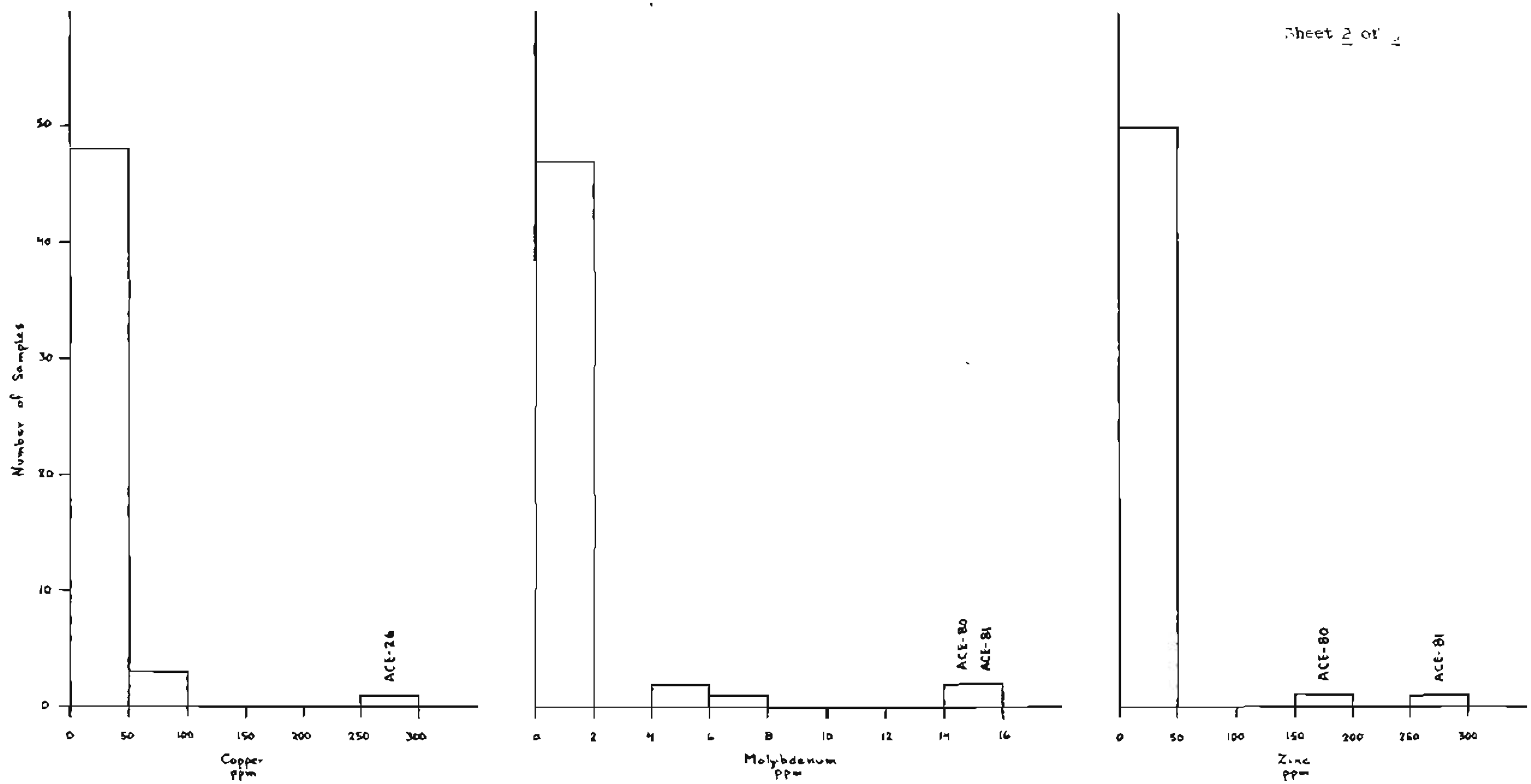

Figure 7.--Olive Creek prospect soil chemistry histograms.

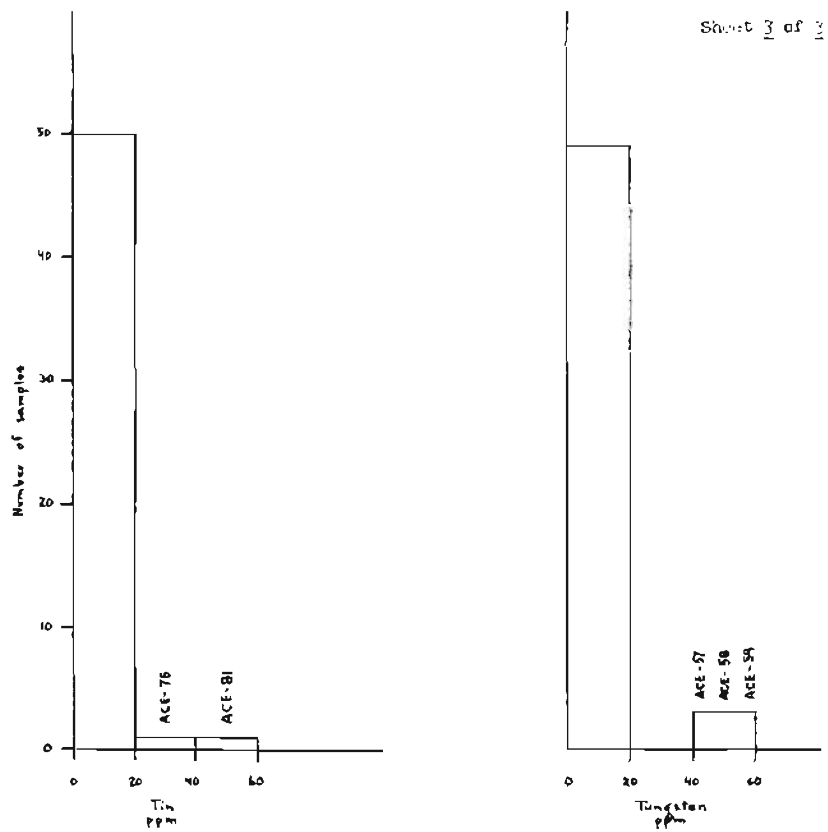

Figure 7.--Olive Creek prospect soil chemistry histograms.

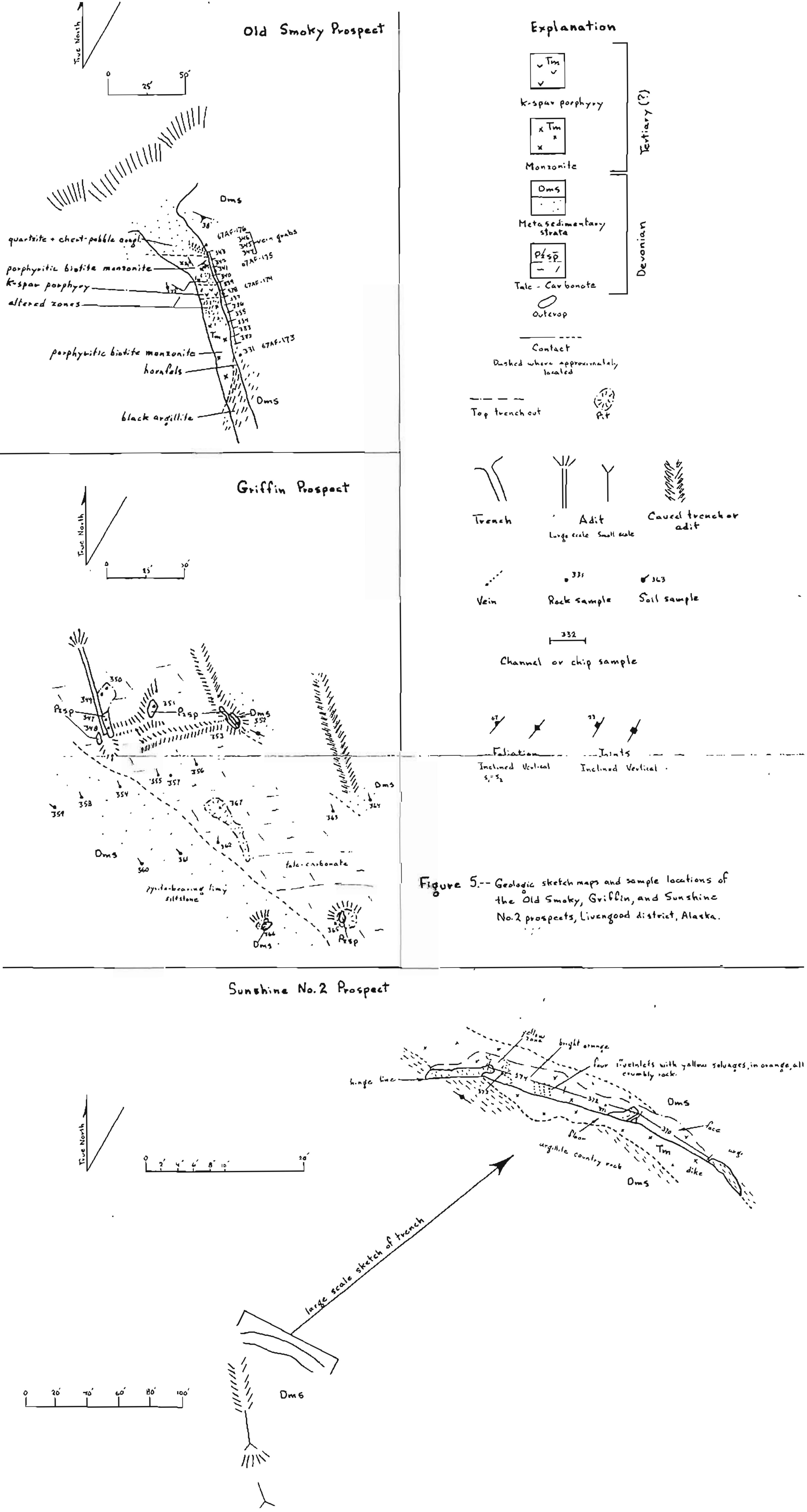

Figure 5.-- Geologic sketch maps and sample locations of the Old Smoky, Griffin, and Sunshine No. 2 prospects, Livengood district, Alaska.