Table 1. Semiquantitative spectrographic analyses of samples from the Chitral-Partsan area, Pakistan.

[Abbreviations: Si, silica; Car, carbonate; Loc, locality; Pros, prospect; Alt, altered; Ls, limestone; E, east; Cu, copper; Sb, stibnite; Qtz, quartz; Sil, silicified; Brn, brown; Qtzite, quartzite; Blk, black; W, west; Mal, malachite; Flt, fault; Spl, sample; Sta, station; Cpy, chalcopyrite; L, detected but below limit of determination. Elements reported in parts per million except where percent is indicated. For sample locations see plate 1 and figures 4, 5, and 6. Analysts: J. L. Harris, C. L. Burton, F. W. Brown, and W. B. Crandell, USGS]

Sample No.	Mn	Ag	As	Au	B	Ba	Bi	Ce	Co	Cr	Cu	La	Ga	Mo	Nb	Ni	Pb	Sb	Sc	Sn	Sr	V	W	Y	Yb	Zn	Zr	Percent Fe	Percent Mg	Percent Ca	Percent Si	Sample Description
AWIRETH GOL LOCALITY																																
J2	50	700	18,000	30		3	200				700						>10%	>10%		150		10						.2	.07	.2	.5	Lead ore from stockpile
AH8	300	700	>26,000	70		15	500			3	700						>10%	>10%		150	30	7						7	.07	.2	3	Bottom of vein
AH9	200	500	>26,000	200		7	700			3	200						>10%	>10%		150	7	7						5	1.5	1	3	One foot up
AH10	100	1,000	>26,000	15		10	200				500						>10%	>10%		200	30	7						1	.05	.1	1.5	Three feet up
AH11	20	2,000	>26,000	70		7	2,000				1,000						>10%	>10%		200	15	7						5	.05	.1	5	Top of vein
J123	300	7				200	30		15	7	30,000		7	50	3	L	15		5		5	15		20	2		70	5	.5	.05	>10	Alt. Phy. with Cpy.
KRINJ MINE AREA																																
Lower adit (adit 2A)																																
J55	500	L				20				7	100		3			L	50				10	15						.7	.02	.07	>10	Two inch Qtz. vein
J56	200	L	20,000		30	300		200	15	70	70	70	15	5	7	50			15		70	100		30	3		150	>10	.2	.5	>10	Flt. zone in phyllite
J57	300	L			50	500		300	15	100	15	70	15	3	10	50	30		20		70	200		50	5		300	7	2	.5	>10	Phyllite with pyrite
J58	300	L			50	500		300	10	70	10	40	15	3	10	50	7		20		200	150		50	5		500	7	2	.5	>10	Brecciated Sil. phyllite
J59	500	L				50				15	300		3		3	L	3				20	15						2	.5	.7	>10	Lens-shaped quartz vein
J60	500	L	100			200		200	20	70	70	70	10	3	10	70	3		15		100	150		30	3		200	5	2	.7	>10	Sil. brecciated phyllite
J61	700	L	3,000		30	200		300	15	50	70	70	7		10	70	150		10		150	70		20	2		100	3	2	7	>10	Channel Spl. of Qtz. vein
J62	700	L			30	300		500	10	100	20	150	10	3	10	L	5		15		150	100		30	3		200	3	1.5	5	>10	Qtz. veinlets in slate
J63	1,000	3				50				15	200		3		7		3		5		300	20					10	1	3	>10	>10	Qtz. vein in slate
J64	700	L				100				30	20		7		7	L	3		5		100	30		15	1.5		50	2	.5	5	>10	Alt. zone with vein Qtz.
J65	200	L	100		70	300		500		70	20	150	15		15	L	10		15		200	150		30	3		150	3	.7	3	>10	Alt. zone with vein Qtz.
J66	200	1				20				3	700						1,000	>10%			7	15						.3	.15	.15	>10	3-4 inch Qtz.-Sb. vein
J67	30	10				15				3	500						1,000	>10%			5	15				700	20	.2	.02	.05	>10	4-8 inch Qtz.-Sb. vein
J68	30	70				20				3	2,000						1,000	>10%			3	15						.1	.015	.1	>10	12 inch Qtz.-Sb. vein
J69a	150	10	1,000			20					300						700	>10%			5	15				700		.3	.1	.15	>10	Pure Sb. ore
J69b	300	5	1,000			70				5	200		3				500	>10%			5	20				700	10	.7	.15	.2	>10	Qtz.-Sb. ore
J69d	200	50			30	70				10	500		5			L	200	>10%				30		10	1	1,000	20	1	.15	.2	>10	Channel Spl. across Sb. vein
J70a	30	5				7					500						1,000	>10%				10						.15	.015	.03	>10	Qtz.-Sb. ore
J70b	500	L	2,000		L	200		300	20	100	15	100	20	5	10	100	10	10,000	10		150	100		50	5		100	10	2	1.5	>10	Phyllite enclosed in vein
Upper adit (adit 1A)																																
J71	300	L			30	200		100	10	50	70	30	10		3	L	150	1,000	10		50	70		15	1.5		100	5	.3	.2	>10	Phyllite gouge with vein Qtz.
J72	500	L			30	100				15	50		7		3	L	70	700	3		50	30		20	2		30	2	.7	1.5	>10	Vein Qtz. with adjacent phyllite
J73	500	L			70	300		300	20	100	70	100	15	3	10	50	20	300	15		70	150		30	3		200	5	1.5	.5	>10	Brecciated phyllite with pyrite
J74	200	L			70	150		200		70	200	70	15	3	10	30	10	300	10		30	100		30	3		150	5	1	.2	>10	Brecciated Sil. phyllite with pyrite
J75	30	1			L	5					150		2				100	>26,000				10						.1	.003	.02	>10	Qtz. vein with Sb.
J76a	50	7				20				5	500			3	3		500	>10%			20	15				500		.3	.05	.15	>10	Flt. gouge in phyllite
76b	20	5			L	70				10	150		3				200	>10%			70	30		10	1		30	.15	.03	.5	>10	Qtz.-Sb. ore
J77	50	5			L	20				10	500		1				200	>10%			10	10	100					.3	.01	.1	>10	Qtz.-Sb. ore
J78	15,000	L				70			150	15	150		7	20		300		2,000	10		7	10		20	2	2,000	30	>10	.07	.07	10	Alt. phyllite gouge
J100	70	3			L	50				7	150					50	100	>26,000			7	20	150				30	1	.02	.07	>10	Sb. ore from working face
Old workings and stockpile																																
J1	15	10			7						200						500	>10%				10							.001	.0007	.5	Sb. ore from stockpile
J80	1,000	L			50	200		100	10	70	20	100	15		10	30	30	200	10		300	100		50	5		150	3			>10	Phyllite, Sta. 18
J81	50	3				30				3	100		1		15		150	>10%			10	15	3,000					.2	.01	.15	>10	Sb. ore, Sta. 18
J82	30	5			L	50	10			7	200		L				1,000	>10%			3	30	150				10	.5	.02	.1	>10	Sb. ore, Sta. 18
J83	200	L			50	150		300		50	20	70	15		10	L	10	1,000	10		70	70		15	1.5		200	1.5	.03	1.5	>10	Phyllite gouge, Sta. 20
J84	100	L	1,000		L	15					70		1				50	>26,000			3	15	50					.3	.05	.07	>10	Sb.-Cu.-Qtz. vein, Sta. 21
J85	200	70	2,000			30				5	150	100	3		3		700	3,000			20	15						5	.03	.5	>10	Qtz. vein, Sta. 23
J86	30	L	3,000		100	300		300		100	10		15		7	L	5	100	10		50	150		30	3		150	1	.3	1.5	>10	Phyllite with pyrite, Sta. 23
J87	70	2			70	150		100		50	15		10		7	L	5	500	7		70	70		20	2		100	1.5	.2	3	>10	Phyllite gouge from roof, Sta. 6
J88	70	2	2,000		150	300		300		100	10	70	15		10	L	5	100	15		100	150		50	5		150	2	.5	1.5	>10	Phyllite gouge from floor, Sta. 6
J89	100	L			L	15				3	50						70	>26,000			3	10						.3	.05	.07	>10	Sb. vein rock from dump, Sta. 6
J90	700	L			70	300		300	10	70	100	70	15		10	50	20	1,000	15		70	150			3		150	5	1	.7	>10	Alt. phyllite, Sta. 9
J91	300	10	1,000		L	30				5	700		1		20	L	500	>10%			20	20	3,000	1,500			15	1	.2	.3	>10	Qtz.-Sb. ore, Sta. 10
J92	200	20			L	50				15	500		3			L	700	>10%	3		150	30		3,000	5		15	2	3	5	>10	Qtz.-Sb. ore, Sta. 10
J93	70	L	3,000		100	300		500	20	100	50	150	20	7	10	70		100	15		70	20			5		500	>10	1.5	.7	>10	Alt. phyllite with pyrite, Sta. 10
J94	70	L			L	30				3	50						70	>26,000			3	10						.3	.015	.1	>10	Sb. ore in phyllite, Sta. 10
J95	70	5			L	200				3	300						50	>10%			5	15				700		.5	.1	.1	>10	Qtz.-Sb. ore, Sta. 10
J96	700	200				100	150		7	7	>10%		3	70	5	L	30	300			150	30		30	3		20	3	.7	3	>10	Phyllite float, with Cu.
J98	500	2	1,000		30	100				30	150						100	>26,000			70	50		15			50	3	.7	1.5	>10	Qtz.-Sb. ore, Sta. 15
J99	200	2			100	200		300	10	100	200	100	15	3	10	30	50	1,000	10		200	100		50	5	500	300	5	.3	1.5	>10	Phyllite, base of vein, Sta. 15
PARTSAN AREA																																
J23	1,000	L				100			20	15	15		5	3		30	5		5		100	20		30	3		150	10	3	10	>10	Alt. Si.-Car. rock
J24b	50		3,000		50	70				70	500						500	>10%			5	30				1,000	150	.5	1.5	2	1.5	Sb. ore, upper Partsan Pros.
J24c	200	L				50				30	500						200	>10%			70	30					50	.5	10	>10	1.5	Sb. ore, upper Partsan Pros.
J25	500	L				30				3	3		5	3			150				50	10		10	1	30,000	15	>10	>10	>10	.5	Alt. Ls. from E. rim
J26	300	L			30	10				20	300						500	>10%			30	7				1,000	20	.5	3	3	>10	Cu.-Sb.-Si.-Car. float
J28	1,500	L				200			20	50	200		7	7		100			10		20	30		150	1.5		30	>10	.3	.7	>10	Alt. Qtz.-Car. rock
J32	700	L				500		100	30	200	50	70	15	3	20	200			15		300	100		15	1.5		150	10	3	7	>10	Brown Sil. rock with pyrite
J36a	1,000	L				500		200	15	100	50	70	15	3	20	50			10		300	150		30	3		150	7	5	7	>10	Alt. phyllite with pyrite
J36b	1,500	L				70				7	1,000		3								70	15		15	1.5		100	2	2	3	>10	Qtzte. above open cut
J36c	1,500	L				70				7	150		5				70		3		100	15		15	1.5		10	10	5	7	>10	Qtz. vein material
J36d	700	L				100				50	50		10	3		L	3		7		150	20		20	2		10	10	5	10	>10	Veined, Alt. black phyllite
J37	1,000	L				70			10	70	50		5	3		50	3		15		150	50		15	1.5		10	10	5	>10	>10	Vein Qtz. in phyllite
J38	200	1,000	5,000			20	30		15	300	70,000					300	70,000	>26,000			100	10				1,000		.7	7	5	>10	Vein Qtz. with Mal., W. rim
J38a	500	L			100	700			20	150	50	100	20	3	10	50	7		20		300	150		70	7		150	7	2	2	>10	Bleached soil
J39a	500	L				700			20	150	70	150	20	3	10	50	7		20		200	150		70	7		150	7	3	.5	>10	Bleached soil
J39b	500	L				700			20	150	50	100	20		10	50	20		20		200	150		70	7		200	7	2	.7	>10	Bleached soil
SHOGHOT-MADASHIL AREA																																
J138b	300	L			L	700		100	10	50	20	20	15		3	L			10		200	50		20	2		150	2	1	2	>10	Greenschist near Shoghot
J138c	300	L				500		100	15	70	70	70			3	30			15		200	70		30	3		150	3	1.5	1.5	>10	Greenschist near Shoghot
J139	3,000	1.5				30					7					L					200	5					20	7	3	>10	>10	Brown-Alt. breccia (float)
J140a	2,000	300				7,000	100		10	5	1,000		2	3		30	>10	500			30					2,000	10	3	.05	.2	>10	Lead ore, Madashil Loc.
J140b	5,000	10				10,000			15	3	1,500		7	7		50	500	100	1		100			10	1	700	70	>10	.3	1.5	5	Jasperoid rock next to vein
J140c	3,000	2				500		100	50	700	100	100	7	5	20	300	500	300	7		300	30		10	1		100	7	3	2	>10	Green-stained phyllite
140d	2,000	500				150			15	20	5,000		7			50	3,000	5,000	5		150	15		30	3	5,000	50	3	2	10	>10	Mal.-galena ore, Madashil Loc.
J141a	7,000	10				200				3	2,000	10	7			L	70					30		7		700	100	>10	.2	2	7	Sil.-Car.-Cpy. ore (float), Shoghot
J141b	3,000	5	7,000			70				3	500	10	7				70			15		30				700	100	>10	.5	2	7	Sil.-Car.-iron rock, Shoghot
J141c	3,000	1.5				100				15	70	5	L			L	7				200	30		10	1		30	7	7	>10	.7	Iron-jasperoid rock, Shoghot
J141d	30					10				150	200						20				70	7						.2	>10	>10	.3	Brecciated dolomite, Shoghot
AH7	100	15				200			50	10	10,000		3	10		5	1,000	500			10	15					50	3	.07	.05	>10	Qtzite. float with Mal.
MOGH LOCALITY																																
J109f	2,000	10				300			10	300	20,000		3	5	5	50	200		30		200	100		50			100	>10	5	7	>10	Biotite schist float with Mal.
HOT SPRINGS AREA																																
J110	150	L				300				200	7		10	15			200			10	100	10		20	2		70	.7	.07	.7	>10	Alt. granite in hot springs zone
AH1	500	7				1,000			20		7,000		15	3			3,000	700		10	300	5		10	1	700	70	1.5	.05	.5	>10	Granite float with Mal.
MOMI-BESTI AREA																																
J127	200				50	700		100		70	70	70	15		7		15		10		150	50		20	2		200	3	2	.5	>10	Graphite schist with pyrite
J129	300	L				30				5	50		3		7		30		3		15	15		15	1.5			1	.15	1.5	>10	Qtz. vein in biotite schist
J132a	30	L			L	30				5	70		2		7		20				70	7						.7	.05	.2	>10	Qtz. vein in phyllite
J132b	200	L			30	700		300		100	100	100	15	7	10		15		10		300	70		30	3		200	5	2	1	>10	Black phyllite with pyrite
J133a	200	L			20,000	70		100		70	50	70	10		20		5		10	20	50	70		30	3		100	2	5	.3	>10	Sulphur-stained graphite schist
J133b	200	L			15,000	150		150		70	30	70	10		20		7		10	20	70	70		50	5		300	2	3	.3	>10	Qtz. vein and adjacent schist
J133c	200	L			20,000	20		150	7	100	50	70	15		20		5		15	20	70	70		50	5		150	3	5	.3	>10	Sulphur-stained graphite schist
J135	500	L				50			30	300	150		10			100	3		20		300	100		30	3		70	5	10	10	>10	Amphibolite
J136	300	L				150			30	1,000	300		7			500			15		200	50		10	1		10	3	>10	.1	>10	Tremolite schist with Mal.
J137	300	L				20			20	500	1,000		10			150			15		300	70		20	2		50	3	10	10	>10	Amphibolite with Mal.
KOGHOZI AREA																																
J120	200				70	70			15	30	500		5		3	L			5		15	15		15	1.5		200	3	.2	.7	>10	Altered Qtz. vein material (float)
J121	200					200			15	7	200		7		3				5		70	15		15	1.5		50	3	.2	1	>10	Altered Qtz. phyllite (float)
J122d	300	L				10			20	30	1,000		10	3		50			70		70	150		15	1.5		30	10	7	1.5	>10	Amphibolite with Cpy. and Mal.
SJ154	150					70				3	50		10		3				10		50	10		30	3		70	1.5	.3	.5	>10	Greenstone with pyrite
SJ165	500	10				20			30	200	10,000		10	7		50	10	200	20		500	100		10	1		70	>10	5	10	>10	Greenstone with Mal.
PRINCE BURHANUDDIN LOCALITY																																
J101	150	1.5	700			20			7	3	30,000					20	1,000									700		2	.015	.007	>10	Qtz. vein with Cpy.
KUKIL-GAHIRAT AREA																																
J42	300	20				20	70			7	5,000						7,000	1,000			7	15				7,000		1	.03	.03	>10	Qtz. vein with Cpy.
KAFIRISTAN AREA																																
J44a	200	L				70			7	3	70					L					3	20		10	1			1	.07	.02	>10	Qtz. vein material (float)
J44b	500	L				300			7	30	500		7	7	7	L					20	70		20	2		70	2	.3	.2	>10	Alt. Qtzite. (float)
J44c	150	L			30	1,000		200	10	70	70	50	15	20	10	L	20		20		70	200		50	5		300	1.5	.5	.5	>10	Sil. phyllite (float)
J46	[illegible]	L			70	700		300	7	150	500	100	15	5	10	100	10		5		150	100		70	7		200	3	1.5	.5	>10	Sil. siltstone with pyrite
J48	1,000	L				200			20	50	15		7	7	5	30	3		7		30	70		30	3		10	5	.7	>10	>10	Qtz.-Car. vein in fault
J52	20,000	L				200			20	20	500		7	10		L	1		7		700	30		70	7		20	>10	2	>10	>10	Alt. Sil. slate (float)
J145	50					7				200	15						10				70	10						.15	>10	>10	.5	Marble with Mal.
DROSH-SHISHI VALLEY AREA																																
J102	150	15			30	10,000			10	20	70,000		10	5	7	L	15		10		200	70		15	1.5		100	3	2	1	>10	Greenstone with Mal.
J102a	500	L				700			20	50	200	30	10	5	7	L	3		15		1,000	100		20	2		150	5	5	7	>10	Fresh volcanic greenstone
J104	500	150	2,000		30	200			20	100	30,000		10	3		50	5,000	2,000	20	5	200	200		10	1	1,000	70	2	3	10	>10	Qtz. vein with Mal., galena
J143	150				30	200			15	700	10					100			10		500	10						1	5	>10	>10	Talc-dolomite rock with Mal.
J144a	700	70			15				200	10	20,000		7	10			5			50		7				700	100	>10	.3	7	>10	Fault zone with Mal., galena
J144b	1,000	7				100			50	50	30,000		10	20		50	150		7	15	70	30		15	1.5		150	>10	1.5	>10	>10	Channel Sp. across fault zone
J148a	500	L				500			15	100	200				3	L	5		15		1,000	70		15	1.5		50	5	3	>10	>10	Volcanic greenstone
J148b	700	L			70	2,000			20	150	70				3	50	3		10		500	70		15	1.5		50	5	3	10	>10	Volcanic greenstone
J148c	500	L			L	700			20	70	70				3	30	5		20		500	100		30	3		150	5	5	10	>10	Volcanic greenstone
J148d	500	L			L	500			20	70	200	50	10	3	5	30	7		20		500	100		30	3		150	5	5	5	>10	Volcanic greenstone
J148e	700	L				500			20	100	200	50	10	3	5	30	5		20		500	100		30	3		150	5	7	7	>10	Volcanic greenstone
J148f	1,000	L				200			30	700	500		10	3	3	70	10		30		1,000	150		20	2		70	5	>10	10	>10	Volcanic greenstone
J149a	200	5				150			30	3	3,000		3		3	L					5	10					30	1.5	.07	.02	>10	Qtz. vein with Cpy., Mal.
SJ38	700	10				300			20	50	30,000		10			L	150		10		200	70		15	1.5		50	5	5	7	>10	Greenstone with Mal.
SJ39	700	3				700			15	100	3,000		7			L	10		10		500	50		7			30	3	3	>10	>10	Qtz.-dolomite vein with Mal.
SJ44	500	30			L	700		100	20	50	70,000	70	10	10	5	L	10		20		200	100		20	2		100	3	1.5	7	>10	Greenstone float with Mal.
SJ46	150	50			7,000					3	>100,000		3				7				300	30					10	1.5	.15	.5	>10	Qtz. vein with Mal. in greenstone
SJ49	500	L				100			20	150	1,000	30	15	3	5	30	7		20		500	100		30	3		200	7	3	3	>10	Greenstone with Mal.
SJ141	50	1,500	30,000		500				20		>100,000			3		L	>100,000	70,000			20	7				20,000		1	.015	.05	>10	Fault zone with Mal., galena
SJ193	500					150		300	50	30	20	70	10	3	7	30			15		700	100		30	3		150	7	1	5	>10	Sil. greenstone with pyrite
SJ205	500	L				70			30	200	500		10	3		50			70		200	300		15	15		30	10	7	7	>10	Greenschist with Cpy., pyrite