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GEOCHEMICAL RECONNAISSANCE OF THE FAIRBANKS D-3 QUADRANGLE, ALASKA; SUMMARY OF DATA ON STREAM-SEDIMENT, PAN-CONCENTRATE, AND ROCK SAMPLES

By

M.D. Albanese

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GEOCHEMICAL RECONNAISSANCE OF THE FAIRBANKS D-3 QUADRANGLE, ALASKA; SUMMARY OF DATA ON STREAM-SEDIMENT, PAN-CONCENTRATE, AND ROCK SAMPLES.

By
M.D. Albanese

INTRODUCTION

This report lists the geochemical analyses of 262 stream-sediment samples, 24 pan-concentrate samples, and 184 rock samples from the Fairbanks D-3 Quadrangle, Alaska.

These geochemical results present part of a geological and mineral investigation of the Fairbanks Mining District conducted by DGGS and the Mineral Industry Research Laboratory, University of Alaska.

The samples were collected during May-July 1981 by DGGS staff members T.E. Smith, T.K. Buhdtzen, M.S. Robinson, M.D. Albanese, D.N. Solie, V.M. Ferrell, G.M. Laird, J.D. Blum, M.H. Hall, J.D. Clough, and S.A. Liss; MIRL staff members P.A. Metz and B.W. Campbell; and D.B. Hawkins of the University of Alaska.

Copper, lead, zinc, gold, silver, and molybdenum were analyzed at the DGGS laboratory by atomic-absorption spectrophotometry with a lower detection limit of 0.01 ppm. DGGS laboratory staff involved in these analyses include M.A. Wiltse, D.R. Stein, N.C. Veach, M.R. Ashwell, T.A. Benjamin, M.K. Polly, C.L. Smith, and S.W. Seed.

Tin, tungsten, mercury, and arsenic were analyzed by Bondar-Clegg & Co. Ltd., Vancouver, B.C. Tungsten and arsenic were analyzed by coulometry with a lower detection limit of 2 ppm. Mercury was analyzed by cold-vapor atomic-absorption spectrophotometry with a lower detection limit of 5 ppb. Tin was analyzed by X-ray fluorescence with a lower detection limit of 5 ppm.

The geochemical data were sorted and plotted by using computer programs written by Alyce Egan and Otto Johansen. G. Hall and J. Lindhorst assisted in checking the data for accuracy.

Table 1

STREAM SEDIMENT SAMPLES FAIRBANKS (D-3) QUADRANGLE
(IN PPM)

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	As
329	64 48 37	148 6 12	17	11	51	10
331	64 48 48	148 6 32	15	7	52	7
332	64 49 50	148 4 40	17	9	45	22
841	64 53 3	148 1 53	23	7	56	63
842	64 53 19	148 1 38	18	6	48	52
844	64 53 37	148 2 23	17	8	54	160
846	64 53 50	148 1 14	27	9	73	240
847	64 54 11	148 0 17	15	7	52	110
1097	64 48 53	148 10 42	18	10	46	10
1098	64 48 42	148 10 17	15	8	47	7
1099	64 48 37	148 10 19	15	7	49	5
1100	64 48 30	148 10 40	14	8	47	7
1136	64 51 49	148 5 57	17	11	61	120
1137	64 51 37	148 5 56	20	11	54	65
1139	64 51 24	148 5 53	19	10	51	58
1141	64 51 22	148 6 4	19	9	50	120
1142	64 51 26	148 6 25	17	9	45	65
1143	64 51 22	148 5 40	15	10	39	55
1144	64 51 31	148 5 22	15	9	46	95
1145	64 50 53	148 7 43	16	8	40	9
1146	64 50 50	148 7 10	13	9	44	60
1148	64 50 49	148 6 43	12	9	45	63
1149	64 50 49	148 6 15	13	8	46	50
1150	64 50 50	148 5 43	16	18	51	32
1151	64 48 37	148 9 48	13	7	44	7
1153	64 48 28	148 9 18	18	9	47	10
1155	64 47 54	148 9 34	19	9	48	5
1156	64 48 0	148 9 49	18	8	48	4
1157	64 47 56	148 10 12	18	8	49	5
1158	64 48 15	148 9 27	18	8	43	10
1164	64 49 20	148 9 43	19	9	51	23
1165	64 49 6	148 9 23	19	8	50	7
1166	64 48 56	148 9 10	15	7	42	7
1167	64 48 44	148 8 42	16	7	46	10
1169	64 48 31	148 8 20	13	10	44	6
1170	64 48 37	148 7 11	13	8	44	7
1172	64 48 22	148 7 12	13	8	43	5
1173	64 48 7	148 7 21	18	9	53	10
1174	64 56 59	148 4 14	14	9	48	17

STREAM SEDIMENT SAMPLES (IN PPM) FAIRBANKS (D-3) QUADRANGLE Continued

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	As
1175	64 56 36	148 4 33	19	8	53	15
1176	64 56 43	148 3 54	19	7	52	5
1177	64 56 49	148 3 6	18	9	65	30
1178	64 56 56	148 2 26	17	8	51	7
1179	64 57 6	148 1 58	16	9	62	13
1185	64 52 37	148 7 52	24	11	56	40
1186	64 52 40	148 8 21	17	9	49	18
1187	64 52 34	148 8 44	26	15	68	52
1189	64 52 42	148 9 8	16	9	46	25
1190	64 52 45	148 9 32	13	9	45	45
1191	64 52 52	148 10 3	20	10	48	25
1192	64 52 50	148 10 3	14	9	49	30
1194	64 52 56	148 10 33	14	9	49	42
1195	64 53 0	148 10 55	12	9	45	30
1196	64 53 16	148 9 34	12	10	37	17
1197	64 53 21	148 9 54	25	11	55	25
1198	64 53 1	148 11 5	13	9	47	30
1252	64 50 53	148 5 13	14	8	45	24
1253	64 51 3	148 4 7	17	8	50	80
1325	64 52 5	148 3 8	26	10	65	70
1326	64 51 55	148 2 56	20	9	80	180
1328	64 51 44	148 2 35	16	11	55	380
1330	64 51 44	148 2 23	22	10	70	180
1331	64 51 56	148 2 12	17	11	52	130
1332	64 51 53	148 0 57	17	57	51	550
1333	64 51 45	148 0 32	15	80	57	>1000
1334	64 51 31	148 0 20	14	34	49	500
1351	64 57 11	148 1 24	17	10	66	25
1352	64 57 18	148 0 40	17	8	56	10
1635	64 49 14	148 12 50	21	14	57	15
1636	64 49 34	148 13 19	13	10	48	8
1637	64 49 54	148 13 23	14	9	47	5
1638	64 50 8	148 14 0	17	10	47	15
1639	64 50 17	148 14 13	15	9	53	10
3129	64 50 42	148 11 25	12	6	39	13
3131	64 50 37	148 11 31	14	8	54	14
3133	64 50 21	148 10 54	14	7	48	10
3134	64 50 49	148 10 34	18	7	47	11
3135	64 50 43	148 11 46	15	7	55	10

Table 1 (cont.)

STREAM SEDIMENT SAMPLES (IN PPM) FAIRBANKS (D-3) QUADRANGLE Continued

Table 1 (cont.)

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	As
3136	64 49 57	148 7 59	14	9	51	30
3137	64 49 48	148 7 38	16	9	50	32
3140	64 49 24	148 6 13	16	8	48	15
3173	64 54 11	148 2 10	16	9	63	22
3174	64 54 16	148 1 43	15	7	51	11
3175	64 54 24	148 1 13	15	7	55	11
3176	64 54 31	148 0 44	19	6	56	7
3177	64 54 12	148 4 12	15	11	47	48
3178	64 54 24	148 4 16	21	13	82	58
3179	64 54 35	148 4 28	20	13	292	95
3180	64 54 44	148 4 37	16	10	74	65
3182	64 54 59	148 4 41	13	7	53	22
3801-1	64 53 42	148 6 19	20	10	63	
3801-2	64 53 42	148 6 19	19	9	59	
3802-1	64 53 42	148 6 19	18	8	58	
3802-2	64 53 42	148 6 19	19	10	55	
3803-1	64 53 41	148 6 19	19	9	63	
3803-2	64 53 41	148 6 19	18	9	58	
3804-1	64 53 42	148 6 19	17	10	52	
3804-2	64 53 42	148 6 19	18	9	59	
3805-1	64 53 42	148 6 20	17	9	50	
3805-2	64 53 42	148 6 20	18	9	52	
3806-1	64 53 42	148 6 20	17	7	48	
3806-2	64 53 42	148 6 20	17	8	46	
3807-1	64 53 42	148 6 19	18	8	59	
3807-2	64 53 42	148 6 19	18	9	58	
3808-1	64 53 42	148 6 20	17	8	55	
3808-2	64 53 42	148 6 20	18	8	59	
3809-1	64 53 42	148 6 20	15	7	47	
3809-2	64 53 42	148 6 20	18	9	57	
3810-1	64 53 39	148 6 9	13	9	61	43
3811-1	64 53 38	148 6 10	14	8	52	47
3812-1	64 53 38	148 6 9	14	8	66	50
3813-1	64 53 39	148 6 9	14	9	48	43
3814-1	64 53 38	148 6 10	17	9	60	82
3815-1	64 53 38	148 6 9	16	8	50	24
3816-1	64 53 35	148 6 5	17	9	62	42
3817-1	64 53 35	148 6 4	15	8	50	18
3818-1	64 53 35	148 6 5	17	8	59	42

STREAM SEDIMENT SAMPLES (IN PPM) — FAIRBANKS (D-3) QUADRANGLE Continued

Table 1 (cont.)

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	As
3819-1	64 53 32	148 6 1	17	8	50	
3819-2	64 53 32	148 6 1	15	8	46	
3820-1	64 53 32	148 6 1	15	7	47	
3820-2	64 53 32	148 6 1	15	9	45	
3821-1	64 53 32	148 6 1	15	8	46	
3821-2	64 53 32	148 6 1	17	8	49	
3822-1	64 53 32	148 6 1	19	9	57	
3822-2	64 53 32	148 6 1	19	10	57	
3823-1	64 53 32	148 6 1	20	8	48	
3823-2	64 53 32	148 6 1	20	7	45	
3824-1	64 53 32	148 6 1	18	8	47	
3824-2	64 53 32	148 6 1	18	8	45	
3825-1	64 53 32	148 6 1	17	9	51	
3825-2	64 53 32	148 6 1	16	8	48	
3826-1	64 53 32	148 6 1	20	9	55	
3826-2	64 53 32	148 6 1	22	9	58	
3827-1	64 53 32	148 6 1	20	9	54	
3827-2	64 53 32	148 6 1	16	6	49	
3828-1	64 53 30	148 5 56	18	10	75	100
3829-1	64 53 30	148 5 56	18	11	66	125
3830-1	64 53 30	148 5 56	21	11	95	85
3831-1	64 53 26	148 5 49	20	10	70	85
3832-1	64 53 26	148 5 50	15	9	55	90
3833-1	64 53 26	148 5 49	20	10	74	93
3834-1	64 53 22	148 5 40	21	13	83	85
3835-1	64 53 23	148 5 40	19	10	60	90
3836-1	64 53 23	148 5 40	23	11	87	85
3837-1	64 53 19	148 5 33	23	12	83	85
3838-1	64 53 19	148 5 33	17	8	55	82
3839-1	64 53 20	148 5 33	23	11	86	95
3840-1	64 53 18	148 5 29	17	10	61	44
3841-1	64 53 18	148 5 29	11	9	48	65
3842-1	64 53 18	148 5 28	17	10	67	55
3843-1	64 53 6	148 5 17	22	10	87	120
3844-1	64 53 6	148 5 16	20	9	57	90
3845-1	64 53 6	148 5 16	31	12	93	120
3846-1	64 53 12	148 5 11	23	11	59	
3846-2	64 53 12	148 5 11	26	11	62	
3847-1	64 53 12	148 5 11	21	9	59	

Table 1 (cont.)

STREAM SEDIMENT SAMPLES (IN PPM) FAIRBANKS (D-3) QUADRANGLE Continued

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	As
3847-2	64 53 12	148 5 11	23	9	60	
3848-1	64 53 12	148 5 12	26	10	58	
3848-2	64 53 12	148 5 12	26	10	60	
3849-1	64 53 12	148 5 12	16	9	50	
3849-2	64 53 12	148 5 12	16	8	46	
3850-1	64 53 12	148 5 12	19	9	49	
3850-2	64 53 12	148 5 12	18	9	44	
3851-1	64 53 12	148 5 12	21	10	45	55
3851-2	64 53 12	148 5 12	19	10	43	
3852-1	64 53 12	148 5 12	30	10	65	
3852-2	64 53 12	148 5 12	33	11	65	
3853-1	64 53 12	148 5 12	26	11	63	
3853-2	64 53 12	148 5 12	27	10	63	
3854-1	64 53 12	148 5 12	24	12	58	
3854-2	64 53 12	148 5 12	25	10	60	
3855-1	64 51 28	148 8 57	18	6	48	37
3856-1	64 51 28	148 8 57	14	6	44	12
3857-1	64 51 28	148 8 57	18	10	53	55
3858-1	64 51 26	148 9 11	17	11	53	
3858-2	64 51 26	148 9 11	17	12	51	
3859-1	64 51 26	148 9 11	17	10	54	
3859-2	64 51 26	148 9 11	17	11	54	
3860-1	64 51 26	148 9 11	17	10	54	
3860-2	64 51 26	148 9 11	18	10	53	
3861-1	64 51 26	148 9 11	13	10	45	
3861-2	64 51 26	148 9 11	14	10	44	
3862-1	64 51 26	148 9 11	16	11	45	
3862-2	64 51 26	148 9 11	16	11	44	
3863-1	64 51 26	148 9 11	18	10	48	
3863-2	64 51 26	148 9 11	18	10	48	
3864-1	64 51 26	148 9 11	16	10	51	
3864-2	64 51 26	148 9 11	19	12	58	
3865-1	64 51 26	148 9 11	18	11	54	
3865-2	64 51 26	148 9 11	18	9	53	
3866-1	64 51 26	148 9 11	17	10	51	
3866-2	64 51 26	148 9 11	16	10	51	
3867-1	64 51 28	148 9 32	20	12	54	23
3868-1	64 51 29	148 9 33	16	13	49	18
3869-1	64 51 28	148 9 32	16	11	57	24

STREAM SEDIMENT SAMPLES (IN PPM) FAIRBANKS (D-3) QUADRANGLE Continued

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	As
3870-1	64 51 32	148 9 42	19	8	60	25
3871-1	64 51 32	148 9 43	17	7	55	20
3872-1	64 51 32	148 9 42	15	6	47	15
3873-1	64 51 37	148 10 3	15	6	54	15
3874-1	64 51 37	148 10 3	15	6	43	13
3875-1	64 51 37	148 10 3	14	5	51	13
3876-1	64 51 41	148 10 19	13	8	58	105
3877-1	64 51 41	148 10 19	14	7	45	21
3878-1	64 51 41	148 10 18	17	9	51	110
3879-1	64 51 46	148 10 43	14	5	49	36
3880-1	64 51 44	148 10 30	14	6	48	31
3881-1	64 51 44	148 10 30	13	5	50	35
3882-1	64 51 46	148 10 44	16	8	53	
3882-2	64 51 46	148 10 44	17	11	56	
3883-1	64 51 46	148 10 43	15	8	51	
3883-2	64 51 46	148 10 43	17	10	56	
3884-1	64 51 46	148 10 43	17	10	55	
3884-2	64 51 46	148 10 43	18	10	59	
3885-1	64 51 45	148 10 43	17	8	52	
3885-2	64 51 45	148 10 43	18	8	54	
3886-1	64 51 46	148 10 43	14	9	47	
3886-2	64 51 46	148 10 43	15	9	48	
3887-1	64 51 46	148 10 43	15	8	49	
3887-2	64 51 46	148 10 43	16	8	51	
3888-1	64 51 45	148 10 43	18	10	56	
3888-2	64 51 45	148 10 43	19	10	59	
3889-1	64 51 46	148 10 43	18	8	58	
3889-2	64 51 46	148 10 43	17	9	56	
3890-1	64 51 45	148 10 44	17	9	55	
3890-2	64 51 45	148 10 44	16	10	57	
3891-1	64 51 46	148 10 59	14	6	54	23
3892-1	64 51 46	148 10 58	14	5	48	18
3893-1	64 51 46	148 10 57	15	7	53	23
3894-1	64 51 45	148 11 16	13	12	48	15
3895-1	64 51 45	148 11 18	13	5	45	20
3896-1	64 51 45	148 11 17	14	7	49	23
3897-1	64 51 46	148 11 49	16	6	48	17
3898-1	64 51 46	148 11 49	15	7	47	10
3899-1	64 51 46	148 11 50	18	6	49	13

Table 1 (cont.)

STREAM SEDIMENT SAMPLES (IN PPM) FAIRBANKS (D-3) QUADRANGLE Continued

Table 1 (cont.)

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	As
3906-1	64 53 14	148 5 20	19	8	55	90
3907-1	64 53 14	148 5 20	20	9	60	110
3908-1	64 53 14	148 5 19	20	9	61	100
3909-1	64 53 14	148 5 20	23	11	63	100
3926-1	64 51 47	148 12 9	13	6	42	12
3927-1	64 51 47	148 12 8	15	7	52	16
3928-1	64 51 47	148 12 8	14	7	49	16
3929-1	64 51 52	148 12 36	16	8	50	15
3930-1	64 51 52	148 12 35	16	8	46	14
3931-1	64 51 52	148 12 36	17	6	50	12
3932-1	64 51 58	148 13 32	17	7	44	
3932-2	64 51 58	148 13 32	17	8	45	
3933-1	64 51 58	148 13 32	16	7	42	
3933-2	64 51 58	148 13 32	16	8	44	
3934-1	64 51 58	148 13 32	14	6	42	
3934-2	64 51 58	148 13 32	13	7	39	
3935-1	64 51 58	148 13 32	14	7	43	
3935-2	64 51 58	148 13 32	14	7	42	
3936-1	64 51 58	148 13 32	15	7	44	
3936-2	64 51 58	148 13 32	15	6	44	
3937-1	64 51 58	148 13 32	13	7	43	
3937-2	64 51 58	148 13 32	13	6	41	
3938-1	64 51 58	148 13 32	14	6	43	
3938-2	64 51 58	148 13 32	15	6	43	
3939-1	64 51 58	148 13 32	14	5	40	
3939-2	64 51 58	148 13 32	15	7	41	
3940-1	64 51 58	148 13 32	12	6	38	
3940-2	64 51 58	148 13 32	13	6	40	

PAN CONCENTRATE SAMPLES
(IN PPM)

FAIRBANKS (D-3) QUADRANGLE

Sample	Lat(N)	Long(W)	Cu	Pb	Au	Ag	Sb	Sn	W
330	64 48 39	148 6 16			<0.1		2	ND	3
843	64 53 38	148 1 37			<0.1		2	ND	3
845	64 53 43	148 1 37			<0.1		2	ND	2
1138	64 51 24	148 5 53			<0.1		4	ND	5
1140	64 51 22	148 6 2			<0.1		74	ND	4
1147	64 50 49	148 6 43			<0.1		1	ND	3
1152	64 48 33	148 9 23						ND	2
1154	64 48 28	148 9 18			<0.1		<1	ND	2
1171	64 48 37	148 7 11							3
1188	64 52 42	148 9 7			0.1		<1	ND	3
1193	64 52 56	148 10 33			<0.1		1	ND	3
1327	64 51 44	148 2 35			<0.1	<0.1	16	ND	3
1329	64 51 44	148 2 23			<0.1	<0.1	3	ND	4
3139	64 49 36	148 7 8		9					
3181	64 54 44	148 4 37	15		<0.1	<0.1	10	ND	2
3901-1	64 53 40	148 6 13	14		<0.1	<0.1	<1	ND	3
3902	64 53 40	148 6 13			<0.1	<0.1	47	ND	15
3903	64 53 29	148 6 11			<0.1	<0.1	<1	ND	3
3904	64 53 16	148 5 23	<0.1		<0.1	<0.1	1	ND	2
3905	64 53 15	148 5 24			<0.1	<0.1	3	ND	2
3910-1	64 51 36	148 10 5	16		<0.1	<0.1	<1	ND	3
3911	64 51 43	148 10 46			<0.1	<0.1	<1	ND	2
3912	64 51 43	148 10 46			<0.1	<0.1	<1	ND	2
3914	64 51 55	148 13 33			<0.1	<0.1	<1	ND	2

Table 2

ROCK SAPMLES

IN PPM (unless specified otherwise)

FAIRBANKS D-3 QUADRANGLE

ND=not determined

Table 3

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	Au	Ag	Mo	Sb	Sn	Hg	W	As
28	64 48 5	148 0 10	52	24	170	.0	.0		15		2	60	5
29	64 48 5	148 0 10	50	31	112	.0	.0		11		2	20	3
30	64 48 5	148 0 10	69	31	221	.0	.0		9		2	15	2
31	64 48 5	148 0 10	47	84	325	.0	.0		40				
32	64 48 5	148 0 10	70	48	305	.0	.2		14		2	30	ND
33	64 48 5	148 0 10	43	20	166	.0	.0		8		2	20	5
34	64 48 5	148 0 10	59	24	202	.0	.0		10		2	10	2
35	64 48 5	148 0 10	69	22	114	.0	.0		9		2	10	2
36	64 48 5	148 0 10	44	42	153	.0	.0		28		3	10	2
37	64 48 5	148 0 10	27	55	99	.0	.6		48		2	10	4
81	64 48 8	148 0 39	83	29	56	.0	.0		30	3	15	23	
82	64 48 9	148 0 39	82	12	9	.0	.0		17		2	10	23
83	64 48 9	148 0 39	32	34	39	.0	.0		48		2	10	22
85	64 46 1	148 0 8	46	23	61	.0	.0		23		2	10	55
86	64 46 1	148 0 9	46	16	69	.0	.0		18		2	10	160
87	64 46 1	148 0 8	28	26	38	.0	.0		26		2	10	25
88	64 46 1	148 0 8	35	21	28	.0	.0		23		2	10	40
89	64 46 1	148 0 8	27	18	31	.0	.0		20		2	10	52
90	64 46 1	148 0 8	29	20	35	.13	.0		25		2	10	25
91	64 46 1	148 0 7	31	20	28	.0	.0		23		2	15	28
92	64 46 0	148 0 8	30	24	37	.0	.0		31		2	10	50
93	64 46 1	148 0 8	56	20	60	.0	.6		11		2	10	280
94	64 46 1	148 0 7	32	29	65	.0	.1		26		2	5	90
97	64 53 7	148 5 37	279	9300	496	16.6	41.2		305		3	420	>1000
98	64 53 7	148 5 37	293	1.1%	8	4.4	17.9		142		3	30	>1000
99	64 51 13	148 1 59	18	10	40	.0	.1		4		2	25	240
95	64 53 07	148 05 37	91	324	71	.0	.3		20		3	20	>1000
96	64 53 07	148 05 37	85	15	58	.0	.0		12		ND	10	55
100	64 51 13	148 1 59	72	8	32	.0	.1		2		5	20	170
101	64 52 22	148 4 29	205	18	11	.2	-.1		130		3	20	>1000
102	64 52 22	148 4 29	100	31	23	.4	.3		147		3	50	>1000
103	64 52 37	148 02 55	74	11	17	2.92	0.9		25		3	40	>1000
104	65 52 06	148 00 04	70	13	26	.22	<.1		29		3	570	>1000
123	64 52 20	148 1 54	105	14	51	.2	.5		29		3	20	>1000
124	64 52 20	148 1 54	99	8	12	.4	1.0		16		3	10	>1000
125	64 52 20	148 1 54									4	20	>1000

ROCK SAPMLES
IN PPM (unless otherwise specified)

FAIRBANKS D-3 QUADRANGLE
ND=not determined

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	Au	Ag	Mo	Sb	Sn	Hg	W	As
126	64 52 16	148 1 0	103	10	25	.2	.9		36		3	400	>1000
127	64 52 16	148 1 0	170	7	26	.4	5.5		133		3	30	>1000
128	64 52 16	148 1 0	190	400	22	.6	40.4		4200		3	60	>1000
121	65 52 32	148 00 57	95	8	27	0	.1		9		2	20	130
122	64 52 30	148 01 54	150	13	61	.0	.2		21		3	150	220
138	64 52 16	148 1 1	81	8	12	1.72	4.2		600		3	35	>1000
139	64 52 17	148 1 0	52	10	8	1.67	3.7		112		3	30	>1000
140	64 52 16	148 1 1	75	17	14	2.06	11.6		1080		3	20	>1000
201	64 48 52	148 4 4	42	9	6	-.1	-.1	1	8		3	20	120
202	64 48 49	148 4 23	39	8	33	.2	.1	3	27		2	25	400
203	64 48 56	148 3 45	86	7	28	-.1	-.1	3	11		2	220	53
204	64 48 33	148 5 15	91	14	33	.1	.1	4	15		2	45	160
205	64 47 52	148 6 55	70	6	42	-.1	.1	3	9		2	30	55
206	64 47 41	148 11 33	12	49	2	-.1	.1	14	73		2	10	10
207	64 56 31	148 6 1	62	47	11	-.1	-.1	3	5		2	10	6
208	64 55 30	148 9 40	87	6	9	-.1	-.1	2	6		2	5	8
209	64 54 55	148 10 37	59	16	59	-.1	-.1	4	18		2	15	10
210	64 48 56	148 03 52	46	12	58	<.1	0.1		11	ND	3	30	60
211	64 48 53	148 04 09	49	15	23	<.1	<.1		8	ND	4	30	10
212	64 48 53	148 04 09	85	9	25	0.1	0.1		17	ND	11	40	500
221	64 54 51	148 10 46	90	10	58	-.1	-.1	3	14		2	10	6
230	64 49 01	148 03 15	63	9	66	<.1	0.1		10	ND	3	10	60
231	64 48 29	148 5 17	126	4	2	<.1	<.1		3	ND	2	5	5
232	64 48 30	148 5 17	34	11	24	<.1	0.1		6	ND	2	5	8
233	64 48 14	148 5 58	74	26	40	0.5	0.3		144	ND	3	150	>1000
234	64 48 8	148 6 6	110	7	3	<.1	<.1		4	ND	2	10	13
235	64 56 31	148 6 0	67	17	71	<.1	<.1		9	ND	2	20	25
236	64 58 33	148 1 20	171	23	4	<.1	0.1		9	ND	2	10	5
238	64 59 28	148 1 15	48	22	130	<.1	0.2		6	ND	2	10	5
250	64 57 22	148 10 3	48	10	24	<0.01	<0.1		3	ND	2		30
269	64 52 1	148 0 30	104	440	17	22.1	25.0		292		3	285	>1000
270	64 52 1	148 0 31	127	41	23	10.6	2.7		570		3	190	>1000
271	64 52 1	148 0 31	35	32	26	0.55	0.6		212		3	1200	800
272	64 52 1	148 0 30	114	250	18	136.8	65.		373		3	1300	>1000
273	64 52 1	148 0 30	83	45	25	58.2	21.6		24		3	160	>1000
274	64 52 1	148 0 30	101	470	69	94.8	29.2		251		3	70	>1000

Table 3 (cont.)

ROCK SAPMLES
IN PPM (unless otherwise specified)

FAIRBANKS D-3 QUADRANGLE
ND=not determined

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	Au	Ag	Mo	Sb	Sn	Bg	W	As
275	64 52 1	148 0 30	127	113	57	6.96	8.3		79		3	700	>1000
278	64 52 01	148 00 30	70	17	25	0.95	0.7		13		3	30	>1000
279	64 52 01	148 00 30	92	8	26	<0.01	<0.1		10		2	40	220
348	64 55 44	148 0 18				.04			<1		3	95	3
349	64 55 44	148 0 18				.02			<1		2	3	90
353	64 58 35	148 01 28	54	33	9	<.1	0.2		15	ND	2	5	42
401	64 53 35	148 3 54	63	9	3	.0	.0		7	<5	3	20	23
402	64 53 33	148 4 11	63	2	1	.0	.0		4	<5	3	10	7
404	64 53 27	148 5 8	77	26	58	.2	.5		80	<5	3	25	>1000
405	64 53 31	148 5 48	141	3	4	.0	.0	6		<5	3	20	8
407	64 53 16	148 1 2				<0.01	<0.1		5	ND	2		55
408	64 53 21	148 0 51				24	5.0		96	ND	3		>1000
409	64 53 32	148 0 37				0.06	0.2		34	ND	3		600
403	64 53 31	148 03 55	71	9	5	.1	1.9		13	<5	2	20	
411	64 56 5	148 1 9				<0.01	0.2		4	ND	2		5
412	64 56 29	148 1 18	66	19	89	<0.01					2	30	5
413	64 56 26	148 2 27	45	165	395	<0.01	0.4		4	ND	3		10
410	64 54 00	148 00 14				1.07	1.0		39	ND	3		>1000
425	64 53 12	148 7 22	83	16	14	<.1	<.1		5	ND	3	5	3
425	64 53 12	148 07 22	83	16	14	<.1	<.1		5	ND	3	5	5
455	64 52 45	148 03 18	86	11	21	.4	3.7		22	<5	3	10	>1000
453	64 64 44	148 11 18				.0	.0		2	<5	3	10	10
454	64 54 56	148 13 28				.0	.0		21	<5	2	195	28
456	64 53 05	148 03 12				.0	.0		2	<5	2	10	15
457	64 53 12	148 03 28				.1	.5		53	<5	3	20	>1000
458	64 53 19	148 03 42				.0	.3		10	<5	2	15	160
459	64 53 19	148 03 42				.0	.1		12	<5	2	5	280

Table 3 (cont.)

ROCK SAMPLES
IN PPM (unless otherwise specified)

FAIRBANKS D-3 QUADRANGLE
ND=not determined

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	Au	Ag	Mo	Sb	Sn	Hg	W	As
460	64 53 19	148 03 42				.8	4.2		42	<5	3	20	>1000
461	64 53 19	148 03 42				1.3	2.4		23	<5	3	20	>1000
462	64 53 19	148 03 42				.0	.0		2	<5	2	10	110
463	64 53 19	148 03 42				.0	.1		4	<5	2	20	120
464	64 53 27	148 03 47				.1	.8		84	<5	2	75	280
465	64 53 2	148 1 35				9.16	2.3		17	ND	3		>1000
466	64 53 10	148 1 0	69	28	75	.1	.1		59	<5	3	25	>1000
469	64 53 34	148 1 29	84	33	78	2.9	1.7		140	<5	3	30	>1000
470	64 52 39	148 1 31	93	4	13	-0.1	0.1		11	ND	3	10	130
471	64 52 25	148 0 30	72	12	47	-0.1	1.0		62	ND	3	900	>1000
561	64 48 56	148 11 31	104	16	87	<0.1	0.1		6		3	85	6
562	64 48 40	148 12 10	48	68	79	<0.1	0.1		9		17	15	3
563	64 49 09	148 14 30	75	56	25	<0.1	0.1		10		3	15	3
631	64 52 16	148 1 0	103	33	17	1.31	10.6		2000		3	40	>1000
632	64 52 16	148 1 0	75	12	18	0.47	5.3		83		3	35	>1000
633	64 52 16	148 1 0	85	5	17	6.50	5.6		158		3	30	>1000
634	64 52 16	148 1 0	103	14	55	1.26	5.9		154		3	30	>1000
635	64 52 16	148 1 0	99	44	60	8.79	32.3		166		3	60	>1000
636	64 52 16	148 1 0	138	122	44	4.72	98.0		259		3	150	>1000
637	64 52 16	148 1 0	133	39	63	2.05	21.3		284		3	100	>1000
638	64 52 15	148 1 0	119	27	31	0.70	8.3		148		3	110	>1000
639	64 52 16	148 1 0	57	12	72	0.64	2.7		196		3	110	>1000
640	64 52 16	148 1 0	72	15	56	0.30	2.0		141		3	80	>1000
641	64 52 16	148 1 0	60	18	53	0.49	2.5		810		3	530	>1000
642	64 52 16	148 1 0	68	11	34	0.16	1.2		74		3	1500	>1000
643	64 52 16	148 1 0	96	11	37	0.71	6.3		48		3	1250	>1000
644	64 52 16	148 1 1	75	11	21	0.82	2.4		47		ND	850	>1000
645	64 52 16	148 1 0	67	13	56	0.20	1.5		34		3	630	>1000
646	64 52 25	148 01 22	111	10	12	0.21	6.2		48		3	50	>1000
749	64 52 48	148 10 8	111	219	22	<.1	0.5		67				
817	64 53 32	148 5 59	84	8	21	4.27	2.3		8				650

ROCK SAMPLES
IN PPM (unless otherwise specified)

FAIRBANKS D-3 QUADRANGLE
ND=not determined

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	Au	Ag	Mo	Sb	Sn	Hg	W	As
819	64 53 39	148 3 58	84	14	15		.1	7					
816	64 53 19	148 03 42	75	228	33	0.24	1.6		25				>1000
818	64 53 39	148 03 58	72	247	9	8.30	1.3		144				>1000
820	64 53 39	148 3 58	69	9	14		-.1	5					
840	64 53 05	148 01 45	89	39	8	0.6	0.3		15		2	30	400
1324	64 52 14	148 3 10	80	15	94	<0.1	<0.1		21		3	30	500
1479	64 53 33	148 0 51	49	20	19	0.07	0.1		4				180
1483	64 52 40	148 3 32	38	6	34	<0.01	<0.1	2	<1				30
1484	64 52 25	148 0 30	117	12	76		.4	7					130
1485	64 47 50	148 7 5	97	6	26	<.1	0.1		-1				24
1486	64 48 3	148 6 16	96	15	26	<.1	0.1		-1				27
1487	64 48 3	148 6 16	104	12	61	0.1	0.4		110				400
1488	64 48 8	148 6 7	116	9	11	0.2	<.1		194				88
1489	64 48 8	148 6 7	86	5	7	<.1	<.1		-1				11
1490	64 48 33	148 5 15	76	7	64	0.1	0.4		8				500
1494	64 52 36	148 01 54	65	10	49	.1	<.1	3	3				70
1757	64 55 44	148 0 18				.03			<1				5
1758	64 55 44	148 0 18				.02			<1				7
1759	64 56 16	148 2 49				.03			<1				6
1760	64 47 40	148 8 18	50	3	3	<0.01	<0.1	<1	<1				
1761	64 48 26	148 5 30	52	8	4	0.03	<0.1	1	<1				
1762	64 48 25	148 5 31	31	11	4	<0.01	<0.1	1	1				
1763	64 52 22	148 4 29	99	7	4	0.1	0.1		165				
1764	64 52 22	148 4 29	94	7	8	0.1	0.1		26				
1765	64 52 22	148 4 30	74	8	4	0.3	0.2		8				
1766	64 52 21	148 4 30	54	13	7	0.3	0.1		15				
1767	64 52 25	148 4 37	65	3	7	0.1	0.1		1				
1768	64 52 25	148 4 37	74	5	2	0.6	0.3		320				
1769	64 52 25	148 4 37	69	7	8	0.1	0.1		70				
1770	64 47 39	148 7 59	41	2	5	<.1	0.1		1				
1771	64 47 45	148 7 37	45	12	9	<.1	<.1		3				
1772	64 47 47	148 7 31	74	8	44	<.1	0.1		8				
1773	64 47 47	148 7 30	83	6	35	<.1	0.1		-1				
1774	64 47 55	148 06 32	65	1	7	<.1	0.1		1				

Table 3 (cont.)

ROCK SAMPLES
IN PPM (unless otherwise specified)

FAIRBANKS D-3 QUADRANGLE
ND=not determined

Sample	Lat(N)	Long(W)	Cu	Pb	Zn	Au	Ag	Mo	Sb	Sn	Hg	W	As
3615	64 47 17	148 11 31	126	2	4	<0.1	<0.1		3		3	25	2
3614	64 47 26	148 11 38	97	3	5	<0.1	<0.1		2		3	10	10

Table 3 (cont.)

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF GEOLOGICAL AND GEOPHYSICAL SURVEYS

Esther Wunnicke — *Commissioner*

Ross G. Schaff — *State Geologist*

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This is a preliminary publication of the Alaska Division of Geological and Geophysical Surveys and has not received final editing and review. The author will appreciate candid comments on the accuracy of the data and will welcome suggestions to improve the report.

ADDENDUM TO Alaska Open-file Report 166 GEOCHEMICAL RECONNAISSANCE OF THE FAIRBANKS D-3 QUADRANGLE, ALASKA; SUMMARY OF DATA ON STREAM-SEDIMENT, PAN-CONCENTRATE, AND ROCK SAMPLES

By
M.D. Albanese

Table 4. Rock descriptions for geochemical samples in the Fairbanks D-3 Quadrangle, Alaska.

Sample number	Sample type[a]	Rock description (samples correspond to geochemical analyses in table 3)
28	gb	1'-2'-wide shear zone
29	gb	1'-2'-wide shear zone
30	6"cs	Marble
31	6"cs	Carbonate muscovite schist and gossan
32	6"cs	Carbonate muscovite schist and gossan
33	6"cs	Carbonate muscovite schist and gossan
34	6"cs	Micaceous marble
35	6"cs	Micaceous marble
36	6"cs	Micaceous marble
37	6"cs	Quartzite
81	6"cs	Garnetiferous muscovite schist
82	6"cs	Calc-schist finely interbedded with quartzite
83	6"cs	Calc-schist finely interbedded with quartzite
85	3'cs	Quartz-muscovite schist ± large calcite
86	3'cs	Quartz-muscovite schist ± large calcite
87	3'cs	Quartz-muscovite schist ± biotite
88	3'cs	Quartz-muscovite schist ± biotite
89	3'cs	Quartz-muscovite schist ± biotite
90	3'cs	Quartz-muscovite schist ± biotite
91	3'cs	Quartz-muscovite schist ± biotite
92	3'cs	Quartz-muscovite schist ± biotite
93	3'cs	Calcareous quartz-muscovite schist
94	3'cs	Calcareous quartz-muscovite schist
97	cs	Highly mineralized quartz vein in quartzite
98	cs	Highly mineralized quartz vein in quartzite
99	rc	Conglomerate and schist with altered zone around quartz vein
95	cc	Iron- and manganese-stained fault breccia
96	cc	Bright-red gouge zone
100	rc	Conglomerate with altered zone around quartz vein

[a]cc - chip channel (channel length denoted)
cs - continuous channel sample
gb - grab sample
rc - composite or random chip

Table 4 (cont.)

Sample number	Sample type[a]	Rock description (samples correspond to geochemical analyses in table 3)
101	cc	Quartz vein, clay gouge in quartzite, and quartz-muscovite schist
102	cc	Clay zone
103	gb	Iron-stained quartz breccia
104	gb	Shear between quartzite and quartz-muscovite schist
123	gb	Quartzite breccia with quartz fragments
124	gb	Iron-stained shear zone in schist
125	gb	Iron-stained clay gouge
126	gb	Iron-stained quartzite
127	5' cs	Iron-stained, highly fractured quartzite
128	gb	Shear zone
121	gb	Micaceous quartzite
122	gb	Iron-stained quartz vein
138	5' cs	Iron-stained micaceous quartzite and green-stained quartzite
139	5' cs	Quartzite and graphite schist layers
140	5' cs	Quartzite and graphite schist layers in shear zone
201	gb	Porphyroblastic muscovite-quartz schist
202	gb	Brecciated iron and manganese stained quartzite
203	gb	3' quartz vein
204	gb	Iron-stained quartz vein
205	gb	Shear zone in micaceous quartzite and quartz-muscovite schist
206	gb	Massive crystalline marble
207	gb	Granodiorite
208	gb	Quartz vein
209	qb	Calc-schist
210	gb	Alteration zone along contact of black quartzite and muscovite schist
211	gb	Pophyroblastic, iron-stained felsic schist
212	gb	Fault gouge with micaceous quartzite and muscovite-schist fragment
221	gb	Thinly laminated siliceous calc-schist with biotite
230	gb	Garnetiferous muscovite schist
231	gb	Quartz vein
232	gb	Quartz-muscovite schist
233	gb	Iron-stained quartz vein
234	gb	Quartz vein
235	gb	Micaceous quartzite
236	gb	Quartz boudin
238	gb	Iron-stained micaceous quartzite

Table 4 (cont.)

Sample number	Sample type[a]	Rock description (samples correspond to geochemical analyses in table 3)
250	gb	Fault-zone breccia
269	14"cs	Visible gold in footwall; disseminated sulfides
270	10"cs	Massive quartz with manganese stain, visible gold
271	8"cs	Footwall schist
272	6"cs	Vein
273	cs	Quartz vein
274	12"cs	Massive quartz with stibnite selvage
275	cs	Quartz vein
278	1'cs	Quartz vein
279	1'cs	Quartz vein
348	100'rc	White quartz schist
349	100'rc	White quartz schist
353	gb	Amphibolite
401	rc	Light-gray quartzite
402	rc	Bull quartz
404	rc	Limonitic stained quartz with some sulfides
405	rc	Limonitic stained quartz with chalcopyrite
407	gb	Iron-stained bull quartz
408	gb	Quartz vein with brecciated and altered wall rock
409	gb	Quartz vein, breccia, and white quartzite
403	gb	Heavily iron-stained quartz
411	gb	Brecciated quartz with mineralized cavities
412	gb	Quartz vein with iron and manganese stain
413	gb	Manganese-stained quartzite
410	gb	Quartzite with quartz veinlets throughout; sulfide bearing
425	gb	Tan quartzite with limonite on fractures
455	rc	Limonitic, brecciated quartz with arsenopyrite
453	gb	Large quartz vein
454	gb	Limonite stained quartz breccia
456	gb	Limonite stained quartz breccia
457	gb	Limonite stained quartz breccia
458	gb	Sulfide-bearing, vuggy quartz vein
459	gb	Limonite stained quartz vein
460	8"cs	Limonitic, brecciated quartz vein in fault zone
461	gb	Vuggy quartz with arsenopyrite, scorodite, and pyrite
462	gb	White quartz with some limonite

Table 4 (cont.)

Sample number	Sample type[a]	Rock description (samples correspond to geochemical analyses in table 3)
463	gb	White quartz with some limonite
464	gb	Quartz breccia in quartzite with pyrite and arsenopyrite
465	gb	Broken quartz veins and bleached zone with scorodite staining
466	gb	Cemented breccia
469	gb	Quartz with vug fillings of limonite, some arsenopyrite, and pyrite
470	gb	Limonitic quartz
471	gb	Strongly iron-stained schist
561	gb	Quartz-vein breccia with pods of gossan
562	gb	Heavily gosanized quartz-feldspar-muscovite schist
563	rc	Limonite vugs in muscovite schist with some biotite-rich zones
631	5'cs	Iron-stained quartzite shear zone
632	5'cs	Iron-stained quartzite in shear zone
633	5'cs	Iron-stained quartzite in shear zone
639	5'cs	Shear zone
635	5'cs	Shear zone
636	5'cs	Shear zone
637	5'cs	Quartzite and highly iron-stained graphite schist in shear zone
638	5'cs	Quartzite and mica schist in shear zone
639	5'cs	Highly sheared muscovite schist
640	5'cs	Muscovite schist with graphite schist layers; highly sheared
641	5'cs	Clay gouge, iron-stained quartzite, and quartz boudins
642	5'cs	Blue-gray clay gouge
643	5'cs	Blue-gray clay gouge and quartzite
644	5'cs	Micaceous quartzite with quartz boudins
645	5'cs	Micaceous quartzite and graphitic schist
646	gb	High-grade quartz from ore bin
749	rc	Iron-stained bull-quartz vein
817	12"cs	Quartz vein
819	rc	White schist
816	12"cs	Shear zone
818	rc	Brecciated quartz with scorodite stain and minor arsenopyrite
820	rc	White schist
840	gb	Quartz vein
1324	rc	Quartz-muscovite schist with iron-stained boxworks
1479	gb	White quartz schist
1483	gb	White quartz schist

Table 4 (cont.)

Sample number	Sample type[a]	Rock description (samples correspond to geochemical analyses in table 3)
1484	gb	White mica-quartz schist
1485	20'cc	Light-gray schist, white-schist breccia, and white fractured quartzite
1486	gb	Iron-stained white schist
1487	gb	Felsite breccia
1488	gb	White schist
1489	gb	Light-gray quartzite
1490	gb	Felsite breccia in shear zone
1494	gb	White quartz schist in gray quartzite
1757	100'rc	White quartz schist
1758	rc	White schist
1759	rc	White quartz schist
1760	rc	White quartz schist
1761	rc	White quartz schist
1762	rc	Iron-stained white quartz schist
1763	rc	Iron-stained white quartz schist
1764	rc	Iron-stained white quartz schist
1765	rc	Iron-stained white quartz schist
1766	rc	Iron-stained white quartz schist
1767	rc	White schist and white quartz schist
1768	rc	White quartz schist
1769	rc	White quartz schist
1770	rc	White quartz schist
1771	rc	White quartz schist
1772	rc	Brown quartz schist
1773	rc	White quartz schist
1774	rc	White quartz schist
3615	rc	Iron-stained quartz vein
3619	rc	Iron-stained quartz vein