Table 1.—*Frequencies and cumulative percents of concentrations of copper, lead, zinc, and molybdenum in stream-sediment samples, Mount Hayes quadrangle, Alaska.*

I. LAKE GEORGE SUBTERRANE AND YOUNGER GRANITE PLUTONS

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	0	0
20	10	33
30	13	77
50	6	97
70	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	3	10
20	11	47
30	10	80
50	5	97
70	1	100

MOLYBDENUM

No reported values

ZINC

No reported values

II. SURFICIAL DEPOSITS

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	1	2
10	3	7
15	6	18
20	11	38
30	16	67
50	14	93
70	3	98
100	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	3	5
15	3	11
20	17	42
30	21	80
50	8	95
70	1	96
100	2	100

MOLYBDENUM

No reported values

ZINC

No reported values

III. GRANITE PLUTONS OF MOLYBDENUM RIDGE AND BUCHANAN CREEK

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	2	11
20	5	37
30	7	74
50	3	89
70	1	95
100	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	2	11
20	0	11
30	5	37
50	4	58
70	8	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	13	68
L(5)	0	68
5	4	89
7	2	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	14	74
L(200)	3	8y
200	0	89
300	1	95
500	1	100

IV. GRANITE PLUTON OF GRANITE MOUNTAIN

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	1	6
5	6	41
7	3	59
10	3	76
15	0	76
20	3	94
30	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	1	6
15	2	18
20	11	82
30	3	100

MOLYBDENUM

No reported values

ZINC

No reported values

V. JARVIS CREEK GLACIER SUBTERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	2	1
7	7	3
10	14	7
15	15	12
20	22	19
30	33	30
50	66	51
70	81	78
100	51	94
150	12	98
200	2	99
300	3	99.5
500	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	4	1
15	13	6
20	62	26
30	89	54
50	76	79
70	37	91
100	18	97
150	6	98.5
200	1	99
300	2	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	293	95
L(5)	6	97
5	7	99
7	1	99.3
10	1	99.5
15	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	132	43
L(200)	156	93
200	11	97
300	6	98.7
500	2	99.3
700	2	100

VI. MACOMB SUBTERRANE AND YOUNGER GRANITIC PLUTONS

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	2	3
5	1	5
7	8	17
10	5	25
15	3	30
20	16	56
30	8	68
50	15	92
70	4	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	1	2
15	5	10
20	8	22
30	15	46
50	19	76
70	9	90
100	4	97
150	2	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	56	89
L(5)	3	94
5	2	97
7	1	98
10	0	98
15	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	43	68
L(200)	17	95
200	0	97
300	1	97
500	2	100

VII. HAYES GLACIER SUBTERRANE AND AURORA PEAK TERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	2	6
10	0	6
15	2	13
20	2	19
30	2	25
50	4	38
70	8	63
100	8	88
150	2	94
200	1	97
300	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	3
10	8	28
15	2	34
20	7	56
30	8	81
50	4	94
70	1	97
100	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	26	81
L(5)	0	81
5	3	91
7	1	94
10	0	94
15	1	97
20	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	30	98
L(200)	1	99
50	1	100

VIII. HAYES GLACIER SUBTERRANE AND WINDY TERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	0	0
20	0	0
30	2	5
50	4	14
70	9	35
100	8	53
150	8	72
200	8	91
300	4	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	2
10	8	21
15	3	28
20	11	53
30	10	77
50	7	93
70	2	98
100	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	22	51
L(5)	1	53
5	7	70
7	5	81
10	4	91
15	1	93
20	2	98
30	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	4	9
L(200)	25	67
200	7	84
300	3	91
500	3	98
700	1	100

IX. EAST SUSITNA BATHOLITH

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	2	4
5	3	9
7	4	16
10	5	25
15	2	28
20	8	42
30	16	70
50	5	79
70	6	89
100	4	95
150	3	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	2
10	16	30
15	15	56
20	19	88
30	5	100

MOLYBDENUM

Reported Values	Observed Frequency	Cumulative Percent Frequency
ND(5)	53	93
L(5)	1	95
5	1	96
7	0	96
10	1	98
15	0	98
20	0	98
30	0	98
50	1	100

ZINC

No reported values

X. MACLAREN GLACIER METAMORPHIC BELT

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	1	3
5	0	3
7	0	3
10	0	3
15	1	6
20	3	16
30	2	22
50	3	31
70	5	47
100	5	63
150	7	84
200	2	90
300	2	97
500	0	97
700	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	3
10	15	50
15	8	75
20	7	97
30	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	24	75
L(5)	1	78
5	1	81
7	1	84
10	2	91
15	2	97
20	0	97
30	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	9	28
L(200)	19	88
200	2	94
300	0	94
500	1	97
700	0	97
1,000	1	100

XI. SLANA RIVER SUBTERRANE AND WRANGELLIA TERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	1	1
15	0	1
20	3	3
30	6	7
50	20	22
70	22	38
100	17	51
150	22	67
200	25	85
300	11	93
500	8	99
700	0	99
1,000	0	99
1,500	0	99
2,000	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	17	13
10	52	51
15	24	68
20	26	88
30	9	94
50	5	98
70	1	99
100	2	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	126	93
L(5)	6	97
5	2	98.5
7	1	99
10	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	51	38
L(200)	71	90
200	12	98.5
300	1	99
500	1	100

XII. TANGLE SUBTERRANE, WRANGELLIA TERRANE, AND CLEARWATER TERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	1	1
7	2	3
10	6	8
15	10	16
20	11	25
30	12	35
50	24	55
70	16	69
100	18	84
150	16	97
200	2	99
300	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	1	1
L(10)	18	16
10	73	77
15	19	93
20	6	98
30	1	99
50	0	99
70	0	99
100	0	99
150	0	99
200	1	100

MOLYBDENUM

No reported values

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	51	43
L(200)	65	97
200	2	99
300	1	100

Table 2.—*Frequencies and cumulative percents of concentrations of copper, lead, zinc, and molybdenum in heavy-mineral concentrates, Mount Hayes quadrangle, Alaska.*

I. LAKE GEORGE SUBTERRANE AND YOUNGER GRANITE PLUTONS

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	3	13
L(10)	12	65
10	6	91
15	1	96
20	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	13	57
L(20)	5	78
20	2	87
30	2	96
50	1	100

MOLYBDENUM

No reported values.

ZINC

No reported values.

II. SURFICIAL DEPOSITS

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	13	27
L(10)	22	71
10	7	86
15	1	88
20	0	88
30	0	88
50	2	92
70	1	94
100	0	94
150	0	94
200	2	98
300	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	24	49
L(20)	11	71
20	4	80
30	3	86
50	1	88
70	3	94
100	0	94
150	0	94
200	1	96
300	0	96
500	0	96
700	2	100

MOLYBDENUM

No reported values

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	49	98
L(500)	1	100

III. GRANITE PLUTONS OF MOLYBDENUM RIDGE AND BUCHANAN CREEK

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	2	12
L(10)	3	18
10	5	47
15	4	71
20	1	76
30	0	76
50	2	88
70	0	88
100	0	88
150	1	94
200	0	94
300	0	94
500	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	1	6
L(20)	4	29
20	4	53
30	2	65
50	2	76
70	1	82
100	1	88
150	2	150

MOLYBDENUM

No reported values.

ZINC

No reported values.

IV. GRANITE PLUTON OF GRANITE MOUNTAIN

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	3	22
15	2	33
20	1	44
30	1	50
50	0	50
70	3	56
100	0	56
150	2	67
200	0	67
300	1	72
500	3	83
700	2	94
1,000	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	6
20	1	11
30	0	11
50	1	22
70	4	44
100	4	67
150	4	89
200	1	94
300	0	94
500	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	12	78
L(10)	0	78
10	0	78
15	0	78
20	1	83
30	0	83
50	1	89
70	0	89
100	1	94
150	1	100

ZINC

No reported values.

V. JARVIS CREEK GLACIER SUBTERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	1	0.5
L(10)	12	4
10	15	9
15	7	11
20	10	15
30	3	16
50	10	19
70	26	27
100	21	34
150	37	46
200	33	57
300	36	68
500	37	80
700	36	92
1,000	22	99
1,500	2	99.5
2,000	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	1	0.5
L(20)	3	1
20	9	4
30	2	5
50	10	8
70	21	15
100	21	22
150	35	33
200	32	43
300	45	58
500	45	72
700	36	84
1,000	25	92
1,500	14	97
2,000	4	98
3,000	5	99.5
5,000	0	99.5
7,000	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	304	98
L(10)	0	98
10	3	99
15	0	99
20	1	99.5
30	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	255	83
L(100)	24	90
500	12	95
700	6	96
1,000	5	98
1,500	5	99.5
2,000	0	99.5
3,000	1	100

VI. MACOMB SUBTERRANE AND YOUNGER GRANITIC PLUTONS

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	6	10
L(10)	17	37
10	11	54
15	3	59
20	2	62
30	3	67
50	3	71
70	5	79
100	6	89
150	3	94
200	1	95
300	0	95
500	1	97
700	0	97
1,000	2	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	2	3
L(20)	5	11
20	6	21
30	3	25
50	9	40
70	9	54
100	8	67
150	7	78
200	6	87
300	1	89
500	4	95
700	0	95
1,000	0	95
1,500	2	98
2,000	0	98
3,000	0	98
5,000	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	60	95
L(10)	0	95
10	0	95
15	0	95
20	0	95
30	1	97
50	0	97
70	1	98
100	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	60	95
L(500)	1	97
500	1	98
700	0	98
1,000	1	100

VII. HAYES GLACIER SUBTERRANE AND AURORA PEAK TERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	1	3
15	2	9
20	1	12
30	1	15
50	2	21
70	2	26
100	5	41
150	2	47
200	3	56
300	3	65
500	6	82
700	3	91
1,000	1	94
1,500	1	97
2,000	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	6	18
L(20)	2	24
20	5	38
30	4	50
50	2	56
70	0	56
100	5	71
150	2	76
200	4	88
300	2	94
500	0	94
700	1	97
1,000	0	97
1,500	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	29	85
L(10)	0	85
10	2	91
15	2	97
20	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	25	74
L(500)	4	85
500	3	94
700	2	100

VIII. HAYES GLACIER SUBTERRANE AND WINDY TERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	0	0
30	0	0
50	1	2
70	1	5
100	5	16
150	5	27
200	9	48
300	4	57
500	3	64
700	5	75
1,000	8	93
1,500	3	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0.0
L(20)	3	7
20	2	11
30	2	16
50	1	18
70	3	25
100	8	43
150	3	50
200	5	61
300	6	75
500	6	89
700	1	91
1,000	2	95
1,500	2	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND	33	75
L	1	77
10	4	86
15	2	91
20	2	95
30	1	98
50	0	98
70	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND	28	64
L	1	66
500	4	75
700	3	82
1,000	2	86
1,500	2	91
2,000	3	98
3,000	0	98
5,000	1	100

IX. EAST SUSITNA BATHOLITH

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	5	8
L(10)	4	15
10	4	22
15	3	27
20	2	31
30	3	36
50	6	46
70	4	53
100	4	59
150	11	78
200	4	85
300	3	90
500	2	93
700	2	97
1,000	2	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	16	27
L(20)	12	47
20	9	63
30	6	73
50	4	80
70	3	86
100	4	93
150	2	97
200	0	97
300	2	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	57	97
L(10)	0	97
10	0	97
15	1	98
20	0	98
30	0	98
50	0	98
70	0	98
100	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	55	98
L(500)	0	98
500	0	98
700	1	100

X. MACLAREN GLACIER METAMORPHIC BELT

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	1	3
20	0	3
30	1	7
50	0	7
70	4	20
100	3	30
150	1	33
200	6	53
300	3	63
500	4	77
700	3	87
1,000	1	90
1,500	2	97
2,000	0	97
3,000	0	97
5,000	0	97
7,000	0	97
10,000	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	00
L(20)	1	3
20	6	23
30	4	37
50	7	60
70	1	63
100	2	70
150	5	87
200	0	87
300	2	93
500	1	97
700	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	27	90
L(10)	0	90
10	1	93
15	1	97
20	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	24	80
L(500)	3	90
500	1	93
700	2	100

XI. SLANA RIVER SUBTERRANE AND WRANGELLIA TERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	2	2
15	10	9
20	11	17
30	5	21
50	9	28
70	7	33
100	8	39
150	9	46
200	13	56
300	8	62
500	19	77
700	13	86
1,000	9	93
1,500	5	97
2,000	1	98
3,000	2	99
5,000	0	99
7,000	0	99
10,000	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	23	17
L(20)	22	34
20	21	50
30	10	58
50	13	67
70	9	74
100	8	80
150	6	85
200	7	90
300	6	95
500	3	97
700	1	98
1,000	2	99
1,500	0	99
2,000	0	99
3,000	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	129	98
L(10)	0	98
10	2	99
15	0	99
20	0	99
30	0	99
50	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	118	89
L(500)	3	92
500	4	95
700	3	97
1,000	1	98
1,500	0	98
2,000	1	98.5
3,000	1	99
5,000	0	99
7,000	0	99
• 10,000	1	100

XII. TANGLE SUBTERRANE, WRANGELLIA TERRANE, AND CLEARWATER TERRANE

COPPER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	7	6
15	24	26
20	22	45
30	9	52
50	17	66
70	14	78
100	9	86
150	3	88
200	2	90
300	0	90
500	2	92
700	3	94
1,000	4	97
1,500	2	99
2,000	0	99
3,000	1	100

LEAD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	57	48
L(20)	40	82
20	14	93
30	2	95
50	1	96
70	3	98
100	1	99
150	0	99
200	0	99
300	0	99
500	0	99
700	0	99
1,000	1	100

MOLYBDENUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	115	97
L(10)	0	97
10	1	97.5
15	0	97.5
20	1	98
30	0	98
50	0	98
70	1	99
100	0	99
150	0	99
200	0	99
300	0	99
500	0	99
700	0	99
1,000	1	100

ZINC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	117	98
L(500)	0	98
500	1	99
700	1	100

SUMMARY AND INTERPRETATION OF GEOCHEMICAL MAPS FOR STREAM SEDIMENT AND HEAVY MINERAL CONCENTRATE SAMPLES MOUNT HAYES QUADRANGLE, EASTERN ALASKA RANGE, ALASKA

By
Gary C. Curtin, Richard B. Tripp, and Warren J. Nokleberg
1989

Table 3.—*Frequencies and cumulative percents of concentrations of gold, silver, and arsenic in heavy-mineral concentrates Mount Hayes quadrangle, Alaska.*

I. LAKE GEORGE SUBTERRANE AND YOUNGER GRANITE PLUTONS

GOLD

No Reported Values

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	28	94
L(1)	1	97
1	0	97
1.5	0	97
2	0	97
3	0	97
5	0	97
7	0	97
10	0	97
15	0	97
20	0	97
30	1	100

ARSENIC

No Reported Values

II. SURFICIAL DEPOSITS

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	47	96
L(20)	0	96
20	0	96
30	0	96
50	0	96
70	0	96
100	1	98
150	0	98
200	0	98
300	0	98
500	0	98
1,000	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	46	94
L(1)	0	94
1	0	94
1.5	0	94
2	0	94
3	1	96
5	0	96
7	2	100

ARSENIC

No reported values

III. GRANITE PLUTONS OF MOLYBDENUM RIDGE AND BUCHANAN CREEK

GOLD

No Reported Values

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	16	90
L(1)	1	95
1	0	95
1.5	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	15	88
L(500)	0	88
500	1	94
700	0	94
1,000	0	94
1,500	1	100

IV. GRANITE PLUTON OF GRANITE MOUNTAIN

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	17	95
L(20)	0	95
20	0	95
30	0	95
50	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	15	95
L(1)	0	95
1	0	95
1.5	0	95
2	0	95
3	0	95
5	0	95
7	0	95
10	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	14	78
L(500)	0	78
500	0	78
700	0	78
1,000	1	83
1,500	1	89
2,000	1	94
3,000	0	94
5,000	0	94
7,000	1	100

V. JARVIS CREEK GLACIER SUBTERRANE

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	305	98.7
L(20)	0	98.7
20	1	99
30	0	99
50	50	99.4
70	0	99.4
100	0	99.4
150	1	99.7
200	0	99.7
300	0	99.7
500	0	99.7
700	0	99.7
1,000	0	99.7
G1,000	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	77	25
L(1)	37	37
1	34	48
1.5	30	58
2	29	67
3	21	74
5	17	79
7	24	87
10	15	92
15	12	96
20	6	98
30	4	99
50	1	99.4
70	0	99.4
100	1	99.7
150	0	99.7
200	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	190	61
L(500)	24	69
500	15	74
700	14	79
1,000	21	85
1,500	13	90
2,000	9	93
3,000	8	95
5,000	5	96.8
7,000	1	97
10,000	1	97.4
15,000	2	98
20,000	4	99.4
G20,000	2	100

VI. MACOMB SUBTERRANE AND YOUNGER GRANITIC PLUTONS

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	62	98
L(20)	0	98
20	0	98
30	0	98
50	0	98
70	0	98
100	0	98
150	0	98
200	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	45	71
L(1)	7	83
1	2	86
1.5	0	86
2	0	86
3	0	86
5	3	90
7	2	94
10	0	94
15	1	95
20	1	97
30	2	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	54	86
L(500)	3	90
500	1	92
700	0	92
1,000	1	94
1,500	0	94
2,000	3	98
3,000	0	98
5,000	1	100

VII. HAYES GLACIER SUBTERRANE AND AURORA PEAK TERRANE

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	33	97
L(20)	0	97
20	0	97
30	0	97
50	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	15	44
L(1)	5	59
1	1	62
1.5	4	74
2	2	79
3	2	85
5	2	91
7	1	94
10	2	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	17	50
L(500)	1	53
500	4	65
700	1	68
1,000	4	79
1,500	0	79
2,000	2	85
3,000	1	88
5,000	1	91
7,000	0	91
10,000	1	94
15,000	2	100

VIII. HAYES GLACIER SUBTERRANE AND WINDY TERRANE

GOLD

No Reported Values

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND	3	7
L	1	9
1	9	30
1.5	6	43
2	4	52
3	1	55
5	8	73
7	7	89
10	3	95
15	2	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	35	79
L(500)	0	79
500	3	86
700	1	89
1,000	3	95
1,500	1	98
2,000	1	100

IX. EAST SUSITNA BATHOLITH

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	58	98
L(20)	0	98
20	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	41	69
L(1)	4	76
1	7	88
1.5	4	95
2	1	97
3	0	97
5	1	98
7	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	51	86
L(500)	0	86
500	2	90
700	0	90
1,000	4	97
1,500	1	98
2,000	0	98
3,000	1	100

X. MACLAREN GLACIER METAMORPHIC BELT

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	29	97
L(20)	0	97
20	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	7	23
L(1)	3	33
1	5	50
1.5	1	53
2	3	63
3	2	70
5	4	83
7	1	89
10	1	93
15	1	97
20	0	97
30	0	97
50	0	97
70	0	97
100	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	16	53
L(500)	0	53
500	1	57
700	1	60
1,000	4	73
1,500	0	73
2,000	2	80
3,000	1	83
5,000	3	93
7,000	0	93
10,000	1	97
15,000	1	100

XI. SLANA RIVER SUBTERRANE AND WRANGELLIA TERRANE

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	128	97
L(20)	1	97.7
20	1	98.5
30	1	99
50	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	50	38
L(1)	29	60
1	14	70
1.5	7	76
2	10	83
3	8	89
5	4	92
7	4	95
10	2	97
15	2	98
20	1	99
30	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(500)	125	95
L(500)	2	96
500	0	96
700	1	97
1,000	3	99
1,500	1	100

XII. TANGLE SUBTERRANE, WRANGELLIA TERRANE, AND CLEARWATER TERRANE

GOLD

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	114	95.8
L(20)	0	95.8
20	3	98.3
30	0	98.3
50	0	98.3
70	0	98.3
100	0	98.3
150	1	99
200	0	99
300	0	99
500	0	99
700	1	100

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(1)	80	67
L(1)	24	87
1	8	94
1.5	2	96
2	0	96
3	0	96
5	2	97
7	1	98
10	0	98
15	0	98
20	0	98
30	0	98
50	0	98
70	0	98
100	2	100

ARSENIC

No Reported Values

Table 4.—*Frequencies and cumulative percents of concentrations of gold, silver, and arsenic in stream-sediment samples, Mount Hayes quadrangle, Alaska.*

I. LAKE GEORGE SUBTERRANE AND YOUNGER GRANITE PLUTONS

SILVER

No reported values

ARSENIC

No reported values

II. SURFICIAL DEPOSITS

SILVER

No reported values

ARSENIC

No reported values

III. GRANITE PLUTONS OF MOLYBDENUM RIDGE AND BUCHANAN CREEK

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	11	58
L(0.05)	2	68
0.05	3	84
0.7	1	89
1	1	94
1.5	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	18	95
L(200)	0	95
200	0	95
300	1	100

IV. GRANITE PLUTON OF GRANITE MOUNTAIN

SILVER

No reported values

ARSENIC

No reported values

V. JARVIS CREEK GLACIER SUBTERRANE

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	211	68
L(0.5)	53	85
0.5	27	94
0.7	6	96
1	6	98
1.5	4	99
2	0	99
3	0	99
5	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	302	97.8
L(200)	0	97.8
200	0	97.8
300	1	98.1
500	5	99.7
700	1	100

VI. MACOMB SUBTERRANE AND YOUNGER GRANITIC PLUTONS

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	41	65
L(0.5)	13	86
0.5	4	92
0.7	1	94
1	2	97
1.5	0	97
2	1	98
3	0	98
5	0	98
7	1	100

ARSENIC

No reported values

VII. HAYES GLACIER SUBTERRANE AND AURORA PEAK TERRANE

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	12	38
L(0.5)	8	63
0.5	7	84
0.7	2	91
1	3	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	31	
L(200)	0	97
200	0	97
300	0	97
500	1	100

VIII. HAYES GLACIER SUBTERRANE AND WINDY TERRANE

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	12	28
L(0.5)	12	56
0.5	7	72
0.7	4	81
1	3	88
1.5	2	93
2	3	100

ARSENIC

No reported values

IX. EAST SUSITNA BATHOLITH

SILVER

Reported Values	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	45	79
L(0.5)	8	93
0.5	3	98
0.7	0	98
1	1	100

ARSENIC

No reported values

X. MACLAREN GLACIER METAMORPHIC BELT

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	20	36
L(0.5)	5	78
0.5	4	91
0.7	1	94
1	1	97
1.5	0	97
2	1	100

ARSENIC

No reported values

XI. SLANA RIVER SUBTERRANE AND WRANGELLIA TERRANE

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	106	78
L(0.5)	13	88
0.5	12	96
0.7	3	98.5
1	1	99
1.5	1	100

ARSENIC

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	135	99.3
L(200)	0	99.3
200	0	99.3
300	0	99.3
500	0	99.3
700	0	99.3
1,000	0	99.3
1,500	0	99.3
2,000	1	100

XII. TANGLE SUBTERRANE, WRANGELLIA TERRANE, AND CLEARWATER TERRANE

SILVER

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(0.5)	106	89
L(0.5)	4	92
0.5	4	96
0.7	1	97
1	2	98
1.5	1	99
2	0	99
3	0	99
5	0	99
7	0	99
10	1	100

ARSENIC

No reported values

Table 5.—*Frequencies and cumulative percents of concentrations of tin, tungsten, antimony, and bismuth in heavy-mineral concentrates, Mount Hayes quadrangle, Alaska.*

I. LAKE GEORGE SUBTERRANE AND YOUNGER GRANITE PLUTONS

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	17	74
L(20)	0	74
20	0	74
30	0	74
50	3	87
70	2	96
100	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	12	52
L(100)	1	57
100	0	57
150	1	61
200	0	61
300	1	65
500	3	78
700	2	87
1,000	1	91
1,500	0	91
2,000	2	100

ANTIMONY

No reported values.

BISMUTH

No Reported Values

II. SURFICIAL DEPOSITS

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	33	67
L(20)	6	80
20	1	82
30	1	84
50	2	88
70	4	96
100	0	96
150	0	96
200	1	98
300	0	98
500	0	98
700	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	27	55
L(100)	6	67
100	5	78
150	2	82
200	5	92
300	2	96
500	2	100

ANTIMONY

No reported values.

BISMUTH

No Reported Values

III. GRANITE PLUTONS OF MOLYBDENUM RIDGE AND BUCHANAN CREEK

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	5	29
L(20)	0	29
20	1	35
30	1	41
50	3	59
70	2	71
100	2	82
150	0	82
200	0	82
300	0	82
500	1	88
700	1	94
1,000	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	2	12
L(100)	0	12
100	0	12
150	2	24
200	2	35
300	2	47
500	4	71
700	2	82
1,000	1	88
1,500	1	94
2,000	1	100

ANTIMONY

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	14	85
L(200)	2	95
200	1	100

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	11	65
L(20)	3	82
20	1	88
30	0	88
50	0	88
70	1	94
100	1	100

IV. GRANITE PLUTON OF GRANITE MOUNTAIN

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	4	33
L(20)	0	33
20	0	33
30	2	44
50	0	44
70	3	61
100	1	67
150	4	89
200	2	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	3	28
L(100)	2	39
100	1	44
150	3	61
200	3	78
300	1	83
500	0	83
700	1	89
1,000	1	94
1,500	1	100

ANTIMONY

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(200)	13	83
L(200)	2	94
200	0	94
300	0	94
500	0	94
700	1	100

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	9	50
L(20)	0	50
20	0	50
30	0	50
50	1	56
70	1	61
100	0	61
150	0	61
200	2	72
300	1	78
500	2	89
700	0	89
1,000	1	94
1,500	0	94
2,000	0	94
G2,000	1	100

V. JARVIS CREEK GLACIER SUBTERRANE

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	220	71
L(20)	9	74
20	28	83
30	10	86
50	17	92
70	8	94.5
100	3	95
150	4	97
200	3	98
300	4	99
500	3	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	222	72
L(100)	30	82
100	23	89
150	12	93
200	7	95
300	3	96
500	4	97
700	3	98
1,000	3	99
1,500	1	99.5
2,000	0	99.5
3,000	0	99.5
5,000	0	99.5
7,000	0	99.5
10,000	1	100

ANTIMONY

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	307	99
L(100)	0	99
100	0	99
150	0	99
200	0	99
300	1	99.5
500	1	100

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	232	75
L(20)	35	86
20	17	92
30	7	94
50	5	96
70	3	97
100	2	97.4
150	4	98.7
200	1	99
300	0	99
500	2	99.7
700	1	100

VI. MACOMB SUBTERRANE AND YOUNGER GRANITIC PLUTONS

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	18	29
L(20)	1	30
20	3	35
30	2	38
50	5	46
70	10	62
100	6	71
150	3	76
200	4	83
300	1	84
500	2	87
700	1	89
1,000	1	90
1,500	1	92
2,000	1	94
>2,000	4	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	14	22
L(100)	9	37
100	4	43
150	8	56
200	5	63
300	8	76
500	6	86
700	6	95
1,000	3	100

ANTIMONY

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	62	98
L(100)	0	98
100	0	98
150	0	98
200	0	98
300	0	98
500	0	98
700	1	100

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	34	54
L(20)	9	68
20	1	70
30	4	76
50	2	79
70	3	84
100	1	86
150	1	87
200	4	94
300	0	94
500	1	95
700	0	95
1,000	1	97
1,500	0	97
2,000	1	98
G2,000	1	100

VII. HAYES GLACIER SUBTERRANE AND AURORA PEAK TERRANE

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	31	91
L(20)	0	91
20	0	91
30	0	91
50	2	97
70	0	97
100	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	19	56
L(100)	5	71
100	4	82
150	3	91
200	0	91
300	0	91
500	1	94
700	0	94
1,000	2	100

ANTIMONY

No reported values.

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	30	88
L(20)	1	91
20	1	94
30	1	97
50	0	97
100	1	100

VIII. HAYES GLACIER SUBTERRANE AND WINDY TERRANE

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	43	95
L(20)	0	95
20	2	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	31	70
L(100)	7	86
100	2	91
150	2	95
200	1	98
300	0	98
500	1	100

ANTIMONY

No reported values.

BISMUTH

No Reported Values

IX. EAST SUSITNA BATHOLITH

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	42	71
L(20)	3	76
20	3	81
30	4	88
50	3	93
70	3	98
100	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	36	61
L(100)	2	64
100	3	69
150	4	76
200	5	85
300	6	95
500	2	98
700	0	98
1,000	1	100

ANTIMONY

No reported values.

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	44	75
L(20)	4	81
20	3	86
30	2	90
50	1	92
70	2	95
100	1	97
150	0	97
200	0	97
300	0	97
500	1	98
700	0	98
1,000	1	100

X. MACLAREN GLACIER METAMORPHIC BELT

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	29	97
L(20)	0	97
20	0	97
30	0	97
50	0	97
70	0	97
100	0	97
150	0	97
200	0	97
300	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	7	23
L(100)	5	40
100	2	47
150	5	63
200	3	73
300	3	83
500	1	87
700	3	97
1,000	1	100

ANTIMONY

No reported values.

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	26	87
L(20)	1	90
20	1	93
30	1	97
50	0	97
70	1	100

XI. SLANA RIVER SUBTERRANE AND WRANGELLIA TERRANE

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	127	96
L(20)	0	96
20	2	98
30	2	99
50	0	99
70	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	94	71
L(100)	15	83
100	6	87
150	7	92
200	6	97
300	1	98
500	1	98.5
700	1	99
1,000	0	99
1,500	1	100

ANTIMONY

No reported values

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	125	95
L(20)	3	97
20	0	97
30	0	97
50	1	98
70	2	99
100	0	99
150	0	99
200	0	99
300	0	99
500	0	99
700	0	99
1,000	1	100

XII. TANGLE SUBTERRANE, WRANGELLIA TERRANE, AND CLEARWATER TERRANE

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	117	98
L(20)	0	98
20	1	99
30	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(100)	88	74
L(100)	4	77
100	12	87
150	5	92
200	0	92
300	1	92.5
500	1	93
700	1	94
1,000	3	97
1,500	1	98
2,000	2	100

ANTIMONY

No reported values

BISMUTH

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	116	97
L(20)	1	98
20	0	98
30	0	98
50	0	98
70	0	98
100	0	98
150	1	99
200	1	100

Table 6.—*Frequencies and cumulative percents of concentrations of tin and tungsten in stream-sediment samples, Mount Hayes quadrangle, Alaska.*

I. LAKE GEORGE SUBTERRANE AND YOUNGER GRANITE PLUTONS

TIN

No reported values

TUNGSTEN

No reported values

II. SURFICIAL DEPOSITS

TIN

No reported values

TUNGSTEN

No reported values

III. GRANITE PLUTONS OF MOLYBDENUM RIDGE AND BUCHANAN CREEK

TIN

No reported values

TUNGSTEN

No reported values

IV. GRANITE PLUTON OF GRANITE MOUNTAIN

TIN

No reported values

TUNGSTEN

No reported values

V. JARVIS CREEK GLACIER SUBTERRANE

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	303	98
L(10)	2	98.7
10	2	99.4
15	2	100

TUNGSTEN

No reported values

VI. MACOMB SUBTERRANE AND YOUNGER GRANITIC PLUTONS

TIN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	57	90
L(10)	1	92
10	0	92
15	1	94
20	0	94
30	0	94
50	2	97
70	0	97
100	0	97
150	0	97
200	1	98
300	0	98
500	1	100

TUNGSTEN

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(50)	59	95
L(50)	1	97
50	3	100

VII. HAYES GLACIER SUBTERRANE AND AURORA PEAK TERRANE

TIN

No reported values

TUNGSTEN

No observed values

VIII. HAYES GLACIER SUBTERRANE AND WINDY TERRANE

TIN

No reported values

TUNGSTEN

No reported values

IX. EAST SUSITNA BATHOLITH

TIN

No reported values

TUNGSTEN

No reported values

X. MACLAREN GLACIER METAMORPHIC BELT

TIN

No reported values

TUNGSTEN

No reported values

XI. SLANA RIVER SUBTERRANE AND WRANGELLIA TERRANE

TIN

No reported values

TUNGSTEN

No reported values

XII. TANGLE SUBTERRANE, WRANGELLIA TERRANE, AND CLEARWATER TERRANE

TIN

No reported values

TUNGSTEN

No reported values

Table 7.—*Frequencies and cumulative percents of concentrations of chromium, cobalt, and nickel in stream-sediment samples, Mount Hayes quadrangle, Alaska.*

I. LAKE GEORGE SUBTERRANE AND YOUNGER GRANITE PLUTONS

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	0	0
30	0	0
50	1	3
70	2	10
100	7	33
150	9	63
200	7	87
300	3	97
500	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	2	7
7	1	10
10	6	30
15	15	80
20	6	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	1	3
15	2	10
20	4	23
30	7	47
50	11	83
70	4	97
100	1	100

II. SURFICIAL DEPOSITS

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10),	0	0
L(10)	0	0
10	0	0
15	0	0
20	0	0
30	0	0
50	0	0
70	1	2
100	6	13
150	21	51
200	15	78
300	6	89
500	4	96
700	1	98
1,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	3	5
15	14	31
20	19	65
30	13	89
50	4	96
70	2	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	0	0
20	4	7
30	14	33
50	13	56
70	17	87
100	6	98
150	1	100

III. GRANITE PLUTONS OF MOLYBDENUM RIDGE AND BUCHANAN CREEK

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	0	0
30	0	0
50	0	0
70	0	0
100	0	0
150	3	17
200	7	56
300	4	78
500	3	94
700	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	2	11
20	6	44
30	5	72
50	5	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	1	5
15	0	5
20	0	5
30	2	16
50	5	42
70	6	74
100	4	95
150	1	100

IV. GRANITE PLUTON OF GRANITE MOUNTAIN

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	1	6
20	2	18
30	3	35
50	6	71
70	2	82
100	3	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	4	24
10	10	82
15	2	94
20	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	6	35
15	2	47
20	5	76
30	2	88
50	0	88
70	1	94
100	1	100

V. JARVIS CREEK GLACIER SUBTERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	1	0.3
20	1	0.6
30	10	4
50	35	15
70	58	34
100	77	59
150	63	79
200	35	91
300	14	95
500	7	97
700	6	99
1,000	1	99.7
1,500	0	99.7
2,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	1	0.3
7	9	3
10	30	13
15	45	28
20	78	53
30	88	81
50	48	97
70	8	99
100	1	99.7
150	0	99.7
200	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	2	1
20	14	5
30	41	18
50	76	43
70	105	77
100	46	92
150	21	99
200	3	99.7
300	1	100

VI. MACOMB SUBTERRANE AND YOUNGER GRANITIC PLUTONS

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	3	5
20	2	8
30	2	11
50	4	17
70	8	30
100	16	56
150	14	78
200	12	97
300	1	98
500	0	98
700	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	1	2
7	6	11
10	5	19
15	17	46
20	17	73
30	15	97
50	2	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	2	3
5	4	10
7	2	13
10	4	19
15	2	22
20	7	33
30	13	54
50	13	75
70	12	94
100	4	100

VII. HAYES GLACIER SUBTERRANE AND AURORA PEAK TERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	0	0
30	0	0
50	2	6
70	2	13
100	3	22
150	7	44
200	9	72
300	2	78
500	4	91
700	4	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	0	0
20	8	25
30	9	53
50	10	84
70	5	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	2	6
20	0	6
30	3	16
50	4	28
70	8	53
100	7	75
150	6	94
200	2	100

VIII. HAYES GLACIER SUBTERRANE AND WINDY TERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	0	0
30	1	2
50	3	9
70	10	33
100	12	60
150	10	84
200	2	88
300	3	95
500	1	98
700	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	1	2
15	11	28
20	8	47
30	11	72
50	7	88
70	3	95
100	2	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	0	0
20	0	0
30	0	0
50	5	12
70	9	33
100	13	63
150	12	91
200	2	95
300	1	98
500	1	100

IX. EAST SUSITNA BATHOLITH

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	2	4
10	6	14
15	1	16
20	3	21
30	2	25
50	3	30
70	2	33
100	9	49
150	9	65
200	12	86
300	1	88
500	4	95
700	2	98
1,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	2	4
7	5	12
10	9	28
15	7	40
20	7	53
30	18	84
50	7	96
100	2	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	1	2
5	5	10
7	2	14
10	4	21
15	3	26
20	4	33
30	10	51
50	15	77
70	8	91
100	4	98
150	0	98
200	0	98
300	1	100

X. MACLAREN GLACIER METAMORPHIC BELT

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	1	3
30	0	3
50	5	19
70	6	38
100	4	50
150	8	75
200	5	91
300	2	97
500	0	97
700	0	97
1,000	0	97
1,500	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	1	3
7	2	9
10	5	25
15	4	38
20	9	66
30	4	78
50	4	91
70	2	97
100	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	1	3
20	0	3
30	4	16
50	1	19
70	10	50
100	10	81
150	3	91
200	0	91
300	3	100

XI. SLANA RIVER SUBTERRANE AND WRANGELLIA TERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	2	1
30	1	2
50	•3	4
70	2	6
100	11	14
150	16	26
200	15	37
300	13	46
500	17	59
700	11	67
1,000	9	74
1,500	11	82
2,000	5	85
3,000	3	88
5,000	8	93
G5,000	9	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	6	4
15	5	8
20	24	26
30	30	48
50	42	79
70	18	92
100	5	96
150	6	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	3	2
20	4	5
30	3	7
50	9	14
70	24	32
100	27	51
150	28	72
200	11	80
300	12	89
500	4	92
700	2	93
1,000	4	96
1,500	2	98
2,000	3	100

XII. TANGLE SUBTERRANE, WRANGELLIA TERRANE, AND CLEARWATER TERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	0	0
30	0	0
50	3	2.5
70	1	3
100	8	10
150	12	20
200	19	36
300	20	53
500	11	62
700	10	71
1,000	10	79
1,500	13	90
2,000	3	92
3,000	2	94
5,000	3	97
G5,000	4	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	1	1
L(5)	0	1
5	0	1
7	0	1
10	3	3
15	5	8
20	17	22
30	25	43
50	44	80
70	21	97
100	3	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(5)	0	0
L(5)	0	0
5	0	0
7	0	0
10	0	0
15	0	0
20	2	2
30	3	4
50	6	9
70	27	32
100	32	59
150	26	81
200	13	92
300	8	98
500	2	100

Table 8.—*Frequencies and cumulative percents of concentrations of chromium, cobalt, and nickel in heavy-mineral concentrates, Mount Hayes quadrangle, Alaska.*

I. LAKE GEORGE SUBTERRANE AND YOUNGER GRANITE PLUTONS

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	0	0
30	0	0
50	0	0
70	0	0
100	2	9
150	4	26
200	7	57
300	3	70
500	2	78
700	4	96
1,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	6	26
10	7	57
15	5	78
20	4	96
30	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	1	4
15	3	17
20	4	35
30	6	61
50	7	91
70	1	96
100	0	96
150	1	100

II. SURFICIAL DEPOSITS

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	0	0
30	0	0
50	1	2
70	8	18
100	8	35
150	9	53
200	17	88
300	4	96
500	0	96
700	2	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	22	45
15	18	82
20	4	90
30	0	90
50	1	92
70	2	96
100	1	98
150	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	2	4
L(10)	0	4
10	0	4
15	2	8
20	6	20
30	26	73
50	10	94
70	0	94
100	3	100

III. GRANITE PLUTONS OF MOLYBDENUM RIDGE AND BUCHANAN CREEK

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
10	1	6
15	5	35
20	5	65
30	5	94
50	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	6
10	3	23
15	2	35
20	7	76
30	3	94
50	0	94
70	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	2	12
L(10)	1	18
10	0	18
15	0	18
20	0	18
30	6	53
50	5	82
70	2	94
100	0	94
150	1	100

IV. GRANITE PLUTON OF GRANITE MOUNTAIN

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	0	0
30	2	11
50	1	17
70	6	50
100	2	61
150	2	72
200	1	78
300	1	83
500	3	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	2	11
20	4	33
30	2	44
50	0	44
70	0	44
100	3	61
150	2	72
200	3	89
300	1	94
500	0	94
700	0	94
1,000	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	4	22
L(10)	1	28
10	0	28
15	0	28
20	2	39
30	0	39
50	7	78
70	1	83
100	2	94
150	0	94
200	1	100

V. JARVIS CREEK GLACIER SUBTERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	4	1
30	2	2
50	7	4
70	51	21
100	63	41
150	48	57
200	31	67
300	31	77
500	38	89
700	12	93
1,000	11	96
1,500	7	98.5
2,000	2	99
3,000	1	99.5
5,000	0	99.5
7,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	11	4
15	15	8
20	18	14
30	24	22
50	22	29
70	32	39
100	39	52
150	38	64
200	42	78
300	36	90
500	19	96
700	7	98
1,000	3	99
1,500	2	99.5
2,000	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	1	0.5
L(10)	5	2
10	7	4
15	7	6
20	4	8
30	16	13
50	25	21
70	40	34
100	42	48
150	36	59
200	48	75
300	22	82
500	24	90
700	23	97
1,000	9	100

VI. MACOMB SUBTERRANE AND YOUNGER GRANITIC PLUTONS

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	1	2
30	0	2
50	3	6
70	3	11
100	3	17
150	10	33
200	8	46
300	9	60
500	4	67
700	8	79
1,000	5	87
1,500	6	97
2,000	2	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	7	11
10	16	37
15	9	51
20	7	62
30	7	73
50	4	79
70	5	87
100	6	97
150	1	98
200	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	9	14
L(10)	3	19
10	1	21
15	3	25
20	10	41
30	12	60
50	5	68
70	8	81
100	6	90
150	3	95
200	1	97
300	2	100

VII. HAYES GLACIER SUBTERRANE AND AURORA PEAK TERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	0	0
30	0	0
50	3	9
70	1	12
100	4	24
150	8	47
200	8	71
300	6	88
500	3	97
700	0	97
1,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	1	3
20	4	15
30	7	35
50	5	50
70	5	65
100	4	76
150	0	76
200	2	82
300	4	94
500	0	94
700	2	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	3
10	1	6
15	2	12
20	0	12
30	4	24
50	2	29
70	5	44
100	2	50
150	8	74
200	4	85
300	1	88
500	3	97
700	1	100

VIII. HAYES GLACIER SUBTERRANE AND WINDY TERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	0	0
30	1	1
50	2	7
70	4	16
100	5	27
150	3	34
200	3	41
300	10	64
500	7	80
700	2	84
1,000	6	98
1,500	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	2	5
30	4	14
50	9	34
70	4	43
100	4	52
150	6	66
200	7	82
300	0	82
500	6	95
700	2	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	1	2
30	4	11
50	2	16
70	6	30
100	7	45
150	6	59
200	4	68
300	7	84
500	2	89
700	2	93
1,000	1	95
1,500	2	100

IX. EAST SUSITNA BATHOLITH

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	3	5
20	5	14
30	3	19
50	4	25
70	7	37
100	8	51
150	15	76
200	6	86
300	2	90
500	3	97
700	1	98
1,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	2
10	11	20
15	8	34
20	6	44
30	10	61
50	3	66
70	8	80
100	4	86
150	1	88
200	2	92
300	3	97
500	2	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	7	12
L(10)	12	32
10	6	42
15	2	46
20	0	46
30	3	51
50	7	63
70	12	83
100	6	93
150	4	100

X. MACLAREN GLACIER METAMORPHIC BELT

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	0	0
30	2	7
50	3	17
70	6	37
100	3	47
150	4	60
200	1	63
300	4	77
500	5	93
700	1	97
1,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	3	10
20	0	10
30	5	27
50	2	33
70	2	40
100	5	57
150	5	73
200	2	80
300	1	83
500	3	93
700	0	93
1,000	0	93
1,500	2	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	0	0
15	0	0
20	1	3
30	2	10
50	4	23
70	3	33
100	3	43
150	4	57
200	3	67
300	2	73
500	6	93
700	1	97
1,000	1	100

XI. SLANA RIVER SUBTERRANE AND WRANGELLIA TERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	1	1
20	6	5
30	6	10
50	13	20
70	8	26
100	14	36
150	11	45
200	17	58
300	14	68
500	28	89
700	11	98
1,000	3	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	0	0
10	2	2
15	16	14
20	22	30
30	20	45
50	18	59
70	8	65
100	13	75
150	11	83
200	9	90
300	4	93
500	3	95
700	3	98
1,000	2	99
1,500	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	1
10	1	2
15	3	4
20	4	7
30	6	11
50	29	33
70	21	49
100	30	72
150	15	83
200	11	92
300	5	95
500	4	98
700	1	99
1,000	0	99
1,500	1	100

XII. TANGLE SUBTERRANE, WRANGELLIA TERRANE, AND CLEARWATER TERRANE

CHROMIUM

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(20)	0	0
L(20)	0	0
20	2	2
30	1	3
50	1	4
70	2	5
100	17	19
150	13	30
200	22	49
300	13	60
500	22	78
700	13	89
1,000	7	95
1,500	5	99
2,000	0	99
3,000	0	99
5,000	0	99
7,000	1	100

COBALT

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	1
10	6	6
15	45	44
20	37	75
30	18	90
50	3	92
70	3	95
100	4	98
150	1	99
200	1	100

NICKEL

Reported Value	Observed Frequency	Cumulative Percent Frequency
ND(10)	0	0
L(10)	1	1
10	2	3
15	2	4
20	3	7
30	18	22
50	37	53
70	34	82
100	14	93
150	6	98
200	2	100