

Noranda ^{Toronto}~~Vancouver~~
Mines 416-867-7111
416-867-7256

019572

KERR ADDISON MINES LTD.

GRUM JOINT VENTURE

LIST OF SPECIMENS

REQUESTED FOR POLISHED SECTION

FEB 1977

By D.J.T. CARSON

NOTE

t = top of orebody
b = bottom of massive sulphides

STRATIGRAPHIC

62 W Section

- U-179 ¹⁴⁰⁰¹ 2 (M), ¹⁴⁰⁰² 5 (M), ¹⁴⁰⁰³ 10 (M), ¹⁴⁰⁰⁴ 16 (M) t
¹⁴⁰⁰⁵ 31 (M), ¹⁴⁰⁰⁶ 36 (M), ¹⁴⁰⁰⁷ 42 (M), ¹⁴⁰⁰⁸ 45 (M)
- U-171 ¹⁴⁰⁰⁹ 1 (M), ¹⁴⁰¹⁰ 4 (M), ¹⁴⁰¹¹ 6 (M)
- U-177 ¹⁴⁰¹² 1 (P), ¹⁴⁰¹³ 20 (P), ¹⁴⁰¹⁴ 40 (P), ¹⁴⁰¹⁵ 49 (M), ¹⁴⁰¹⁶ 51 (M), ¹⁴⁰¹⁷ 60 (P)
- U-175 ¹⁴⁰¹⁸ 10 (P), ¹⁴⁰¹⁹ 30 (P), ¹⁴⁰²⁰ 45 (M)
- U-173 ¹⁴⁰²¹ 1 (M), ¹⁴⁰²² 2 (M) t, ¹⁴⁰²³ 15 (M), ¹⁴⁰²⁴ 30 (P), ¹⁴⁰²⁵ 36 (I),
51 (I)
- U-169 ¹⁴⁰²⁷ 10 (P), ¹⁴⁰²⁸ 25 (P), ¹⁴⁰²⁹ 45 (P)

29

64 W Section

- U-167 ¹⁴⁰³⁰ 3 (P), ¹⁴⁰³¹ 33 (M), ¹⁴⁰³² 38 (M), ¹⁴⁰³³ 43 (M), ¹⁴⁰³⁴ 48 (M) t
¹⁴⁰³⁵ 52 (G)
- U-165 ¹⁴⁰³⁶ 5 (P), ¹⁴⁰³⁷ 20 (P), ¹⁴⁰³⁸ 30 (P), ¹⁴⁰³⁹ 37 (M), ¹⁴⁰⁴⁰ 41 (M) t
- U-163 ¹⁴⁰⁴¹ 3 (P), ¹⁴⁰⁴² 89 (M), ¹⁴⁰⁴³ 92 (M), ¹⁴⁰⁴⁴ 96 (M)
- A-152 ¹⁴⁰⁴⁵ 110 (P), ¹⁴⁰⁴⁶ 142 (P), ¹⁴⁰⁴⁷ 147 (M), ¹⁴⁰⁴⁸ 149 (M) t
¹⁴⁰⁴⁹ 202 (M) t, ¹⁴⁰⁵⁰ 205 (M)
- A-136 ¹⁴⁰⁵¹ 120 (M), ¹⁴⁰⁵² 125 (M), ¹⁴⁰⁵³ 133 (P), ¹⁴⁰⁵⁴ 150 (P)
- A-137 ¹⁴⁰⁵⁵ 110 (P), ¹⁴⁰⁵⁶ 120 (P)
- A-149 ¹⁴⁰⁵⁷ 165 (M), ¹⁴⁰⁵⁸ 175 (P), ¹⁴⁰⁵⁹ 186 (M)

30

59

66W Section

- ~~U-159 23(P), 27(M), 29(M), 32(M)t
60(P), 67(M)~~
- ~~U-147 5(P), 10(P), 15(P), 20(M), 26(M), 35(M)t
51(M), 54(M), 56(M)t, 65(G)~~
- ~~U-141 3(P), 10(M), 18(M), 23(M)t~~
- ~~U-161 15(P), 26(M), 34(M), 45(P)~~
- ~~U-157 7(P), 15(P), 30(P), 43(M), 45(M)t, 50(G)
125(M), 127(M)~~
- ~~U-145 10(P), 45(P), 50(M), 95(P), 102(M)~~
- ~~U-143 3(P), 25(P), 84(P), 87(M)
91(M), 95(M), 98(M), 102(M)
115(P)~~
- ~~A-135 48(M), 52(M), 57(M)
137(M), 143(M), 1155(P)~~
- ~~A-139 122(P), 124(M), 130(P)~~

55

14101 to 14155 inclusive

114

66W Section

- U-159 ¹⁴¹⁸⁰ ~~23(P), 27(M), 29(M), 32(M) t~~
~~60(P), 67(M)~~
- U-147 ~~5(P), 10(P), 15(P), 20(M), 26(M), 35(M) t~~
~~51(M), 54(M), 56(M) t, 65(G)~~
- U-141 ~~3(P), 10(M), 18(M), 23(M) t~~
- U-161 ¹⁴²⁰⁰ ~~15(P), 26(M), 34(M), 45(P)~~
- U-157 ~~7(P), 15(P), 30(R), 43(M), 45(M) t, 50(G)~~
~~125(M), 127(M)~~
- U-145 ~~10(P), 45(P), 50(M), 95(P), 102(M)~~ stop
- U-143 ~~3(P), 25(P), 84(P), 87(M)~~
~~91(M), 95(M), 98(M), 102(M)~~
~~115(P)~~
- A-135 ~~48(M), 52(M), 57(M)~~
~~137(M), 143(M), 1155(P)~~
- A-139 ~~122(P), 124(M), 130(P)~~

55

150

14180 to 14200 incl.
14301 to 14315 incl.

→ Duplicated - Designated "A"

67W Section

~~U-191 8(M), 15(M), 20(M), 24(M)
52(M), 55(M), 58(M)~~

~~U-185 9(M), 12(M), 16(M), 20(M)~~

~~U-189 40(P), 50(P), 57(M)
83(M)t, 85(M), 87(M), 90(M), 95(M),
100(M), 114(M)b, 122(P)~~

~~U-187 25(P), 53(MX)~~

24

14156 to 14179 incl.

174

68.W Section

A-145 ¹⁴⁰⁶⁰ 50 (M) ¹⁴⁰⁶¹ 82 (P)
 U-181 ¹⁴⁰⁶² 2 (M), ¹⁴⁰⁶³ 7 (M), ¹⁴⁰⁶⁴ 11 (M)
¹⁴⁰⁶⁵ 51 (M), ¹⁴⁰⁶⁶ 55 (M), ¹⁴⁰⁶⁷ 58 (M), ¹⁴⁰⁶⁸ 60 (M) †
 A-142 ¹⁴⁰⁶⁹ 50 (M), ¹⁴⁰⁷⁰ 52 (M), ¹⁴⁰⁷¹ 55 (M), ¹⁴⁰⁷² 58 (M), ¹⁴⁰⁷³ 60 (M)
¹⁴⁰⁷⁴ 95 (M), ¹⁴⁰⁷⁵ 102 (M), ¹⁴⁰⁷⁶ 153 (P)
¹⁴⁰⁷⁷ 156 (M), ¹⁴⁰⁷⁸ 160 (M), ¹⁴⁰⁷⁹ 166 (M)
¹⁴⁰⁸⁰ 245 (M), ¹⁴⁰⁸¹ 249 (M), ¹⁴⁰⁸² 253 (M)

A-147 ¹⁴⁰⁸³ 50 (P), ¹⁴⁰⁸⁴ 95 (P), ¹⁴⁰⁸⁵ 100 (M), ¹⁴⁰⁸⁶ 104 (M), ¹⁴⁰⁸⁷ 107 (M)
¹⁴⁰⁸⁸ 150 (P), ¹⁴⁰⁸⁹ 165 (P),
¹⁴⁰⁹⁰ 171 (M) b, ¹⁴⁰⁹¹ 173 (M), ¹⁴⁰⁹² 176 (M) †, ¹⁴⁰⁹³ 178 (G)

A-153 ¹⁴⁰⁹⁴ 65 P, ¹⁴⁰⁹⁵ 160 (P)
¹⁴⁰⁹⁶ 178 (M), ¹⁴⁰⁹⁷ 185 (M), ¹⁴⁰⁹⁸ 189 (M), ¹⁴⁰⁹⁹ 195 (P), ¹⁴¹⁰⁰ 215 (P)

A-134 ¹⁴²⁰¹ 65 (M), ¹⁴²⁰² 75 (M), ¹⁴²⁰³ 85 (M), ¹⁴²⁰⁴ 100 (M)
¹⁴²⁰⁵ 152 (P), ¹⁴²⁰⁶ 160 (M), ¹⁴²⁰⁷ 165 (M), ¹⁴²⁰⁸ 170 (M), ¹⁴²⁰⁹ 180 (P)

A-143 ¹⁴²¹⁰ 142 (M)

51

725

70 in. Section

U-96

¹⁴²¹¹ 103(M) ¹⁴²¹³ 111(M)

A-159

U-139

¹⁴²¹² 105(M), ¹⁴²¹⁴ 41(M), ¹⁴²¹⁵ 47(P), ¹⁴²¹⁶ 55(P)

U-136

¹⁴²¹⁷ 33(M), ¹⁴²¹⁸ 41(M), ¹⁴²¹⁹ 55(M), ¹⁴²²⁰ 58(M), ¹⁴²²¹ 61(M) E

U-131

¹⁴²²² 3(M), ¹⁴²²³ 5(M) E

U-119

¹⁴²²⁴ 1(M), ¹⁴²²⁵ 5(M), ¹⁴²²⁶ 8(M) E, ¹⁴²²⁷ 70(P)

U-133

¹⁴²²⁸ 10(M), ¹⁴²²⁹ 14(M), ¹⁴²³⁰ 18(M) E, ¹⁴²³¹ 48(M) E, ¹⁴²³² 52(M), ¹⁴²³³ 58(M) b, ¹⁴²³⁴ 116(M)

U-127

¹⁴²³⁵ 10(M), ¹⁴²³⁶ 20(M), ¹⁴²³⁷ 26(M), ¹⁴²³⁸ 30(P)

U-100

¹⁴²³⁹ 5(M), ¹⁴²⁴⁰ 13(M), ¹⁴²⁴¹ 85(P), ¹⁴²⁴² 92(M)

U-125

¹⁴²⁴³ 12(M), ¹⁴²⁴⁴ 25(M), ¹⁴²⁴⁵ 39(M), ¹⁴²⁴⁶ 42(M) E

¹⁴²⁴⁷ 53(M), ¹⁴²⁴⁸ 60(M)

¹⁴²⁴⁹ 66(P)

¹⁴²⁵⁰ 73(M), ¹⁴²⁵¹ 80(M)

¹⁴²⁵² 92(P)

U-88

¹⁴²⁵³ 5(M), ¹⁴²⁵⁴ 15(M)

U-123

¹⁴²⁵⁵ 105(M) E, ¹⁴²⁵⁶ 112(M), ¹⁴²⁵⁷ 118(M) b

U-113

¹⁴²⁵⁸ 70(P), ¹⁴²⁵⁹ 80(M), ¹⁴²⁶⁰ 90(P)

U-106

¹⁴²⁶¹ 5(M), ¹⁴²⁶² 10(M), ¹⁴²⁶³ 15(M), ¹⁴²⁶⁴ 102(M)

U-102

¹⁴²⁶⁵ 5(M), ¹⁴²⁶⁶ 15(M), ¹⁴²⁶⁷ 25(P), ¹⁴²⁶⁸ 36(M), ¹⁴²⁶⁹ 40(M), ¹⁴²⁷⁰ 48(M)

U-104

¹⁴²⁷¹ 10(M), ¹⁴²⁷² 14(M)

U-92

¹⁴²⁷³ 5(M), ¹⁴²⁷⁴ 10(M), ¹⁴²⁷⁵ 15(M), ¹⁴²⁷⁶ 18(M), ¹⁴²⁷⁷ 30(P), ¹⁴²⁷⁸ 40(P)

U-103

¹⁴²⁷⁹ 5(M), ¹⁴²⁸⁰ 65(P)

U-111

¹⁴²⁸¹ 65(M)

71

296

72 W Section

- U-19 22(M) ~ **A**, 30(M)b, 35(M), 40(M), 45(M)
50(M) †,
- U-14 25(M), 35(P), 40(P)
- U-3 43(M), 49(M), 70(P), 5(P), 10(P), 15(M)b,
16(M)†
- U-21 15(M), 41(M) **41A**
- U-4 5(P), 13(P), 16(M)b, 19(M)†, 48(M)
- U-8 28(P), 41(M)b, 43(M)†
- U-10 10(P), 41(P), 51(M)b, 57(M)†.
- U-18 14(G), 15(M)†, 16(M), 18(M), 20(M), 25(M)
30(M), 35(M), 40(M), 45(M)
65(P), 77(M), 88(P)
- U-12 16(M)†, 17(M) **18M**, 20(M), 25(M), 28(M)
55(M), 63(M), 69(M), 75(P).
- U-20 20(M), 22(M), 60(M)
- U-5 20(P), 30(M), 34(M), 65(M), 72(P)
- U-23 32(M), 40(M), 50(M), 56(M), 65(P)
- U-17 40(M), 50(M), 100(P)
- U-9 10(P), 31(M), 40(M), 52(M), 46(M)
- U-84 3(M) ~ **C**, 15(M), 42(M), 47(M), 55(M)
- U-26 10(P), 15(P), 30(P), 55(P)
- A-132 75(P), 96(M), 100(M), 110(P), 135(M), 141(M)
- U-11 1(P), 7(M)
- U-22 10(P), 25(P), 27(M), 35(M), 40(M)†, 42(G)
77(M)
- U-27 5(P), 40(P), 75(P)
- U-13 65(P), 152(P), 180(M)

14316 to 14400 incl.

14501 to 14520 incl.

103 - 105^v

404

74W Section

- U-33 ¹⁴²⁸² 2.5(M)
- U-30 ¹⁴²⁸³ 5(M), ¹⁴²⁸⁴ 25(M), ¹⁴²⁸⁵ 28(M)
- U-32 ¹⁴²⁸⁶ 1(M), ¹⁴²⁸⁷ 30(M), ¹⁴²⁸⁸ 92(M), ¹⁴²⁸⁹ 54(M)
- U-15 ¹⁴²⁹⁰ 21(M), ¹⁴²⁹¹ 25(M), ¹⁴²⁹² 69(M), ¹⁴²⁹³ 110(P), ¹⁴²⁹⁴ 115(M), ¹⁴²⁹⁵ 125(P), ¹⁴²⁹⁶ 180(P)
- U-42 ¹⁴²⁹⁷ 10(P), ¹⁴²⁹⁸ 20(P), ¹⁴²⁹⁹ 26(P), ¹⁴³⁰⁰ 30(M)b, ¹⁴⁴⁰¹ 33(M)t
- U-28 ¹⁴⁴⁰² 10(P), ¹⁴⁴⁰³ 20(P), ¹⁴⁴⁰⁴ 63(M)
- U-29 ¹⁴⁴⁰⁵ 54(G), ¹⁴⁴⁰⁶ 56(M)t, ¹⁴⁴⁰⁷ 59(M)b, ¹⁴⁴⁰⁸ 62(P), ¹⁴⁴⁰⁹ 67(P)
- U-34 ¹⁴⁴¹⁰ 45(P), ¹⁴⁴¹¹ 25(P), ¹⁴⁴¹² 55(M), ¹⁴⁴¹³ 65(M), ¹⁴⁴¹⁴ 80(M), ¹⁴⁴¹⁵ 105(P)
- U-35 ¹⁴⁴¹⁶ 70(M), ¹⁴⁴¹⁷ 80(M), ¹⁴⁴¹⁸ 80(P)
- U-47 ¹⁴⁴¹⁹ 10(P), ¹⁴⁴²⁰ 20(P), ¹⁴⁴²¹ 60(M), ¹⁴⁴²² 65(M)
- U-45 ¹⁴⁴²³ 40(P), ¹⁴⁴²⁴ 50(M), ¹⁴⁴²⁵ 56(M)
- U-51 ¹⁴⁴²⁶ 10(P), ¹⁴⁴²⁷ 23(P)b, ¹⁴⁴²⁸ 30(P), ¹⁴⁴²⁹ 35(P), ¹⁴⁴³⁰ 40(P), ¹⁴⁴³¹ 45(G)
- U-53 ¹⁴⁴³² 5(P), ¹⁴⁴³³ 15(P), ¹⁴⁴³⁴ 30(P), ¹⁴⁴³⁵ 35(P), ¹⁴⁴³⁶ 40(P), ¹⁴⁴³⁷ 44(P)t
- U-54 ¹⁴⁴³⁸ 10(P), ¹⁴⁴³⁹ 40(P), ¹⁴⁴⁴⁰ 60(P), ¹⁴⁴⁴¹ 70(P), ¹⁴⁴⁴² 100(P)
- A-141 ¹⁴⁴⁴³ 50(P), ¹⁴⁴⁴⁴ 60(P), ¹⁴⁴⁴⁵ 75(P), ¹⁴⁴⁴⁶ 87(P)
- U-57 ¹⁴⁴⁴⁷ 5(P), ¹⁴⁴⁴⁸ 15(P), ¹⁴⁴⁴⁹ 25(P), ¹⁴⁴⁵⁰ 50(P)
- U-46 ¹⁴⁴⁵¹ 16(P), ¹⁴⁴⁵² 45(P), ¹⁴⁴⁵³ 66(P)
- U-40 ¹⁴⁴⁵⁴ 45(M), ¹⁴⁴⁵⁵ 59(M), ¹⁴⁴⁵⁶ 70(M), ¹⁴⁴⁵⁷ 10(P), ¹⁴⁴⁵⁸ 20(P), ¹⁴⁴⁵⁹ 30(P)
- U-117 ¹⁴⁴⁶⁰ 2(P), ¹⁴⁴⁶¹ 17(P)
- U-48 ¹⁴⁴⁶² 42(P), ¹⁴⁴⁶³ 69(P), ¹⁴⁴⁶⁴ 75(M)

76W section

- U-63 5(M), 10(M)E, 57(M), 64(M), 60(M)
- U-65 2(M), 10(M), 15(M), 19(M)t, 45(M), 50(M)t
- U-58 2(M), 10(M), 15(M), 18(M)t, 90(M), 95(M), 100(M)t
- U-59 10(M), 20(M), 30(M), 40(M), 50(M), 54(M)t
107(P)
- U-60 10(P), 25(P), 30(M)b, 32(M), 34(M)t
58(M), 62(M)
- U-129 10(P), 25(P), 56(P), 72(P), 76(M), 82(M),
91(M)E, 123(M), 130(M), 134(M)
- U-126 15(P), 30(P), 45(P), 75(M), 90(M), 100(M)
107(M)t, 120(M)t, 128(M), 132(M)t, 136(P)
- U-128 10(P), 75(P), 83(M)
- U-85 10(P), 15(M)b, 19(M), 23(M)t
- U-130 20(P), 30(P), 35(P), 37(P)t
- U-118 5(P), 25(P), 43(P), 50(P), 56(P)t
- U-132 65(P), 90(P), 100(P)
- A-155 50(P), 60(P), 70(P), 80(P)
- U-89 15(P), 19(M)b, 26(M)t, 22(M), 30(PG)
- U-114 20(P)
- U-61 20(P), 30(M), 90(P)

85

56?

78 W Section

- U-69 25(M) f
- U-67 9(P), 20(M) b, 25(M), 30(M), 35(M) f, 40(G)
- U-71 5(P), 18(M), 21(P), 25(P) f
- U-68 12(M) b, 15(M), 20(M), 22(M) f
- U-79 15(P), 32(M) b, 34(M), 36(M) f
- U-72 10(P), 30(M) f, 65(M), 107(P), 125(P)
- U-75 24(P), 52(P), 55(M) b, 60(M), 65(M), 70(P) f
- U-77 73(M), 80(P), 105(M), 142(P)
- U-93 2(P), 10(P), 24(P), 45(P) b, 55(P), 59(P) f, 65(P)
- U-198 45(P), 60(P)
- U-97 25(P), 45(P)
- U-99 2(P), 6(P), 8(P), 116(M), 121(M), 125(P) f, 145(P)
- U-101 60(P), 99(M), 140(P), 143(M)
- U-105 3(P)
- U-107 15(P), 35(P), 50(P), 60(P)
- U-109 3(P), 52(P), 95(P), 100(P)
- A-158 52(P), 70(P), 95(P), 105(P), 120(P)
- A-161 38(P), 60(P), 70(P), 85(P), 115(P)
- U-91 8(P), 28(P), 64(P)

84

653

80 W Section

- U-151 5(P), 10(M)b, 15(M), 20(M)t, ²¹22(G)
55(M)b, 60(M), 65(M)t
- U-153 10(P), 20(P), 30(M)b, 38(M), 41(M)t
- U-150 4(P), 20(P), 23(P), 27(M)b, 31(M)t
140(M)
- U-154 5(P), 15(P), 25(P)t
- U-156 5(P), 50(P), 55(M)b, 60(M), 64(M)t
- U-152 20(P), 30(P), 40(P), 45(P)t
- U-149 10(P), 31(P), 110(M), 126(M)t, 130(M),
140(P), 153(P)
- U-142 1(M), 3(M), 5(M), 7(M), 25(P), 40(P),
50(M), 55(M), 100(P), 110(P), 117(P) } ^{119(M)}
125(M)
129(M)
- U-135 2(M), 47(P), 60(P), 85(P), 110(P), 137(M)
174(M), 180(M), 186(M)
- U-140 1(M), 62(P), 100(P)
- U-146 25(P), 30(P), 45(P)
- A-160 53(P), 70(P), 90(P), 100(P), 110(P), 125(P)

23

74

727

14706 to 14779 mil.

82w Section

	14649	14650	14651	14652
U-164	2(P)	5(M)	10(P)	12(M)†
U-158	5(M)	10(M)	15(M)	41(M), 46(M)
U-160	3(P)	15(P)	40(P)	56(M), 60(M), 64(M)†
U-162	15(P)	27(P)	50(M)	53(M)†, 105(P)
		133(M)	146(M)	
U-188	10(P)	20(P)	30(P)	40(P), 80(P)
U-172	4(M)	60(P)	100(P)	118(M)
U-168	35(P)	117(M)	124(M)†	140(M), 155(M)
U-166	54(P)	118(M)	135(P)	150(M)

40

768

30
31

25
15
13

9

4

84 W Section

¹⁴⁶⁸¹ U-184 ¹⁴⁶⁹⁰ 15(P), ¹⁴⁶⁹¹ 40(M), ¹⁴⁶⁹² 55(M), ¹⁴⁶⁹³ 135(P), ¹⁴⁶⁹⁴ 142(M), ¹⁴⁶⁹⁵ 150(P)
¹⁴⁶⁹⁵ U-186 ¹⁴⁶⁹⁶ 3(P), ¹⁴⁶⁹⁷ 44(P), ¹⁴⁶⁹⁸ 48(P), ¹⁴⁶⁹⁹ 52(P) - Skc
¹⁴⁷⁰⁰ U-182 ¹⁴⁷⁰¹ 17(M), ¹⁴⁷⁰² 23(M), ¹⁴⁷⁰³ 65(P), ¹⁴⁷⁰⁴ 73(M)
 ¹⁴⁷⁰⁵ 127(M), ¹⁴⁷⁰⁶ 135(P)

¹⁴⁷⁰⁷ U-180 ¹⁴⁷⁰⁸ 1(P), ¹⁴⁷⁰⁹ 10(P), ¹⁴⁷¹⁰ 20(P)
¹⁴⁷¹¹ U-170 ¹⁴⁷¹² 10(P), ¹⁴⁷¹³ 25(P), ¹⁴⁷¹⁴ 35(M), ¹⁴⁷¹⁵ 45(M), ¹⁴⁷¹⁶ 50(M), ¹⁴⁷¹⁷ 54(M)

¹⁴⁷¹⁸ U-176 ¹⁴⁷¹⁹ 30(P), ¹⁴⁷²⁰ 60(P), ¹⁴⁷²¹ 113(P), ¹⁴⁷²² 117(M)
 ¹⁴⁷²³ 155(M), ¹⁴⁷²⁴ 162(P)

¹⁴⁷²⁵ U-178 ¹⁴⁷²⁶ 2(M), ¹⁴⁷²⁷ 5(M), ¹⁴⁷²⁸ 23(P), ¹⁴⁷²⁹ 38(P), ¹⁴⁷³⁰ 67(P)

¹⁴⁷³¹ (U-156) ¹⁴⁷³² 100(P), ¹⁴⁷³³ 120(P), ¹⁴⁷³⁴ 130(P), ¹⁴⁷³⁵ 140(P), ¹⁴⁷³⁶ 150(P);
 ¹⁴⁷³⁷ 160(P), ¹⁴⁷³⁸ 170(P), ¹⁴⁷³⁹ 200(P)
 End of hole is 76.2 m

44

$$\begin{array}{r}
 44 - 8 = 36 \\
 + 767 \\
 \hline
 803
 \end{array}$$

772 TOTAL

These samples not taken
 These tags not used. (14804 - 14811)

KERR ADDISON MINES LTD.
GRUM JOINT VENTURE

LIST OF SPECIMENS

TAKEN FOR POLISHED SECTION

FEB 1977

Sampling by: J. Paxton
A.Y. Po

Polished Section Specimen List

Feb. 1977

	TAG	HOLE	TAG	HOLE	TAG	HOLE
62W	14001	U-179-2	14051	A-136-120	14101	U-159-22

TAG	HOLE	TAG	HOLE	TAG	HOLE
14151	A-135-143	14201	A-134-65	14251	U-125-80
2	-155	2	-75	2	-92
66W	A-139-122	68W	-85	3	U-88-5
3	-124	3	-100	4	-15
4	-130	4	-152	5	U-123-105
5	U-191-8	5	-160	6	-112
6	-15	6	-165	7	-118
7	-20	7	-170	8	U-113-70
67W	-24	8	-180	9	-80
8	-52	9	A-143-142	60	-90
9	-55	10	U-96-103	1	U-106-5
60	-58	1	A-159-105	2	-10
1	U-185-9	2	-111	3	-15
2	-12	3	U-139-41	4	-102
3	-16	4	-47	5	U-102-5
4	-20	5	-55	6	-15
5	U-189-40	6	U-136-33	7	-25
6	-50	7	-40	8	-36
7	-57	8	-55	9	-40
8	-83	9	-58	70	-48
9	-85	20	-61	1	U-104-10
70	-87	1	U-131-3	2	-14
1	-90	2	-5	3	U-92-5
2	-95	3	U-119-1	4	-10
3	-100	4	-5	5	-15
4	-114	5	-8	6	-18
5	-122	6	-70	7	-30
67W	U-187-25	7	U-133-10	8	-40
7	-53	8	-14	9	U-103-57
8	U-159-23A	9	-18	80	-65
9	-27A	30	-48	1	U-111-65
80	-29A	1	-52	2	U-33-2.5
1	-32A	2	-58	3	U-30-5
2	-60A	3	-116	4	-25
3	-67A	4	U-127-10	5	-28
4	U-147-5A	5	-20	6	U-32-1
5	-10A	6	-26	7	-30
6	-15A	7	-30	8	-92
7	-20A	8	U-100-5	9	-54
8	-26A	9	-13	90	U-15-21
9	-35A	40	-85	1	-25
66W duplicates	-51A	1	-92	2	-69
1	-54A	2	U-125-12	3	-110
2	-56A	3	-25	4	-115
3	-65A	4	-39	5	-125
4	U-141-3A	5	-42	6	-130
5	-10A	6	-53	7	U-42-10
6	-18A	7	-60	8	-20
7	-23A	8	-66	9	-26
8	U-161-15A	9	U-125-73	14300	-30
9					
14200		14250			

TAG	HOLE	TAG	HOLE	TAG	HOLE
14301	U-161-26A	14351	U-18-20	14401	U-42-33
2	-34A	2	-25	2	U-28-10
3	-45A	3	-30	3	-20
4	U-157-7A	4	-35	4	-63
5	-15A	5	-40	5	U-29-54
6	-30A	6	-45	6	-56
7	-43A	7	-65	7	-59
8	-45A	8	-77	8	-62
9	-50A	9	-88	9	-67
10	-125A	60	U-12-16	10	U-34-45
1	-127A	1	-17	1	-25
2	U-145-10A	2	-18	2	-55
3	-45A	3	-20	3	-65
4	-50A	4	-25	4	-80
5	-95A	5	-28	5	-105
6	U-19-22	6	-55	6	U-35-70
7	-30	7	-63	7	-80
8	-35	8	-69	8	-90
9	-40	9	-75	9	U-47-10
20	-45	70	U-20-20	20	-20
1	-50	1	-22	1	-60
2	U-14-25	2	-60	2	-65
3	-35	3	U-5-20	3	U-45-40
4	-40	4	-30	4	-50
5	U-3-43	5	-34	5	-56
6	-49	6	-65	6	U-51-10
7	-70	7	-72	7	-23
8	-5	8	U-23-32	8	-30
9	-10	9	-40	9	-35
30	-15	80	-50	30	-40
1	-16	1	-56	1	-45
2	U-21-15	2	-65	2	U-53-5
3	-41	3	U-17-40	3	-15
4	-41A	4	-50	4	-30
5	U-4-5	5	-100	5	-35
6	-15	6	U-9-10	6	-40
7	-16	7	-30.5	7	-44
8	-19	8	-40	8	U-54-10
9	-48	9	-52	9	-40
40	U-8-28	90	-46	40	-60
1	-41	1	U-84-3	1	-70
2	-43	2	-15	2	-100
3	U-10-10	3	-42	3	A-141-50
4	-41	4	-47	4	-60
5	-51	5	-55	5	-75
6	-57	6	U-26-10	6	-87
7	U-18-14	7	-15	7	U-57-5
8	-15	8	-30	8	-15
9	-16	9	-55	9	-25
14350	U-18-18	14400	A-132-75	14450	U-57-50

60M duplicates

↓
72W

72W
↑

74W

30
= 1

TAG	HOLE	TAG	HOLE	TAG	HOLE
14451	U-46 -16	14501	A-132-96	14551	U-60-58
2	-45	↓ 2	-100	2	-62
3	-66	3	-110	3	U-129-10
4	U-40 -45	72W 4	-135	4	-25
5	-59	5	-141	5	-56
6	-70	6	U-11-1	6	-72
7	-10	7	-7	7	-76
8	-20	8	U-22-10	8	-82
9	-30	9	-25	9	-91
60	U-117 -2	10	-27	60	-123
1	-17	1	-35	1	-130
74W ↑ 2	U-48 -42	2	-40	2	-134
3	-69	3	-42	3	U-126-15
4	-75	4	-77	4	-30
5	U-69 -25	5	U-27-5	5	-45
78W ↓ 6	U-67-9	6	-40	6	-75
7	-20	7	-75	7	-90
8	-25	72W 8	U-13 -65	8	-100
9	-30	9	-152	9	-107
70	-35	↑ 20	-180	70	-120
1	-40	1	U-63 -5	1	-128
2	U-71 -5	↓ 2	-10	2	-132
3	-18	76W 3	-57	3	-136
4	-21	4	-64	4	U-128-10
5	-25	5	-60	5	-75
6	U-68 -12	6	U-65 -2	6	-83
7	-15	7	-10	7	U-85-10
8	-20	8	-15	8	-15
9	-22	9	-19	9	-19
80	U-79 -15	30	-45	80	-23
1	-32	1	-50	1	U-130-20
2	-34	2	U-58 -2	2	-30
3	-36	3	-10	3	-35
4	-67	4	-15	4	-37
5	-73	5	-18	5	U-118-5
6	-79	6	-90	6	-25
7	U-72 -10	7	-95	7	-43
8	-30	8	-100	8	-50
9	-65	9	U-59 -10	9	-56
90	-107	40	-20	90	U-132-65
1	-125	1	-30	1	-90
2	U-75 -24	2	-40	2	-100
3	-52	3	-50	3	A-155-50
4	-55	4	-54	4	-60
5	-60	5	-107	5	-70
6	-65	6	U-60 -10	6	-80
7	-70	7	-25	7	U-89-15
8	-73	8	-30	8	-19
9	-130	9	-32	9	-26
78W ↑ 14500	-168	14550	-34	76W ↑ 14600	U-89-22

TAG	HOLE	TAG	HOLE	TAG	HOLE
14601	U-77-73	14651	U-164-10	14701	U-89-30
2	-80	2	-12	2	U-114-20
3	-105	3	U-158-5	3	U-61-20
4	-142	4	-10	4	-30
5	U-93-2	5	-15	5	-90
6	-10	6	-44	6	U-151-5
7	-24	7	-46	7	-10
8	-45	8	U-160-3	8	-15
9	-55	9	-15	9	-20
10	-59	60	-40	10	-22
1	-65	1	-56	1	-55
2	U-148-45	2	-60	2	-60
3	-60	3	-64	3	-65
4	U-97-25	4	U-162-15	4	U-153-10
5	-45	5	-27	5	-20
6	U-99-2	6	-50	6	-30
7	-6	7	-53	7	-38
8	-50	8	-105	8	-41
9	-116	9	-133	9	U-150-4
20	-121	70	-146	20	-20
1	-125	1	U-183-10	1	-23
2	-145	2	-20	2	-27
3	U-101-60	3	-30	3	-31
4	-99	4	-40	4	-140
5	-140	5	-80	5	U-154-5
6	-143	6	U-172-4	6	-15
7	U-105-3	7	U-172-60	7	-25
8	U-107-15	8	-100	8	U-156-5
9	-35	9	-118	9	-50
30	-50	80	U-168-35	30	-55
1	-60	1	-117	1	-60
2	U-109-3	2	-124	2	-64
3	-52	3	-140	3	U-151-21
4	-95	4	-155	4	U-152-20
5	-100	5	U-166-54	5	-30
6	A-158-52	6	-118	6	-40
7	-70	7	-135	7	-45
8	-95	8	-150	8	U-149-10
9	-105	9	U-184-15	9	-31
40	-120	90	-40	40	-110
1	A-161-38	1	-55	1	-126
2	-60	2	-135	2	-130
3	-70	3	-142	3	-140
4	-85	4	-150	4	-153
5	-115	5	U-186-3	5	U-142-1
6	U-91-8	6	-44	6	-3
7	-28	7	-48	7	-5
8	-64	8	-52	8	-7
9	U-164-2	9	U-182-17	9	-25
14650	-5	14700	U-182-23	14750	U-142-40

78W

76W

80W

82W

84W

84W

78W

82W

TAG	HOLE	TAG	HOLE	TAG	HOLE
1475	U-142-50	1480	U-178-23		
2	-55	2	84W -38		
3	-100	1480	3 ↑ U-178-67		
4	-110				
5	-117				
6	-119				
7	-125				
8	-129				
9	U-135-2				
60	-47				
1	-60				
2	-85				
3	-110				
4	-137				
5	-174				
6	-180				
7	-186				
8	U-140-1				
9	-62				
70	-100				
1	U-146-25				
2	-30				
3	-45				
4	A-160-53				
5	-70				
6	-90				
7	-100				
8	-110				
9	-125				
80	U-184-65				
1	U-182-73				
2	-127				
3	-135				
4	U-180-1				
5	-10				
6	-20				
7	U-170-10				
8	-25				
9	-35				
90	-45				
1	-50				
2	-54				
3	U-176-30				
4	-60				
5	-113				
6	-117				
7	-155				
8	-162				
9	U-178-2				
1480	0 U-178-5				

Total samples
taken and
shipped

= 803

803-37A

= 766 - 8 G

= 750

80W

↑

84W

↓

(-) = def. zero
 (-) = none noted
 (e) = leaching ± porous
 (e) = useable in pit
 (e) = useable tot OB
 (e) = useable tot OB
 Sub-ore ore
 ✓ = in open pit

NO	Hole No.	MegTp (Ox)	MicTp (PbZn)	Ga/sp	Ga Sp/Py	Ga Sp/Gm	PoMcPyf	MISC.
	62 W (10)							
1	U-179-2	Mb (o)	Mab-P (vl)	2	5	3	5Py	
2	U-179-5	MBb (o)	Ma-Px (m)	2	3	3	M 0	
3	U-179-10	Ma (o)	MaX (vh)	4	2	2	M 0	
4	U-179-16	Ma (o)	MaX (vh)	3	2	4	M 0	
5	U-179-31	MBa (-)	MBaX (vh)	3	3	3	M 0	
6	U-179-36	Mb (o)	MpyX (lm)	1	4	1	M 0	
7	U-179-41	(l) M-	(h)	3	3	3	M 0	
8	U-179-45.5	M (-)	Mpy (vl)	—	—	—	0	mainly Ga (vl)
9	U-171-1	Mpy (o)	MaPy (t)	—	—	—	8Mc	
10	U-171-4	Mpy (-)	Mpy (t)	—	—	—	3P 8Mc	Mg = 7, hi Cp
11	U-171-6	— (-)	MaPy (t)	—	—	—	3Mc	
12	U-177-1	— (o)	MaPy (n)	—	—	—	5Mc	
13	U-177-20	— (-)	MaPy (n)	—	—	—	0	Cp
14	U-177-40	Pg (-)	P (vl)	—	—	—	0	no Ga
15	U-177-49	— (-)	PX (m)	2	3	3	M/P 0	Ex po in Sp
16	U-177-51	— (-)	MaPy (vl)	—	—	—	0	
17	U-179-60	— (-)	MaPy (n)	—	—	—	0	
18	U-175-10	Pg (-)	P (vl)	—	—	—	0	no Ga
19	U-175-30	— (-)	P/Ma (n)	—	—	—	0	Cp
20	U-175-45	— (-)	MaPy (m)	2	4	1	M 0	no Ga
21	U-173-1	— (-)	MaPy (vl)	2	4	2	0	
22	U-173-2	— (l)	Ma (vh)	3	2	2	M 0	
23	U-173-15	— (-)	MaPy (t)	—	—	—	10Py	hi Cp, no Ga
24	U-173-28	— (-)	MaPy (t)	—	—	—	10Py	
25	U-173-36	— (lm)	Mpy (vl)	—	—	—	0	
26	U-173-51	— (lm)	Ma (h)	2	3	5	P 0	

No	Hole	MegTp	(ox)	Mictp	(PbZn)	Ge/Sp	Ge/Sp/Py	Ge/Sp/Gm	PbMcPy	Misc
62 W cont'd										
14027	U-169-10	—	(o)	P _{py}	(l)	1	4	3 P	0	
28	U-169-25	—	(o)	P _{py}	(+)	—	—	—	0	
29	U-169-45	—	(-)	P _{py}	(t)	—	—	—	0	

64 WEST | (15)

14030	U-167-3	✓	(-)	P _{py}	(+)	—	—	—	0	
31	U-167-33	✓	(-)	M _b	(vh)	3	3	2 M	0	
32	U-167-38	✓	(-)	M _b ^x	(h)	3	3	3 M	0	
33	U-167-43	✓	(-)	M	(h)	5	3	2 M	0	Mg=L
34	U-167-48	✓	(-)	M _b	(vh)	5	1	5 M	0	
35	U-167-52	✓	(-)	M _Q	(h)	5	5	2 M	0	Graphitic inter
36	U-165-5	—	(l)	P	(tr)	—	—	—	5 P _y	
37	U-165-20	—	(-)	P	(tr)	—	—	—	0	hi Sp
38	U-165-30	—	(-)	M _Q _{py}	(vl) ^x	(l)	3	3	10 Mc	Ge=tr, Hec
39	U-165-37	—	(l)	M _Q _{py}	(l) ^x	2	6	2 M	0	
40	U-165-41	—	(o)	M _{py}	(vl) ^x	(l)	6	2	0	Sp=hi
41	U-163-3	—	(o)	P _{py}	(l) ^x	1	4	2 P	5 Mc	Ge=vl
42	U-163-90	—	(-)	P	(m)	2	3	5 M	5 Mc	
43	U-163-92	—	(o)	P	(m)	2	3	5 M	5 Mc	3 P _o
44	U-163-96	—	(-)	M _Q	(lm)	1	5 ^{Ge/Po}	3 M	5 P _o , 8 Mc	Sp/P _o = 6 level overall 5
45	A-152-110	—	(o)	P	(vl) ^x	(l)	4	3	0	No Ge
46	A-152-142	—	(-)	Schist	(n)	—	—	—	5 P _y	
47	A-152-147	—	(l)	M _Q -P	(vl) ^x	—	—	—	0	
48	A-152-149	M _x	(o)	M _x	(ml)	1	3	3 M	0	
49	A-152-202	—	(o)	M _{py}	(l) ^x	(l)	4	(1) M	0	Mg=h, Ge=tr
50	A-152-205	M _b	(-)	M _{ab}	(h)	2	2	4 M	0	

No	Hole	MegTp	(ox)	MicTp	(PbZn)	Ga/Sp	Ga/Sp/Py	Ga/Sp/Gm	PoMcPy	Misc
<u>64W Contd</u>										
14051	A-136-120	—	(o)	Mqb	(mh)	3	1	4 M	0	
52	A-136-125	—	(o)	M	(h)	4	4	2 M	0	
53	A-136-133	—	(o)	Mq	(lX)	1	5	2 P	5Mc	
54	-150	—	(l)	Mqpy	(vl)	—	—	—	0	
55	A-137-110	—	(o)	P	(lX)	2	3	3 P	0	
56	A-137-120	—	(o)	Mq	(m)	2	3	4 P	0	hiZn
57	A-149-165	—	(-)	Mpy	(m)	1	5	1 M	0	
58	A-149-175	—	(o)	Mqpy	(vlX)	1	3	3	15Mc	
59	A-149-186	—	(o)	Mq	(lmp)	2	3	3 M	0	loPb

66 WEST

(28)

14101	U-159-22.5	P	(-)	P _{py}	(+)	—	—	—	0	
2	U-159-27	P	(-)	P _{py}	(vl)	—	—	—	0	
3	U-159-29.5	M	(-)	Mq ^x	(h)	4	2	4 M	0	
4	U-159-32	P _{xg}	(-)	P ^x	(m)	3	2	4 M	5P _y	
5	U-159-60	M	(o)	Mpy ^x	(h)	3	4	2 P	0	
6	U-159-67	M	(e)	M	(vh)	4	3	3 M	0	
7	U-147-7.3	P _G	(-)	P	(l)	—	—	—	0	
8	U-147-10	P _G	(-)	P	(l)	1	4	3 P	0	
9	U-147-15	P _G	(-)	P	(l)	2	4	3 P	0	
10	U-147-20	M	(o)	Mq ^x	(m)	3	2	4 M	0	
11	U-147-26	MXQ	(e)	Mq ^x	(h)	3	3	3 M	0	
12	U-147-35	MB _a	(e)	Mq	(mh)	3	2	4 M	0	
13	U-147-51	MX _G	(-)	MXQ _{py}	(lm)	1	4	3 M	2 P _y	Ga = t
14	U-147-54	M	(e)	Mpy	(vl)	—	—	—	0	hiGp
15	U-147-56	MX _G	(e)	P _{py}	(vl)	—	—	—	0	hiGp

No.	HOLE	MagTp	(ox)	Micro (Pz)	Ge/Sp	Ca Sp/Py	Ca Sp/Gm	PoMcPy	Misc
66 WEST CONT'D									
14116									
17	U-141-3	✓P	(-)	P (t)	2	4	2P	0	
18	U-141-10	✓M	(-)	Mpy (l)	1	4	2P		
19	U-141-18	✓M	(e)	MQ (m)	2	3	2M	10P	
20	U-141-23	✓M	(-)	M- (h)	3	2	2M	0	
21	U-161-15	✓P	(-)	P (m)	1	2	3P	0	hi Ga
22	U-161-26	✓M	(e)	M- (h)	3	4	2M	0	
23	U-161-34	✓M	(e)	MQ (mh)	2	3	4M	0	
24	U-161-45	✓P	(-)	P (vl)	—	—	—	2P	
25	U-157-7	P _G	(-)	P (l)	3	3	3P	0	
26	U-157-15	✓P _G	(-)	no pd su					
27	U-157-30	P	(-)	Ppy (t)	—	—	—	5Mc	hi Cp
28	U-157-43	M	(l)	Mpy (t)	—	—	—	0	
29	U-157-45	M	(l)	MQpy (h)	2	4	2M	0	hi Ga
30		no tag							
31	U-157-125	M	(e)	MQ (ml)	(1)	3	3M	15Mc 5P	Ga=t
32	U-157-127	M	(e)	M (mh)	4	3	4M	10Mc	
33	U-145-10	✓P _G	(h)	Ppy (vl)	—	—	—	0	
34	U-145-45	P	(m)	Ppy (vl)	—	—	—	5P	
35	U-145-50	MP	(m)	P (m)	1	3	3M	0	
36	U-145-95	P _G	(l)	P (ml)	3	3	3P	5P 15P	
37	U-145-102.3	P	(o)	P (vl)	—	—	—	10P	hi Cp
38	U-143-3	✓P _G	(l)	P (vl)	—	—	—	0	
39	U-143-25	✓P _G	(a)	P (l)	(1)	3	3P	0	Ga=t
40	U-143-84	—	(-)	Ppy (vl)	—	—	—	0	hi Cu
41	U-143-87	M	(o)	Mpy (ml)	3	4	3	0	
42	U-143-91	M	(e)	Mpy (vl)	—	—	—	0	

porous only

No	HOLE	MegTp	(ox)	MicTp	(PbZn)	Ga/Sp	Go/Sp/Py	Go/Sm	PoMcPy	Misc.
<u>66 WEST CONT'D</u>										
14143	U-143-95	M	(o)	M _{py}	(ml)	1	3	2	M O	hi Pb/Lo Zn
44	U-143-98	M _Q	(e)	M	(h)	3	3	3	M 5P _y	
45	U-143-102	M	(e)	M _Q	(l)	3	5	4	P O	
46	U-143-115	P	(l)	M _Q _{py}	(vl)	—	—	—	O	hi Mg
47	A-135-48	MI	(e)	M _b	(h)	3	3	4	M ₁₅ P ₁₀ M _c	
48	A-135-52	M	(o)	M	(h)	2	5	1	M O	
49	A-135-57	MI	(o)	M _b	(h)	4	2	2	M O	
50	A-135-137	M _b	(-)	M _Q	(m)	3	3	4	M O	
51	A-135-143	M _b	(o)	M	(m)	5	3	5	M O	
52	A-135-155	P	(o)	M _Q _{py}	(vl)	—	—	—	2M _c	
53	A-139-122	S _b	(e)	P	(vl)	—	—	—	—	
54	A-139-124	M _X _m	(h)	M	(mh)	5	4	5	M ₅ P ₄ M _c	
55	A-139-130	P _G	(-)	P	(ml)	2	3	4	P O	

68 WEST (31)

14060	A-145-50	✓	(l)	M _{py} _{mg}	(vl)	—	—	—	5P _y	mg=15
61	A-145-82	✓	(o)	M	(ml)	4	4	3	P O	ox'd
62	U-181-2	✓	(o)	M	(h)	4	3	2	M O	vuggy
63	-7	✓	(o)	M _Q ^x	(vh)	3	3	3	M O	
64	U-181-11	✓	(o)	M _Q ^x	(h)	4	2	3	M O	
65	U-181-51	✓	(o)	M	(vh)	4	2	3	M O	
66	U-181-55	✓	(o)	M	(h)	5	5	4	M O	
67	U-181-58	✓	(o)	M	(h)	6	5	4	M O	
68	U-181-60	✓	(o)	M	(mh)	4	5	5	M O	
69	A-142-51	✓	(o)	M _{py} ^x	(m)	1	6	2	M O	
70	A-142-52	✓	(o)	M _{py} ^x	(m)	4	5	2	M O	
71	A-142-55	✓	(o)	M _{py}	(f)	—	—	—	O	

No	HOLE	MegTp	(Or)	MicTp	(PbZn)	Ga/Sp	Ga ³⁺ /Py	Ga/Sp/Gm	PbMcPy	Misc
68 WEST cont'd										
140720	A-142-58	✓	(o)	MQpy ^x	(m)	3	3	3	M 0	ruggy
73	-60	✓	(o)	Mpy	(L) ^x	3	5	2	M 0	
74	-93.6	✓	(-)	M	(h)	³⁻⁶ 5	4	1	M 0	
75	-102	✓	(o)	M	(h)	3	4	2	M 0	
76	-154.7	—	(o)	Ma	(m)	4	2	3	P 5Py Mc	
77	-156	—	(o)	Ma	(h)	5	3	2	M 0	
78	-160	—	(o)	Ma	(m)	3	4	3	M 15McPy	
79	-166	—	(o)	P-Ma	(vl)	—	—	—	0	hi Cu
80	-245	—	(o)	Ma	(ml)	3	3	4	M 8McPy	
81	-249	—	(o)	Mpy	(m)	3	5	3	M 5Py	hi Cu sma
82	-253	MX	(o)	Ma	(m)	3	3	3	M 0	
83	A-147-50	✓ P _{low}	(o)	P	(L) ^x	2	3	3	P 5Py 1P ₀	
84	-95	✓ P _{low}	(-)	P ^x	(m)	2	3	5	P 7Py	
85	-100	✓	(o)	P	(t)	—	—	—	0	
86	-104	✓	(o)	MQpy	(vl)	—	—	—	0	more Zn
87	-107	✓	(o)	P ^x	(m)	2	2	3	P 0	
88	-150	P	(o)	Ppy	(vl)	—	—	—	0	
89	-165	—	(o)	Ppy	(vl)	—	—	—	0	
90	-171	M _{brittle}	(o)	Mpy	(m)	3	4	2	M 0	
91	-173	—	(o)	Ma ^{py}	(L) ^x	1	4	3	M 0	
92	-176	—	(-)	Mpy	(vl)	—	—	—	0	
93	-178	Phyllite	(-)	P	(vl)	—	—	—	5Py Mc	
94	A-153-65	✓ Phyll.	(-)	P	(vl)	—	—	—	5Py	
95	-160	—	(o)	Ppy	(L) ^x	2	6	4	P 0	
96	-178	—	(o)	Mpy	(L) ^x	2	4	2	M 0	
97	-185	—	(o)	Mpy	(vl)	—	—	—	0	
98	-189	—	(o)	Mb	(m)	5	3	6	M 0	

No	HOLE	MegTp (Or)	MicTp (PbZn)	Ga/Sp	Ga/Sp/Py	Ga/Sp/Gm	PoMcPy	MISC
68 WEST cont'd								
14099	A-153-195	-6	(o) Ppy	(vl)	—	—	10Py	mod Mag
100	-215	—	(-) Ppy	(vl)	—	—	25PyMc	
14201	A-134-67	MI	(o) M	(h)	3	4	2 M 0	
20	-75	✓	(o) M	(vh)	3	2	2 M 0	
30	-85	✓	(o) Mpy	x (h)	3	5	2 M 0	
40	-100	✓	(o) Ppy	x (m)	2	2	4 M 0	
5	-152.8	—	(o) MQ	(mh)	4	3	4 P 0	
6	-160	—	(o) Mpy	(lm)	3	4	4 M 0	hi Cu
7	-165	—	(o) MQ	(mh)	3	4	5 M 5Py	
8	-170	—	(o) Ppy	(l) X	1	3	2 P 5Py	lo Pb hi Mag
9	-180	—	(l) MQpy	(l) X	3	3	3 P 10PyMc	
10	A-143-142	—	(-) Mpy	(m)	3	5	2 M 0	

70 WEST (50)

14211	U-96-103	✓ Mx	(-) P	x (lm)	1	4	4 M 0	
12	A-159-105	✓	(o) Mpy	(vl)	—	—	0	
130	A-159-111	✓	(o) Mpy	(m)	2	6	3 M 0	
140	U-139-4	✓	(o) MQ	py mg (m)	1	4	4 M 5Py	no Zn ^{mg} inter
150	-45	✓	(o) Mpy	x (m)	3	4	2 M 0	
160	-55	✓	(-) MQ	py x (lm)	2	3	3 P 15Py 2Po	
170	U-136-33	✓	(o) Mb	(m)	3	2	4 M 0	
18	-40	✓	(o) MPy	(vl)	—	—	0	
19	-55	✓	(o) MQ	py (vl)	—	—	1Py	hi Cu, lo
200	-58	✓	(o) Mpy	x (m)	1	5	3 M 0	
21	-61	✓	(o) MQ	py (l)	3	4	4 M 0	hi Cu
220	U-131-3	✓ Mb	(o) MQ	py x (m)	3	4	4 M 0	some Mn in the ru.

70 WEST cont'd

No	HOLE	MegTp	(Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PbMcPy	MISC
14223	U-131-5	√ Mb	(o)	Mpy ^x (m)	3	6	3 M	0	
24	U-119-3	√ MV	(o)	MV ^x (h)	5	3	1 M	0	
25	-5	√ Mb	(o)	Mb — (mh)	3	3	4 M	0	
26	-8	√ Mb	(o)	Mb — (m)	2	2	3 M	0	
27	-70	Mb	(-)	Mpy (lm)	1	4	2 P ₃ Mc		
28	U-133-10	√ MV	(-)	Mpy ^x (m)	3	6	1 M	0	
29	-14	√ Mb	(-)	Mpy ^x (m)	3	5	1 M	0	hiPb
30	-18	√ Mb	(-)	Mb — (m)	2	2	4 M	0	
31	-48	√ MB	(-)	MQ ^x (h)	5 ³⁺⁶	2	2 M	0	
32	-52	√ MB	(o)	MQ ^x (m)	2	2	3 M	0	
33	-58	√ P	(-)	MQ ^x (mh)	3	3	3 M	0	hiPb ^{A+} Coa
34	-116	MIQ	(-)	MQ (m)	3	2	6 M	0	
35	U-127-10	√ Mb	(o)	Mpy (vl)	—	—	—	0	
36	-20	√ Mpy	(-)	M — (h)	4	2	4 M	0	
37	-26	√ M	(-)	M — (vh)	3	2	1 M	0	
38	-30	√ PG	(o)	P ^x (m)	2	3	3 P	2 Py	
39	U-100-5	√ M	(-)	M — (vh)	3	2	2 M	0	hiPb → 1
40	-13	√ MB	(-)	MQ ^{py} (m)	4	5	4 M	0	
41	-88	√ PG	(-)	Mpy ^x (m)	2	5	4 P	0	
42	-92	√ MIQ	(-)	MQ ^{py} (vl)	—	—	—	0	
43	U-125-12	√ MV	(l)	MV ^x (vh)	4	4	2 M	0	
44	-25	√ MV	(m)	M ^x (vh)	4	2	3 M	0	
45	-39	√ MV	(m)	MV ^x (m)	4	4	2 M	0	
46	-42	√ MV	(h)	MV ^x (h)	6	3	3 M	0	
47	-53	√ MB	(o)	Mpy ^x (m)	3	5	2 M	0	
48	-60	√ M	(o)	Mpy (vl)	—	—	—	0	
49	-66	√ P	(o)	MQ ^{py} (vl)	—	—	—	0	
50	-73	√ MV	(o)	MQ ^{py} (vl)	—	—	—	0	

70 WEST CONTD

NO.	HOLE	MgTp (ox)	MiITp (PbZn)	Go/Sp	Go Sp / Py	Go Sp / Gm	PO Mc Py	MISC
14251	U-125-80	MIQ	(M) MQ ^x (h)	4	3	3	M O	
52	-92	P	(O) P (mh)	2	2	3	P O	hi Pb
53	U-88-5	VMV	(O) Mpy ^x (m)	2	4	2	M O	
54	-15	VMV _b	(O) MV _b (m)	3	2	3	M O	
55	U-123-105	M	(O) M-Mpy (vl)	—	—	—	5 Mc $\frac{1}{2}$ P	hi Cu, Mg
56	-112	M	(O) MQpy (vl)	—	—	—	$\frac{1}{2}$ P Mc	hi Cu, fine diss M.
57	-118	M	(O) M (mh)	2	4	2	P 1 B Mc	hi Zn 10 Pb
58	U-113-70	Mb	(-) Mb (m)	3	3	3	M O	
59	-80	Mb	(O) MQpy (l)	3	4	3	M O	hi Cu, Mg
60	-90	P	(O) MQpy (vl)	—	—	—	10 Py	10 Mg
61	U-106-5	—	(O) Mpy ^x (m)	2	5	1	M O	
62	-10	—	(O) Mpy ^x (h)	3	4	2	M O	
63	-15	VP _B	(-) Ppy (l)	1	4	4	F 10 Py	
64	-102	MIQ	(O) MQI (vh)	4	3	2	M O	
65	U-102-5	VM	(O) M— (vh)	4	2	2	M O	good Gal Sp = 4
66	-15	VMIX _a	(O) MQpy ^x (lm)	1	5	2	M O	10 Pb
67	-25	VP	(O) P ^x (m)	3	4	4	P 20 Mc	(ox?)
68	-33.5	VMX	(-) MX— (h)	6	4	2	M O	
69	-40	VMX	(O) MQpy (l)	1	5	4	M O	
70	-45	VM	(O) M— (vh)	3	2	1	M O	
71	U-104-10	VM	(O) MQ ^x (vh)	4	3	2	M O	
72	-14	VM	(O) M— (vh)	5	4	2	M O	ruggy
73	U-92-5	VM	(O) MQ ^x (h)	3	2	3	M O	
74	-10	VMV	(m) MpyV (vl)	—	—	—	O	(ox ²)
75	-15	VMV	(l) MpyV (lm)	3	3	2	M O	10 Pb (ox?)
76	-18	VMV	(l) M— (h)	5	3	3	M O	
77	-30	VM	(O) Mpy (l)	1	6	1	P O	
78	-40	VM-P	(O) MQpy (l)	1	5	4	P O	

70 WEST contd

NO.	HOLE	MegTp (ox)	MicTp (PbZn)	Co/Sp	Ga Sp/Py	Ga Sp/Ga	PoMk Py	MISC
14279	U-103-57	Phyllite ^{should be}	B(ma) - brq.					schist
80	-65	Phyllite 103	Py pp.					bearing schist + ab. v. g. gangue ^{needle}
81	U-111-65	MXok	(o) MXQ (vl)				8Py	whi Cu

72 WEST SECTION (82)

14316	U-19-22	√M	(-)	MQ _{py} ^x (lm)	2	4	4	M ₂₅ Py	
17	-30	√Mb	(-)	PX _m (lx)	3	3	3	M ₁₀ Py	
18	-35	√M	(-)	MQ _{py} ^x (m)	3	4	4	M ₀	Mg=10
19	-40	√M	(-)	MQ _{py} ^x (lm)	2	[5]	4	M ₂₅ Py	
20	-45	√Mb	(-)	MQ _b ^x (m)	2	2	5	M ₀	
21	-50	√M	(-)	MQ _x (lm)	1	3	3	M ₅ P ₁₅ Py	
22	U-14-25	√M	(-)	M- (h)	3	4	2	M ₀	
23	-35	√Sb-P	(-)	S (n)				5Py	
24	-40	√Mb	(o)	P _x (m)	4	3	3	P ₀	
25	-43	√M	(-)	P _x (m)	2	2	5	P ₁₀ Py	
26	-49	√MI	(-)	M- (h)	4	4	2	M ₀	
27	U-3-70	√M+QX _m	(-)	MQ _{py} ^x (m)	3	4	4	P ₀	
28	-5	√P	(-)	P _x (m)	3	2	3	P ₀	
29	-10	√M	(-)	MQ _x (m)	1	3	3	P ₀	
30	-15	√M	(e)	M- (vh)	(6)	3	1	M ₀	
31	-16	√M	(e)	M+M _{py} ^x (vh)	(6)	[6]	3	M ₀	
32	U-21-15	√M	(-)	MQ _{py} (vl)				5Py	
33	-41	√Mb	(-)	M _{py} ^x Q (mh)	3	4	3	M ₀	
34	-41A	√Mb	(-)	M _b - (h)	3	3	3	M ₀	
35	U-4-5	√P	(e)	P (vl)				2Py	} up to 15 } taken for } metall. test
36	-15	√M	(-)	M- (h)	4	4	2	M ₀	
37	-16	√M	(-)	P _x (mh)	2	4	3	M ₀	

72 W cont'd

No.	HOLE	MegTp	(ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcPy	MISC
14338	U-4-19	MI	(e)	MI-MQ ^x (h)	6	4	2 M 0		good MIQ
39	-48	Mb	(-)	Mb - (m)	5	1	5 M		
40	U-8-28	P	(-)	P ^x (lm)	2	4	3 P 1 Py		
41	-41	M	(e)	Mpy ^x (m)	2	6	1 M 0		
42	-43	M	(e)	Mpy ^x (m)	5	6	5 M 0		
43	U-10-10	P	(-)	P ^x (lm)	2	1	3 P 0		
44	-41		(e)	P (() X (1)	3	4	P 5 Py		
45	-51	P	(-)	P ^x (m)	2	3	4 M 3 Mc		
46	-57	MI	(m)	MI - (vh)	6	5	2 M 0		
47	U-18-14	S _g		no pol. sū - too brittle					
48	-15	MV	(e)	MV ^x (h)	5	2	4 M 0		
49	-16	M	(e)	Mpy ^t (lm)	3	6	2 M 0		little Pb Ga/Sp=3
50	-18	M	(-)	M - (vh)	6+	2	2 M 0		hit PbZn Worst Ga/Sp ever
51	-20	M	(e)	Mpy ^t (m)	3	5	3 M 0		x 3 for py
52	-25	M	(m)	M - (m)	5	3	2 M 5 Py		
53	-30	MV	(e)	MV ^x (h)	4	3	2 M 0		
54	-35	Mb	(-)	Mpy ^x (lm)	3	6	2 M 0		x 3 for py
55	-40	MX _m	(e)	Mpy ^x (lm)	3	5	2 M 0		x 3 for py
56	-45	S	(-)	S (n)	-	-	- 5 Py		
57	-65	M	(e)	Mpy ^Q (m)	2	4	3 P 0		
58	-77	M	(e)	M - (mh)	3	4	3 M 0		
59	-88	P	(-)	Ppy (vl)	-	-	- 0		
60	U-12-16	MX _m	(e)	M - (vh)	6	3	4 M 0		
61	-17	MV	(e)	MVpy (vD)	-	-	- 0		OX?
62	-18	M	(-)	Mpy ^x (h)	4	5	1 M 0		
63	-20	MXV	(e)	Mpy ^x (m)	3	5	2 M 0		
64	-25	MV _h	(e)	Mb - (m)	3	2	3 M 0		
65	-28	Mb	(-)	Mb - (lm)	3	2	4 M 0		one more 3, one less

72W cont'd

NO.	HOLE	MegTp	(Ox)	MicTp	(PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcPy	MISC
14366	U-12-55	MI	(-)	MI	(mh)	4	5	2M	25P	
67	-63	—	(-)	M-Mpy	(h)	5	5	4M	0	
68	-69	M	(-)	Ppy	(vl)	—	—	—	0	
69	-75	PX _M	(e)	PX	(vl)	—	—	—	0	
70	U-20-20	MI	(e)	M	(h)	5	5	2M	0	← one more 5, one less 3
71	-22	MI	(-)	MQ ^x	(mh)	6	4	5M	0	
72	-60	MI	(-)	MQ	(h)	4	2	5M	20Py 2P ₀	
73	U-5-17	P	(-)	P	(lx)	1	3	3P	2Py	
74	-30	MI	(e)	Mpy ^x	(m)	3	6	1M	0	ox
75	-34	MI	(e)	Ppy ^x	(m)	4	4	3M	0	
76	-65	M	(e)	Mpy	(mh)	2	3	1M	0	
77	-72	P	(-)	P	(m)	3	3	3P		
78	U-23-32	MI	(-)	MQ ^x	(vh)	4	3	2M	0	
79	-40	MI	(e)	Mpy	(vl)	—	—	—	0	
80	-50	MI	(e)	Mpy	(vl)	—	—	—	0	hi cp
81	-56	MI	(-)	Mpy ^x	(m)	2	6	2M	0	
82	-65	P	(e)	Mpy	(h)	3	4	3P	0	
83	U-17-40	MV	(e)	Mpy ^x	(m)	4	5	2M	0	
84	-50	MV	(-)	MQV ^x	(h)	4	2	3M	0	
85	-100	P	(-)	P	(vl)	—	—	—	0	
86	U-9-10	P	(-)	P ^x	(m)	2	3	3P	0	
87	-30.5	MI	(m)	MQ ^x	(m)	3	3	4M	0	
88	-40	MV	(e)	MV	(h)	5	3	3M	1Mc	
89	-52	Pg	(m)	P	(vl)	—	—	—	1/2Mc	
90	-46	MV	(e)	M	(m)	5	3	4M	0	
91	U-84-3	MP	(-)	P ^x	(m)	1	3	4M	0	□
92	-15	MI	(-)	M	(m)	3	4	3M	0	
93	-42	MV	(e)	P	(m)	3	3	4M	0	

72 W Cont'd

NO	HOLE	MegTp	(Ox)	MicTp	(P/Zn)	Ga/Sp	Ga/Py	Ga/Gr	Po/Mc/Py	MISC.
14394	U-84-47	Mb	(e)	Mb	(vh)	3	3	3M	0	In v.a. + ^{of the} _{grain}
95	-55	PXM	(-)	P	(LX)	1	1	5P	5McPy	
96	U-26-10	✓P	(-)	P	(LX)	(1)	3	4P	2Py	
97	-15	✓P	(-)	Px	(m)	1	4	3P	0	
98	-30	✓P	(-)	P	(LX)	2	2	3P	0	GaSp in 1 ban
99	-55	✓P	(e)	P	(LX)	1	4	4P	2Py	
14400	A-132-75	✓P-SG	(e)	Px	(m)	2	3	3P	0	
14501	-96	✓M	(-)	Px	(m)	2	3	5P	0	
2	-100	✓M	(e)	MQx	(mh)	3	4	3M	0	
3	-110	✓P	(e)	MQx	(m)	3	3	3P	0	
4	-135	✓MV	(e)	MpyQ	(LX)	1	5	3M	0	
x 5	-14	✓M	(-)	M-	(h)	4	5	2M	0	
x 6	U-11-1	✓-	(-)							back pos marked 14505
7	-7	✓MV	(e)	MVx	(h)	4	2	2M	0	
8	U-22-10	✓P	(-)	Px	(m)	2	4	4P	0	
9	-25	✓P _G	(-)	Px	(m)	2	2	4P	0	
10	-27	✓M	(-)	M-	(h)	4	4	1M	0	
11	-35	✓MV	(e)	MVx	(h)	4	3	2M	0	
12	-40	✓M	(e)	Mpy	(m)	3	6	2M	0	
13	-42	✓SG	(-)	S	(n)	-	-	-	0	
14	-77	M	(e)	P	(ml)	1	3	3P	0	
15	U-27-5	✓P	(-)	Px	(m)	2	3	3P	0	
16	-40	✓M	(-)	MQx	(m)	4	3	3P	0	
17	-75	PXM	(e)	Ppyx	(m)	3	3	3P	5Py	
18	U-13-65	PM	(-)	P-MQ	(m)	1	3	3P	1Py	hi Pb
19	-152	P	(-)	P	(m)	2	3	4P	5Py	
20	-180	M	(-)	P	(m)	1	2	4M	10Py	

74 WEST (1) (51)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	Po McPy	MISC.
14282	U-33-2.5	Mb (-)	Mb (h)	4	2	3	M 0	
83	U-30-5	Mb (-)	P-Mb (L)	2	3	3	M 0	
84	-25	M (o)	MQ (h)	5	3	3	M ₂₀ Po ₂₀ Py	
85	-28	MI _Q (-)	MQ (h)	3	3	3	M 10 Py	
86	U-32-1	MI _Q (-)	MQ (m)	2	3	3	M 0	
87	-30	M (-)	M (h)	6	3	3	M 0	
88	-92	MB (o)	Mpy (L)	3	6	4	1 0	
89	-54	M (o)	Mpy (m)	3	6	1	M 0	hi Cu
90	U-15-21	M (o)	MQpy (L)	1	4	4	M 8 Py	
91	-25	MI _Q (o)	Mpy (vL)	—	—	—	0	
92	-69	M (o)	Mpy (L)	4	5	4	M 0	
93	-110	P (o)	P (L)	2	4	4	P 0	
94	-115	MI _Q (o)	Mpy (m)	3	4	3	M 0	hi Cu
95	-125	MI _Q (o)	M (vh)	4	2	3	P 0	
96	-180	M (o)	MQ (lm)	4	4	4	P 30 Py	
97	U-42-10	P (o)	P (ml)	3	4	4	P 0	
98	-20	P _G (-)	P (lm)	3	2	3	P 0	
99	-26	P (o)	P (L)	1	3	4	P 0	
14300	-30	MI _Q (o)						MISSING
14401	-33	M (o)	Mopy (mh)	6	5	5	M 0	
02	U-28-10	Sb-P (-)	P (L)	2	4	5	P 0	
03	-20	MVX _S (L)	M (h)	3	3	3	P 0	
04	-63	M (o)	MQx (h)	5	3	4	M 0	
05	U-29-54	SG (-)	P (L)	2	5	5	P 5 Py	(near fault)
06	-56	M (-)	MV (mh)	6	4	3	M 0	(" ")
07	-59	M (-)	Mpy (h)	4	4	2	M 0	hi Cu, hi Tr
08	-62	P _G (o)	P (L)	2	3	3	P 0	
09	-67	P (o)	P (L)	3	2	4	P 0	
10	U-34-45	PSb (-)	P (vL)	—	—	—	0	} (not assayed)
11	-25	PSb (-)	P (L)	2	1	4	P 3 Py	

74 WEST (2)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga/Sp/Py	Ga/Sp/Gm	PoMcPy	MISC.
14412	U-34-55	MIQ (-)	Mpy (m)	4	5	3	M 0	
13	-65	Mb (o)	M (mh)	3	3	3	M 0	
14	-80	M (o)	M (mh)	4	4	3	M 0	
15	-105	P (-)	P (vl)	—	—	—	0	
16	U-35-70	M-MV (o)	Mpy (m)	3	4	2	M 0	
17	-80	MIQ (o)	MQpy (m)	3	4	2	M 0	fg. Pyva.
18	-90	P (o)	P (lm)	3	3	3	P 0	
19	U-47-10	P (o)	MQ (L)	3	4	4	P 0	
20	-20	M (o)	MQ (m)	3	3	3	P 0	
21	-60	M (o)	Mpy (vl)	—	—	—	0	
22	-65	Mb (-)	M (mh)	3	4	2	M 0	
23	U-45-40	P (o)	P (m)	3	3	3	P 0	
24	-50	MV (L)	MV (vh)	4	1	2	M 0	
25	-56	M+MV (m)	Mpy (m)	3	5	1	M 0	
26	U-51-10	P (o)	P (lm)	3	3	3	P 0	
27	-23	P (o)	P (m)	3	1	3	P 0	
28	-30	P (-)	P (L)	3	3	5	P 0	
29	-35	P (-)	P (ml)	2	4	3	P 5Py	
30	-40	P (-)	P (mh)	2	3	4	P 0	
31	-45	SG (-)	P (fr)	—	—	—	0	
32	U-53-5	P (m)	MQ (m)	3	3	3	P 0	
33	-15	P (-)	P (L)	2	3	5	P 0	
34	-30	P (-)	MQpy (m)	3	5	3	P 5PyMc	
35	-35	P-Sb (-)	P (L)	2	2	5	P 5Py	
36	-40	P (o)	Ppy (m)	3	4	4	P 0	
37	-44	P (o)	P (m)	3	3	4	P 0	
38	U-54-10	P (o)	Ppy (lm)	2	4	3	P 0	
39	-40	P-MXs (-)	P (L)	2	4	4	P 0	
40	-60	P (-)	P (L)	2	4	4	P 0	
41	-70	P (-)	Ppy (lm)	5	6	5	P 0	Py 50% v/a also

74 WEST (3)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcPy	MISC.
14442	U-54-100	P-Sb (o)	P (m)	4	1	4	P 0	
43	A-141-50	P _G (-)	P (m)	3	2	4	P 0	
44	-60	P (-)	P (vL)	—	—	—	1P 5Py	
45	-75	P (-)	M-M _{py} (mh)	3	4	2	P 0	hi Cu
46	-87	P (-)	P _{py} (mh)	2	4	3	P 0	
47	U-57-5	P (o)	MQ (mh)	3	3	3	P 0	
48	-15	P (-)	P (vL)	—	—	—	0	
49	-25	P (-)	P (m)	3	2	4	P 5P 3Py	
50	-50	P (-)	P (vL)	—	—	—	0	
51	U-46-16	P (-)	P _{py} (m)	3	4	4	P 0	
52	-45	P (-)	P _{py} (m)	3	4	4	P 0	
53	-66	MV (-)	MV _{py} (L)	2	4	3	M 0	
54	U-40-45	MIQ (o)	M (m)	3	3	3	M 0	hi Tn, Cp
55	-59	M+MXs (-)	MX _{py} (mL)	2	5	3	M 0	
56	-70	M+MV (e)	M-MQ _x (m)	4	4	4	M 0	
57	-10	P (-)	P (m)	2	4	4	P 0	
58	-20	P (-)	P (L)	2	3	4	P 0	
59	-30	P (-)	P (vL)	—	—	—	0	
60	U-117-2	P (-)	P (L)	2	3	3	P 0	
61	-17	P (-)	P (m)	3	4	5	P 0	
62	U-48-42	P (-)	MQ (h)	4	3	4	P 0	
63	-69	MIQ (-)	P (tr)	—	—	—	5P 5Py	
64	-75	M (-)	M _{py} (L)	2	6	2	M 0	

176 WEST / (1) (60)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcPy	MISC.
14521	U-63-5	M	Mpy (m)	3	4	3	M 0	
22	-10	M	M (h)	5	4	2	M 0	
23	-57	M	MQpy (m)	2	4	4	M 5Py	
24	-64	M	MVb (mh)	5	3	4	M 3P 3Py	
25	-60	Mb	Mb (m)	3	3	3	M 0	
26	U-65-2	Mb	Mpy (m)	3	6	(1)	M 0	
27	-10	MV	MXpy (m)	4	3	5	M 0	
28	-15	MI	MQ (mh)	5	4	4	M 0	
29	-19	M	MQ (mh)	6	5	4	M 0	
30	-45	M	M (h)	4	4	3	M 0	
31	-50	M	P (L)	2	3	5	3Py	
32	U-58-2	M	MVpy (m)	5	5	1	M 0	
33	-10	M (U)	P (tr)				5Py	
34	-15	M	M (h)	4	4	1	M 0	
35	-18	M	M (h)	5	4	2	M 0	
36	-90	M	Mpy (tr)				0	
37	-95	M	Mpy (tr)				0	
38	-100	M	MQ (m)	6	3	5	M 10Py	
39	U-59-10	MI	MQ (h)	3	3	3	M 0	
40	-20	M	M (vh)	6	4	3	M 0	ab. v. g. Py
41	-30	M	MVb (m)	6	3	6	M 0	
42	-40	M	MVb (m)	5	3	5	M 0	
43	-50	M	Mpy (tr)				10Py	
44	-54	Mb (vs)	MVox (m)	6	2	5	M 0	
45	-107	P ₆ +M	P (tr)				5Py	
46	U-60-10	P	P (L)	1	1	4	P 0	
47	-25	P	MQ (m)	4	3	4	P 0	
48	-30	Mb	MQ (m)	3	3	3	M 0	
49	-32	M	Mpy (m)	3	4	3	M 1Py	
50	-34	Mb	M (h)	3	5	3	M 0	hiTn

76 WEST

(2)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcPy	MISC.
14551	U-60-58	M(inG)	M (h)	4	3	3	M 0	(3-sem MinG)
52	-62	M	MQb (m)	3	3	3	M 0	(extr. leached)
53	U-129-10	P	P (l)	3	3	3	P 0	
54	-25	P	P (m)	2	2	3	P 0	
55	-56	P	P (m)	2	2	3	P 0	
56	-72	P	P (m)	3	2	3	P 0	
57	-76	MV	MVb (m)	3	2	4	M 0	
58	-82	Mb	MQ (m)	3	2	3	M 0	
59	-91	Mb	Mbpy (lm)	3	4	3	M 0	
60	x -123	M	M (vh)	5	2	1	M 0	
61	-130	M	Py (v)				0	ArCu
62	x -134	M+MI	MQ (mh)	5	5	4	M 5P	mod. vfg Py
63	U-126-15	P	P (m)	3	3	3	P 0	
64	-30	P	P-MQ (m)	3	3	3	P 0	
65	-45	P	P (m)	3	3	3	P 0	
66	-75	M	P (m)	4	2	4	M 0	(leached vuggy)
67	-90	MI	Mpy (mh)	4	5	2	M 0	
68	-100	Mb (o)	Mbox (lm)	3	3	3	M 0	(tight)
69	-107	M	Mpy (l)	3	5	2	0	
70	-120	M	Mpy (lm)	3	4	2	M 0	
71	-128	M	Mpy (v)				0	(leached, vuggy)
72	-132	M	Mpy (v)				0	
73	-135	M-P	P (fr)				0	ArCu
74	U-128-10	PX	P (l)	4	2	4	P 0	(leached vuggy)
75	-75	P	MQ (mh)	3	3	3	P 0	(" " " ")
76	-83	M	M (v)	4	2	2	M 0	
77	U-85-10	PG	P (l)	2	2	4	P 0	
78	-15	M	MXpy (l)	2	4	4	2	(leached porous)
79	-19	M	M-Mpy (h)	6	5	1	M 0	(leached porous)
80	-23	M	Ppy (v)	4	4	4	0	(" " " ")

76 WEST (3)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcPy	MISC.
14581	U-130-20	P	P (m)	1	3	4	P 0	
82	-30	P	P (m)	3	3	3	P 0	
83	-35	P	MQ (m)	2	4	4	P 0	
84	-37	P	MQ (m)	2	4	4	P 0	
85	U-118-5	P	P (l)	—	—	—	5Py	
86	-25	Px _m	Px (l) X	5	3	5	P 0	(loaded, veigy)
87	-43	P	P (l)	—	—	—	0	
88	-50	P	MQ (mh)	3	2	3	P 0	
89	-56	P	Ppy (tr)	—	—	—	0	
90	U-132-65	MI	MQ (m)	5	5	4	P 0	
91	-90	P	P (m)	3	2	5	P 2Py	
92	-100	P	P (m)	3	3	3	P 0	
93	A-155-50	P	P (l)	—	—	—	0	
94	-60	P	MQ (m)	3	3	3	P 20Py	
95	-70	P	P (m)	2	3	3	P 0	
96	-80	P	M (h)	3	3	3	P 0	
97	U-89-15	P	MQ (mh)	3	3	3	P 0	
98	-19	M	MX (m)	3	2	4	M 0	
99	-26	M	MQ (h)	6	4	4	M 0	
14600	-22	M	M (mh)	6	4	2	M 0	
14701	U-89-30	MI	MQ (m)	5	4	4	M 0	
02	U-114-20	P	P (m)	2	3	3	P 0	
03	U-61-20	M	Mpy (l)	—	—	—	2Py	
04	-30	M	Ppy (l) X	1	3	3	M 0	
05	-90	M (l)	Mpy (l) X	2	5	3	P 0	

78 WEST

①

⑥2

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga/Sp/Py	Ga/Sp/Gm	PbMcPy	MISC.
14465	U-69-25	M+MV (-)	M (m)	5	5	3	M 0	
66	U-67-9	P (-)	P (m)	2	2	3	P 0	
67	-20	MIQ (-)	MQ (m)	3	3	3	M 0	
68	-25	Mb (-)	Mb (h)	5	2	3	M 0	
69	-30	M+MV (-)	M-Mpy (h)	3	5	3	M 0	
70	-35	M (-)	MQ (mh)	4	4	2	M 0	
71	-40	G. (-)	G (a)	—	—	—	2P	very little graphite if any
72	U-71-5	P (-)	P (m)	2	2	3	P 0	
73	-18	P (-)	P (m)	2	2	3	P 0	
74	-21	P (-)	P (m)	3	4	4	M 0	
75	-25	P (-)	P (m)	4	4	4	M 0	
76	U-68-12	M (-)	M (vh)	6	3	1	M 0	
77	-15	M+MV (-)	M (h)	4	3	2	M 0	hi Tr
78	-20	MB (-)	P (lm)	3	3	3	M 0	
79	-22	M (-)	M (h)	6	3	1	M 0	
80	U-79-15	PG (-)	Ppy (vt)	—	—	—	0	
81	-32	M (-)	Mpy (tr)	—	—	—	0	
82	-34	M (-)	Mpy (vt)	—	—	—	0	hi G
83	-36	MIQ (-)	Mpy (m)	2	6	1	M 0	
84	-67	M (-)	MV (vh)	6	5	4	M 0	veggay
85	-73	Mb (-)	Mb (mh)	4	3	4	M 0	
86	-79	M (-)	Mpy (mh)	3	5	2	M 0	
87	U-72-10	P (-)	P (l)	3	3	3	P 0	
88	-30	M (-)	M-Mpy (h)	4(5+3)	4	1	M 0	hi Cu
89	-65	M+Mb (-)	Mbpy (m)	3	4	3	M 0	
90	-107	P (-)	Mbpy (m)	4	4	4	P 0	
91	-125	P (-)	MQ (mh)	3- ⁵ / ₂	2	3	P 0	
92	U-75-24	P-Sb (-)	P (l)	2	3	3	P ⁵ / ₂ Mc	
93	-52	P (-)	Ppy (tr)	—	—	—	5P, Mc	
94	-55	M+MV (e)	Mpy (m)	3	4	1	M 0	

78 WEST (2)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Go/Sp	Go Sp/Py	Go Sp/Gm	PoMcPy	MISC.
14495	U-75-60	M+MV (-)	Mpy (m)	1	6	1	M 0	
96	-65	M (-)	Mb (h)	4	4	4	M 0	
97	-70	M (-)	M (m)	3	3	4	M 0	
98	-73	M (-)	Mb (mh)	4	3	3	M 0	Tn
99	-130	MIQ (-)	MQpy (m)	3	4	3	M 0	
14500	-168	MXs (-)	M (m)	4	4	5	M 0	(near fault) cop
14601	U-77-73	M (-)	Mpy (m)	3	6	1	M 0	
02	-80	P (-)	Ppy (vl)	—	—	—	3PyMc	
03	-105	MIQ (-)	M (m)	2	4	2	M 0	
04	-142	P (-)	MQ (mh)	6	5	4	P 0	high for Go/Sp
05	U-93-2	P (-)	Ppy (m)	3	4	3	P 0	
06	-10	P (-)	Ppy (m)	1	4	4	P 0	
07	-24	(-) (-)	Ppy (vl)	—	—	—	2PyMc	
08	-45	P (-)	P (m)	3	3	3	P 0	
09	-55	P (-)	P (vl)	—	—	—	0	
10	-59	P-Sb (-)	MQ (h)	5	3	3	P 0	
11	-65	P (-)	P (L)	2	4	3	P 0	
12	U-148-45	P (-)	P (m)	2	3	4	P 0	hi Cu
13	-60	P (-)	MQ (m)	4	4	4	P 0	
14	U-97-25	P (-)	MQ (L)	2	4	3	P 0	
15	-45	PX _{seric.} (-)	MX (m)	4	3	3	P 0	
16	U-99-2	P (-)	P (m)	3	2	3	P 0	
17	-6	P-Sb (-)	P (m)	2	3	3	P 0	
18	-50	P-Sb (-)	MQ (h)	4	2	3	P 0	
19	-116	MIQ (-)	Mpy (m)	3	6	1	M 0	
20	-121	M (-)	Mpy (m)	2	5	3	M 0	
21	-125	P (-)	MQ (m)	2	3	3	P 2PyMc	
22	-145	P _G (-)	MQpy (h)	—	—	—	5Py	
23	U-101-60	P _G (-)	MQpy (h)	—	—	—	0	
24	-99	M (-)	MVb (m)	4	3	5	M 0	

78 WEST (3)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcPy	MISC.
14625	U-101-140	P-Sb (-)	P (L)				10Py1Po	
26	-143	Sbc (-)	S (VL)				0	
27	U-105-3	MTQ (-)	M (L)	1	3	2	0	
28	U-107-15	P _G (-)	P (VL)				0	
29	-35	P (-)	MQ (m)	3	3	3	P 0	
30	-50	P (-)	P (m)	2	3	3	P 0	
31	-60	P (-)	P (m)	3	4	3	P	
32	U-109-3	P (-)	P _{py} (VL)				0	
33	-52	P (-)	MQ (m)	3	3	3	P 0	
34	-95	P (-)	P (m)	3	2	3	P 5Py	
35	-100	P (-)	P (m)	3	2	3	P 10PyMc	
36	A-158-52	P (-)	P (m)	3	3	3	P 5PyMc	
37	-70	P (-)	P (m)	2	1	4	P 0	
38	-94	P (-)	P (m)	4	2	4	P 15PyMc	
39	-105	P (-)	P _{py} (VL)				20Py	
40	-121.5	P (-)	P (m)	2	3	3	P 2Py	
41	A-161-38	P (h)	P (m)	2	1	4	P 0	
42	-64.6	P (-)	P (m)	2	4	3	P 0	
43	-70	P _G (-)	P (m)	3	3	3	P 0	
44	-85	P _G (-)	P (m)	2	3	3	P 0	
45	-115	P (-)	P _{py} (VL)				0	
46	U-91-8	P (-)	P (m)	3	3	3	P 0	
47	-28	P (-)	P (L)	1	3	3	0	
48	-64	P (-)	P (m)	2	3	3	P 3PyMc	

80 WEST

(1)

(53)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMCPy	MISC.
14706	U-151-5		MQ (mh)	6	4	5	P 0	
07	-10		P (cm)	3	3	4	M 0	
08	-15		P (cm)	2	3	3	M 0	
09	-20		Ppy (vl)				0	
10	-22		Phyl (ca)				0	
11	-55		Mb (mh)	4	2	5	M 0	
12	-60		MVb (h)	6	3	4	M 0	hi Pb
13	-65		MQ-P (cm)	3	4	4	M 15 P	
14	U-153-10	P	P (cm)	3	1	4	P 0	
15	-20		P (cm)	2	3	3	P 0	
16	-30		Mpy (vl)				0	
17	-38	Mb	Mb-Mpy (m)	3	4	4	M 0	
18	-41		Mb (mh)	3	3	3	M 0	
19	U-150-4		P (L)	3	3	5	P 0	
20	-20		P (vl)				0	
21	-23		P (vl)				0	
22	-27		Ppy (cm)	2	4	4	M 0	
23	-31		Ppy (L)	1	3	1	0	
24	-140		Mpy (cm)	1	5	2	M 0	
25	U-154-5		P (m)	3	3	3	P 0	
26	-15		P (cm)	2	4	3	P 0	
27	-25		P (cm)	1	3	3	P 0	
29	U-156-5		P (mh)	2	1	2	P ₂ Py ₂ P ₀	
29	-50		PMB (L)	2	2	3	P 0	
30	-55		Mpy (cm)	2	6	1	M 0	
31	-60		Mbpy (m)	3	4	4	M 0	
32	-64		Mb (m)	3	2	4	M 0	
33	U-151-21		MQ (m)	3	6	4	M ₈ Py ₃ P ₀	
34	U-152-20		P (vl)				0	
35	-30		P (L)	2	3	3	P 0	

80 WEST (2) 4

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	Po McPy	MISC.
14736	U-152-40		P (vl)	—	—	—	5 Py	
37	-45		P (m)	2	4	5	P ₂ P ₂ Py	hi Cu
38	U-149-10		P (m)	3	3	3	P 0	
39	-31		P (m)	3	3	3	P 0	
40	-110		Mpy (m)	3	5	2	M 0	
41	-126		MVpy (lm)	2	6	3	M 0	str. ox.
42	-130		Mb (m)	4	2	4	M 0	
43	-140		P (m)	2	3	3	P 0	
44	-153		P (vl)	—	—	—	3 Py	
45	U-142-1		M (vh)	4	4	2	M 0	
46	-3	M						
47	-5		P (m)	3	4	3	M 0	
48	-7		Mpy (m)	1	4	3	M 0	
49	-25		Mb (h)	3	2	3	M 0	
50	U-142-40		P (m)	3	4	3	P 0	
51	-50		MBh (h)	5	5	3	M 0	
52	-55	M	M-Mpy (h) PV (m)	4 3	5 2	3 3	M 0 P 0	
53	-100		P (c)	1	4	4	P 0	
54	-110	Pg	P (tr)	—	—	—	0	
55	-117		Mpy (vl)	—	—	—	0	
56	-119	Mb	Mpy (lm)	3	5	3	M 0	
57	-125		M(V)x (m)	4	4	4	M 0	
58	-129	MXS _{tox}	MXpy (m)	4	4	4	M 0	
59	U-135-2		P (lm)	3	2	4	P 0	
60	-47		P (m)	2	3	3	P 0	
61	-60		MQ (h)	3	3	4	P 0	
62	-85		P (m)	3	2	3	P 0	
63	-110		P (l)	(1)	5	3	P 7 Py 10	
64	-137		Mpy (m)	3	5	3	M 0	
65	-174		Ppy (vl)	—	—	—	10 Py	

80 WEST (3) ✓

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga/Sp/Py	Ga/Sp/Gm	PoMcPy	MISC.
14766	U-135-180	M	M-Mpy (h)	4	4	2	M 0	
67	-186		Mpy (vl)	—	—	—	0	
68	U-140-1		MQ (m)	3	3	3	P 0	
69	-62		P (mh)	3	3	3	P 0	
70	-100		P (l)	3	3	3	P 0	
71	U-146-25		P (m)	3	4	3	P 0	
72	-30		P (m)	4	2	4	P 0	
73	-45		P (m)	2	4	4	P 0	
74	A-160-53		P (vl)	—	—	—	5P	
75	-70		P (h)	3	3	3	P 0	
76	-90		P (m)	2	3	3	P 0	
77	-100		P (vl)	—	—	—	0	
78	-110		P (m)	2	3	3	P 0	
79	-125		P (mh)	3	3	3	P 0	

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcRy	MISC.
14649	U-164-2	P (-)	P (lm)	2	2	3	P 0	
50	-5	M (-)	M (h)	3	3	2	M 0	
51	-10	- (-)	P (vl)	—	—	—	0	
52	-12	M (-)	M (h)	6	5	3	M 0	
53	U-158-5	M+MXs (-)	M (vh)	5	3	2	M 0	
54	-10	P (-)	P (m)	2	3	3	P 0	
55	-15	P-M (-)	M (tr)	—	—	—	10P/Mc	
56	-41	P (-)	P (l)	3	1	5	P 3B 1P	hi Cu
57	-46	Mb (-)	Mb (lm)	4	4	4	M 0	
58	U-160-3	P (-)	P (m)	2	3	3	P 0	
59	-15	Pg (-)	P (vl)	—	—	—	0	
60	-40	M (-)	M (vh)	6	4	2	M 0	
61	-56	M (-)	M (mh)	3	4	3	M 0	Tn
62	-60	M (-)	Mpy (h)	3	5	1	M 0	
63	-64	Mb (-)	Mpy (lm)	4	5	3	M 0	hi Tn
64	U-162-15	Pg (-)	P (lm)	1	3	3	P 0	
65	-27	M (-)	Mpy (l)	3	5	2	M 0	hi Cp exsds
66	-50	Mb (-)	Mb (h)	3	3	2	M 0	
67	-53	Mb (-)	Mpy (lm)	3	5	2	M 2Py	Tn
68	U-162-105	P (-)	P (lm)	2	4	4	P 3B 2Py	
69	-133	M (-)	Mpy (m)	5	4	3	M 0	
70	-146	M (-)	Mb (m)	3	3	3	M 0	hi Tn
71	U-188-10	S-Sc (-)	P (vl)	—	—	—	5Py	
72	-20	P-Ss (-)	P (lm)	3	2	3	P 0	
73	-30	Pg (-)	P (tr)	—	—	—	0	
74	-40	P (-)	P (vl)	—	—	—	0	
75	-80	S (-)	P (vl)	—	—	—	1P	
76	U-172-4	MTQ (-)	M (h)	4	4	3	M 0	
77	-60	P (-)	P (m)	3	3	3	P 0	
78	-100	P (-)	P (l)	1	4	3	P 0	

82 WEST (2)

SEC	HOLE	MegTp (Ox)	MicTp (Pb/Ln)	Ga/Sp	Ga/Sp/Py	Ga/Sp/Gm	Pb/McPy	MISC.
14679	U-172-118	M (-)	M (h)	3	3	1	M 0	
80	U-168-35	P (-)	P (l)	2	3	4	P 0	
81	-117	MV+M (-)	MQ (m)	4	4	3	M 0	Tn hi
82	-124	M (-)	Mpy (m)	3	6	3	M 0	
83	-140	M (-)	M (h)	3	4	2	M 0	hi Tn
84	-155	M (-)	M (h)	6	4	5	M 0	
85	U-166-54	P (-)	P (m)	2	1	3	P 0	
86	-118	M (-)	Mpy (m)	4	5	4	M 0	
87	-135	P (-)	P (m)	2	2	3	P 0	hi Cp
88	-150	M (-)	Mpy (h)	—	—	—	—	

84 WEST / (1) (25)

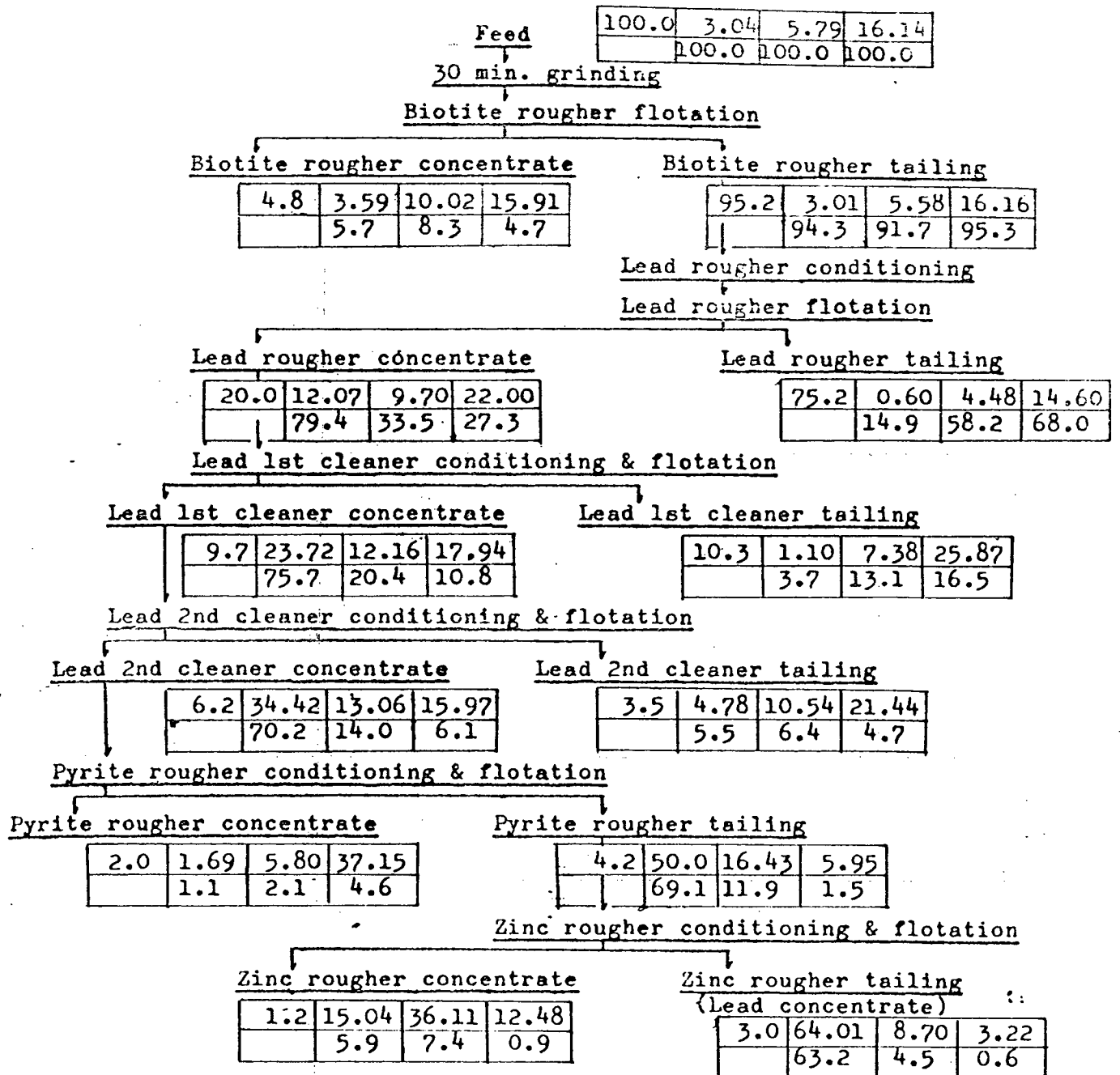
SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Py	Ga Sp/Gm	PoMcPy	MISC.
14689	U-184-13	P (-)	MQpy (h)	4	4	2	P 0	
90	-40	Psb (-)	P (l)	3	4	3	P 0	
91	-55	Pg (-)	MQ (h)	3	3	4	P 0	
92	-135	P (-)	P (vl)				15P	
93	-142	M (-)	Mpy (m)	3	5	3	M 0	
94	-150	S (-)	S (o)				5Py	
95	U-186-3	P (-)	MQ (m)	3	3	3	P 0	
96	-44	SK+c (-)	S (tr)				0	
97	-48	SKc (-)	P (vl)				0	
98	-52	SKc (-)	P (vl)				0	
99	U-182-17	M (-)	P (lm)	2	4	2	P 0	(near fault)
14700	-23	P (-)	P (l)	3	3	4	P 0	(near fault)
14780	-65	M (-)	M (h)	3	4	3	M 0	
81	-70.9	M (-)	MV (m)	5	4	4	M 0	
82	-127	S (-)	S (tr)				3P	
83	-135	S (-)	S (o)				3P, 2P	
84	U-180-1	P (-)	MQ (h)	5	3	3	P 0	
85	-10	Pg (-)	Ppy (vl)				5P, 1P	
86	-20	P (-)	MQ (m)	4	3	3	P 0	
87	U-170-10	P (-)	MQpy (m)	3	4	3	P 0	
88	-25	P (-)	P (lm)	2	4	3	P 3PyMc	
89	-35	M (vl)	M (h)	3	4	2	M 0	
90	-45	MIQ (-)	MQpy (lm)	3	5	4	M 0	
91	-50	M (-)	M (h)	4	3	2	M 0	
92	-54	P (-)	P (m)	3	3	3	P 0	
93	U-176-30	Pg (-)	MQ (mh)	5	3	4	P 0	
94	-60	Pg (-)	MQ (m)	3	3	3	P 0	
95	-113	Pg (-)	P (l)	2	4	2	P 0	
96	-117	M (-)	Mpy (m)	3	3	3	M 0	
97	-155	M (-)	Mpy (m)	2	5	2	M 0	

84 WEST (2)

SEC	HOLE	MegTp (Ox)	MicTp (PbZn)	Ga/Sp	Ga Sp/Ry	Ga Sp/Gm	Po McRy	MISC.
14798	U-176-162	P (-)	P (m)	4	3	4	P 15Ry 1Pb	
99	U-178-2	P (-)	MQ (m)	3	3	3	P 0	
800	-5	P (-)	P ((m))	3	3	4	P 0	
01	-23	P-Sb (-)	P (m)	2	2	3	P 0	
02	-38	P (-)	P (m)	3	3	3	P 0	10Pb
03	-67	P-Sb (-)	P (m)	4	2	3	P 10Ry	ex. cp in sp

Fig. 10

Effect and result of the lead flotation used sodium sulfide and sulfurous acid



Conditioning & flotation

Reagent consumption (gram/ton)

Biotite rougher flotation

Natural pH 7.3, Dow#250 25.

Lead rougher conditioning

Lime 1400, pH 10.8.

Lead rougher flotation

Amyl xanthate 80, Dow#250 10,
15 min. flotation time.

Lead 1st cleaner conditioning
& flotation

10 min.-regrinding, Lime 200, pH 10.5,
Amyl xanthate 5, Dow#250 10,
10 min. flotation time.

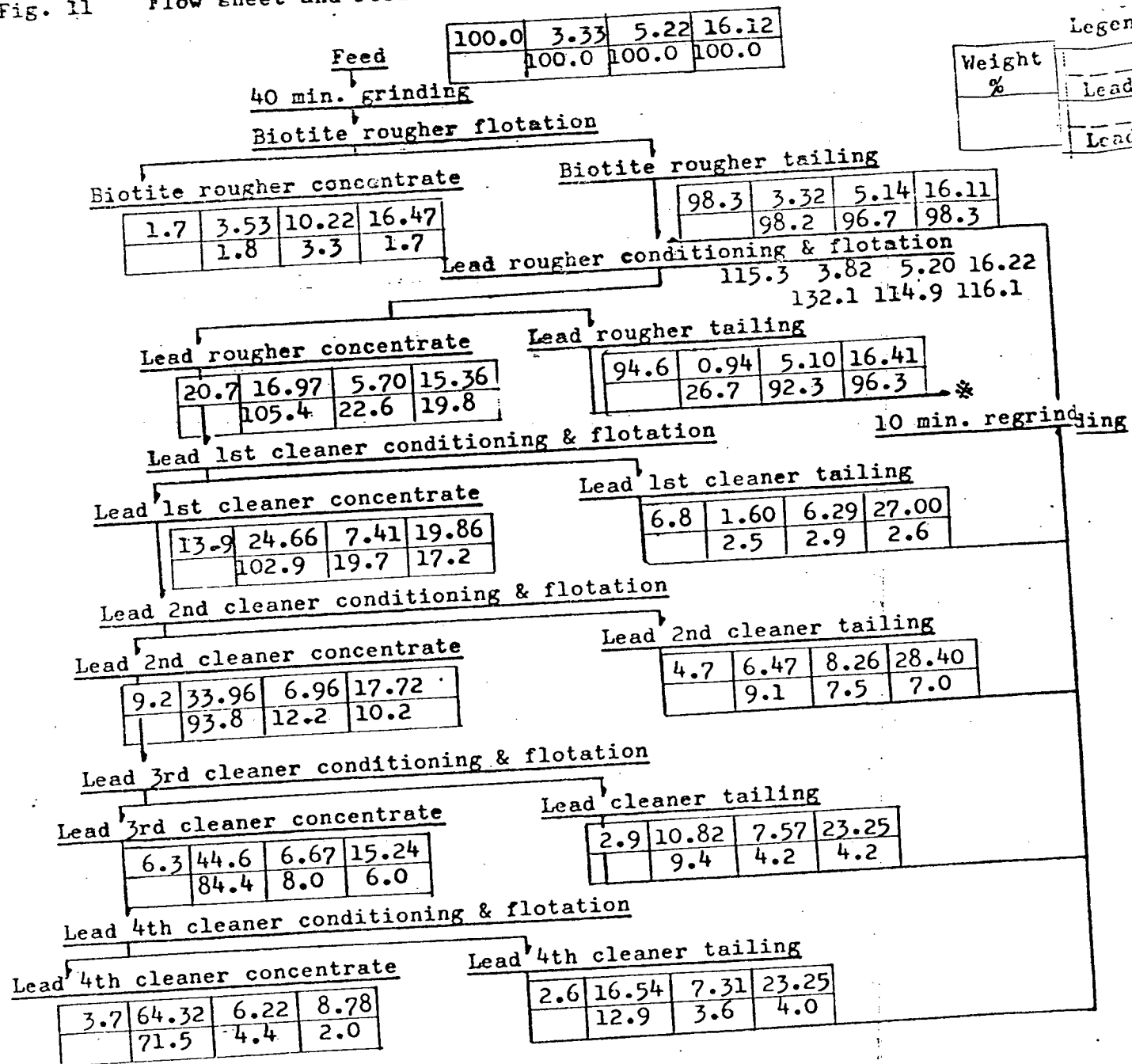
Lead 2nd cleaner conditioning
& flotation

Lime 100, pH 10.5,
10 min. flotation time.

Pyrite rougher conditioning
& flotation

Sodium sulfide 200, Sulfurous acid 500,
Pulp temperature 70°C, Dow#250 5,
10 min. flotation time.

Fig. 11 Flow sheet and result of the cycle test



Weight %	Lead
	Lead

- Conditioning & flotation
- Biotite rougher flotation
- Lead rougher conditioning & flotation
- Lead 1st cleaner conditioning & flotation
- Lead 2nd cleaner conditioning & flotation
- Lead 3rd cleaner conditioning & flotation
- Lead 4th cleaner conditioning & flotation

Reagent consumption (gram/ton)

Natural pH 7.8, Dow#250 20.

Lime 1400, pH 10.8, Amyl xanthate 80, Dow#250 10, 15min. flotation time.

Sodium cyanide 300, 10min. regrinding, Amyl xanthate 15, 10min. flotation time.

Sodium cyanide 150, 7min. flotation time.

Sodium cyanide 100, Dow#250 3, 7min. flotation.

Sodium cyanide 50, 8min. flotation time.

11-A

Legend

Assay %		
Lead	Zinc	Iron
Distribution %		
Lead	Zinc	Iron

*

94.6	0.94	5.10	16.41
	26.7	92.5	95.3

Lead rougher tailing

Zinc rougher conditioning & flotation

103.7	1.12	5.37	17.58
	35.0	106.6	113.1

Zinc rougher concentrate

40.7	2.23	12.73	28.70
	27.4	99.1	72.5

Zinc rougher tailing

63.0	0.40	0.62	10.40
	7.6	7.5	40.6

Zinc 1st cleaner conditioning & flotation

Zinc 1st cleaner concentrate

17.1	3.23	27.60	21.17
	16.7	90.3	22.5

Zinc 1st cleaner tailing

23.6	1.51	1.96	34.16
	10.7	8.8	50.0

Zinc 2nd cleaner conditioning & flotation

Zinc 2nd cleaner concentrate

11.6	3.77	37.93	16.47
	13.2	84.2	11.9

Zinc 2nd cleaner tailing

5.5	2.11	5.74	31.04
	3.5	6.1	10.6

Zinc 3rd cleaner conditioning & flotation

Zinc 3rd cleaner concentrate

9.5	3.62	44.00	13.89
	10.4	80.0	8.2

Zinc 3rd cleaner tailing

2.1	4.41	10.44	28.10
	2.8	4.2	3.7

Zinc 4th cleaner conditioning & flotation

Zinc 4th cleaner concentrate

8.0	3.49	49.68	11.38
	8.4	76.0	5.7

Zinc 4th cleaner tailing

1.5	4.31	13.83	27.49
	2.0	4.0	2.5

Conditioning & flotation

Reagent consumption (gram/ton)

Zinc rougher conditioning & flotation

Copper sulphate 1500, Lime 2000, pH 11, Amyl xanthate 100, Dow#250 25, 10 min.-flotation time.

Zinc 1st cleaner conditioning & flotation

15 min. regrinding, Lime 1000, pH 11.8 10 min. flotation time.

Zinc 2nd cleaner conditioning & flotation

Lime 200, pH 11.8, 8 min. flotation time.

Zinc 3rd cleaner conditioning & flotation

Lime 100, pH 11.7, 8 min. flotation time.

Zinc 4th cleaner conditioning & flotation

Lime 100, pH 11.8, 8 min. flotation time.

Table 1. Result of complete analysis of the Grum Ore

Au	0.4 gram/ton
Ag	55 gram/ton
Hg	42.5 gram/ton
Cu	0.08%
Pb	3.21%
Zn	5.22%
Fe	16.82%
S	20.16%
BaSO ₄	tr.
SiO ₂	49.48%
Na ₂ O	0.03%
K ₂ O	0.15%
CaO	0.42%
MgO	0.15%
Al ₂ O ₃	2.28%
Cd	0.008%

Table 2 Chemical form analysis of zinc minerals remained in final tailing

Product	Form	Zinc assay %					Total Zn
		ZnSO ₄	ZnO	ZnSiO ₃	ZnS	ZnFe ₂ O ₄	
Zinc rougher tailing & zinc 1st cleaner tailing		0.01	0.20	0.10	0.79	0.10	1.20

Ratios of zinc minerals were measured with methode of chemical form analysis.

Krum

Table 3. Results of the analyses of the lead concentrates and the zinc concentrates

	<u>Lead Concentrates</u>	<u>Zinc Concentrates</u>
Au	3.6 gram/ton	tr.
Ag	908 gram/ton	60 gram/ton
Hg	53.7 gram/ton	486 gram/ton
Cu	0.21%	0.10%
Pb	66.16%	1.86%
Zn	7.05%	49.85%
Fe	3.82%	9.00%
S	16.97%	32.39%
Cd		0.07%
SiO ₂	5.66%	5.28%
BaSO ₄	tr.	tr.
Al ₂ O ₃	0.69%	0.52%
As	0.29%	0.06%
Sb	0.35%	0.02%
Bi	0.005%	0.007% 70
Sn		0.009%
Ni		0.002%

Table 4 Size distribution of flotation feed, lead concentrate, zinc concentrate, and final tailing

Size Fraction	Flotation feed Weight %	Pb	Assay %		Distribution %		
			Zn	Fe	Pb	Zn	Fe
Mesh							
+150	1.1	0.40	5.48	39.53	0.1	1.0	2.6
150-200	1.3	0.80	2.61	14.46	0.2	0.5	1.1
200-270	2.7	1.01	1.83	10.51	0.7	0.8	1.7
270-325	5.5	0.90	2.61	10.41	1.2	2.4	3.4
325-400	5.5	1.31	3.13	14.86	1.7	2.9	4.9
Micron							
+35.5	2.0	7.22	4.69	32.15	3.5	1.5	3.9
35.5-26.6	7.3	6.11	6.00	37.10	10.8	7.4	16.3
26.6-18.6	17.6	3.51	6.00	19.31	15.0	17.9	20.5
18.6-12.1	15.6	3.21	5.74	13.14	12.1	15.2	12.3
12.1- 8.9	9.5	3.51	6.79	13.04	8.1	11.0	7.5
8.9-	31.9	6.04	7.30	13.44	46.6	39.3	25.8
Total	100.0	4.13	5.92	16.62	100.0	100.0	100.0

Size Fraction	Lead concentrate Weight %	Pb	Assay %		Distribution %		
			Zn	Fe	Pb	Zn	Fe
Micron							
+19.3	3.2	57.35	8.35	8.79	2.8	5.3	5.6
19.3-13.5	11.4	62.13	7.05	6.67	10.8	15.8	15.3
13.5- 8.8	19.8	67.67	5.74	5.36	20.5	22.5	21.3
8.8- 6.4	18.6	69.18	5.74	4.95	19.7	21.2	18.5
6.4-	47.0	64.14	5.06	4.97	46.2	35.2	39.3
Total	100.0	65.34	5.06	4.97	100.0	100.0	100.0

Size Fraction	Zinc concentrate Weight %	Pb	Assay %		Distribution %		
			Zn	Fe	Pb	Zn	Fe
Micron							
+27.8	0.9	2.51	40.72	16.58	0.6	0.7	1.6
27.8-20.9	5.0	1.51	46.19	13.85	2.4	4.5	7.6
20.9-14.5	17.5	1.51	48.55	11.52	7.9	16.6	22.1
14.5- 9.5	19.6	3.52	51.16	9.70	21.0	19.6	20.8
9.5- 7.0	17.2	3.62	53.24	8.59	18.9	17.8	16.2
7.0-	39.8	4.06	52.59	7.28	49.2	40.8	31.7
Total	100.0	3.29	51.30	9.14	100.0	100.0	100.0

Size Fraction	Final tailing Weight %	Pb	Assay %		Distribution %		
			Zn	Fe	Pb	Zn	Fe
Mesh							
+200	0.4	0.40	1.83	47.16	0.3	0.7	1.4
200-270	0.3	1.01	1.30	28.00	0.5	0.4	0.6
270-400	3.0	0.40	0.26	8.59	2.1	0.8	1.9
Micron							
+27.8	0.9	0.90	0.26	44.79	1.4	0.2	2.9
27.8-20.8	4.0	0.60	0.26	41.25	4.2	1.0	12.1
20.8-14.5	19.8	0.20	0.26	15.77	7.0	5.0	22.8
14.5- 9.5	23.1	0.30	0.26	10.21	12.1	5.9	17.3
9.5- 6.9	6.9	0.20	0.26	8.89	6.0	4.4	11.0