Table DR3: Apatite fission track single grain ages listed for each sample.

===================ZetaAge Program v. 4.8 (Brandon 8/13/02)===================

**OP1502** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Nov. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.270E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 8.33E+05 ( 5) 1.67E+05 ( 1) 6 3 5 454.2 58.2 10161.2

2 3.33E+05 ( 2) 1.67E+05 ( 1) 6 3 5 193.6 10.9 6895.4

3 8.70E+04 ( 4) 4.35E+05 ( 20) 46 8 3 21.5 5.2 62.2

4 2.50E+05 ( 4) 2.50E+05 ( 4) 16 5 4 103.7 19.4 538.5

5 1.67E+05 ( 1) 3.33E+05 ( 2) 6 6 8 55.4 0.9 933.6

6 6.25E+05 ( 5) 1.00E+06 ( 8) 8 18 12 65.8 16.8 222.8

7 3.13E+05 ( 5) 8.75E+05 ( 14) 16 16 8 38.0 10.5 108.9

8 2.12E+05 ( 11) 2.50E+05 ( 13) 52 5 2 88.1 35.8 210.7

9 5.00E+05 ( 6) 1.67E+05 ( 2) 12 3 4 292.1 55.8 2584.3

10 1.56E+04 ( 1) 4.69E+04 ( 3) 64 1 1 37.9 0.7 420.3

11 1.07E+06 ( 15) 2.86E+05 ( 4) 14 5 5 370.2 123.7 1448.2

12 2.67E+05 ( 4) 1.33E+05 ( 2) 15 2 3 198.7 29.9 1976.2

13 1.07E+05 ( 3) 3.21E+05 ( 9) 28 6 4 36.0 6.1 138.3

14 6.25E+05 ( 5) 2.50E+05 ( 2) 8 5 6 245.6 42.6 2287.6

15 3.33E+05 ( 13) 1.69E+06 ( 66) 39 31 8 20.8 10.4 37.6

16 6.36E+04 ( 7) 5.55E+05 ( 61) 110 10 3 12.2 4.6 26.2

17 2.62E+05 ( 11) 1.57E+06 ( 66) 42 29 7 17.6 8.3 33.2

18 8.06E+04 ( 5) 1.77E+05 ( 11) 62 3 2 48.2 12.9 146.8

19 2.97E+05 ( 27) 2.09E+05 ( 19) 91 4 2 146.6 79.1 277.0

20 1.18E+04 ( 1) 4.71E+04 ( 4) 85 1 1 28.8 0.5 259.0

21 1.00E+05 ( 4) 2.50E+05 ( 10) 40 5 3 42.7 9.6 143.5

22 4.17E+05 ( 10) 1.67E+05 ( 4) 24 3 3 250.5 74.9 1051.7

23 9.09E+04 ( 2) 1.36E+05 ( 3) 22 2 3 71.0 5.8 581.7

24 3.33E+05 ( 8) 2.08E+05 ( 5) 24 4 3 163.3 48.1 619.5

25 3.33E+05 ( 10) 2.33E+05 ( 7) 30 4 3 146.7 51.1 446.8

26 1.67E+05 ( 3) 2.22E+05 ( 4) 18 4 4 78.9 11.5 447.8

27 3.85E+05 ( 10) 5.38E+05 ( 14) 26 10 5 74.6 29.6 178.4

28 9.00E+05 ( 9) 3.00E+05 ( 3) 10 5 6 296.4 77.8 1589.1

29 1.11E+05 ( 2) 1.67E+05 ( 3) 18 3 3 71.0 5.8 581.7

30 2.00E+05 ( 4) 2.50E+05 ( 5) 20 5 4 83.8 16.6 377.6

31 8.33E+04 ( 3) 5.00E+05 ( 18) 36 9 4 18.2 3.3 59.5

32 1.56E+05 ( 5) 1.56E+05 ( 5) 32 3 2 103.7 24.0 439.3

33 1.00E+06 ( 6) 3.33E+05 ( 2) 6 6 8 292.1 55.8 2584.3

34 1.67E+05 ( 4) 2.50E+05 ( 6) 24 5 4 70.2 14.4 287.6

35 6.67E+04 ( 3) 3.78E+05 ( 17) 45 7 3 19.2 3.5 63.5

36 2.19E+05 ( 7) 4.69E+05 ( 15) 32 9 4 49.2 16.8 126.0

37 6.88E+05 ( 11) 1.25E+05 ( 2) 16 2 3 519.9 124.3 3890.6

38 2.54E+05 ( 15) 6.95E+05 ( 41) 59 13 4 38.4 19.6 70.3

39 1.25E+05 ( 3) 1.67E+05 ( 4) 24 3 3 78.9 11.5 447.8

40 1.56E+06 ( 14) 2.11E+06 ( 19) 9 38 17 76.8 35.6 160.2

41 5.00E+05 ( 10) 1.00E+05 ( 2) 20 2 2 475.0 110.4 3649.8

42 3.43E+05 ( 12) 1.03E+06 ( 36) 35 19 6 35.1 16.5 68.2

43 5.00E+05 ( 8) 5.63E+05 ( 9) 16 10 7 92.5 31.1 266.0

44 8.70E+04 ( 4) 2.17E+05 ( 10) 46 4 2 42.7 9.6 143.5

45 2.20E+05 ( 11) 2.00E+05 ( 10) 50 4 2 113.9 44.2 295.4

46 4.07E+05 ( 24) 2.37E+05 ( 14) 59 4 2 176.0 88.4 364.6

47 9.30E+04 ( 4) 3.02E+05 ( 13) 43 5 3 33.0 7.6 103.4

48 1.04E+05 ( 7) 6.42E+05 ( 43) 67 12 4 17.3 6.5 38.1

49 2.08E+05 ( 5) 5.83E+05 ( 14) 24 11 6 38.0 10.5 108.9

50 1.40E+05 ( 7) 1.44E+06 ( 72) 50 26 6 10.4 3.9 22.0

51 1.50E+05 ( 3) 1.00E+05 ( 2) 20 2 2 151.4 17.9 1648.5

52 3.33E+05 ( 2) 1.67E+05 ( 1) 6 3 5 193.6 10.9 6895.4

53 6.06E+04 ( 4) 2.42E+05 ( 16) 66 4 2 26.9 6.4 80.6

54 2.50E+05 ( 6) 2.92E+05 ( 7) 24 5 4 89.4 24.8 304.3

55 1.46E+05 ( 7) 2.92E+05 ( 14) 48 5 3 52.7 17.8 137.1

56 4.44E+05 ( 4) 3.33E+05 ( 3) 9 6 6 136.3 23.5 888.1

57 3.33E+05 ( 10) 3.67E+05 ( 11) 30 7 4 94.5 36.1 242.1

58 1.88E+05 ( 3) 1.25E+05 ( 2) 16 2 3 151.4 17.9 1648.5

59 2.50E+05 ( 4) 6.25E+04 ( 1) 16 1 2 368.6 41.2 9245.0

60 2.00E+05 ( 16) 4.38E+05 ( 35) 80 8 3 47.9 24.6 88.2

61 1.10E+06 ( 11) 1.70E+06 ( 17) 10 31 15 67.7 28.6 151.5

62 9.53E+05 ( 61) 1.61E+06 ( 103) 64 29 6 61.7 44.2 85.4

63 5.36E+04 ( 3) 1.96E+05 ( 11) 56 4 2 29.5 5.1 107.1

64 2.99E+04 ( 2) 3.88E+05 ( 26) 67 7 3 8.6 0.9 32.1

65 7.50E+04 ( 3) 1.00E+05 ( 4) 40 2 2 78.9 11.5 447.8

66 2.14E+05 ( 9) 1.67E+05 ( 7) 42 3 2 132.4 44.4 411.6

67 6.67E+05 ( 4) 8.33E+05 ( 5) 6 15 13 83.8 16.6 377.6

68 5.00E+04 ( 2) 1.25E+05 ( 5) 40 2 2 43.5 4.0 250.7

69 2.00E+05 ( 5) 1.20E+05 ( 3) 25 2 2 168.6 33.8 1035.0

70 1.67E+05 ( 5) 3.00E+05 ( 9) 30 5 4 58.6 15.3 190.3

71 2.50E+05 ( 2) 5.00E+05 ( 4) 8 9 9 54.0 4.7 355.0

72 1.67E+05 ( 3) 2.78E+05 ( 5) 18 5 4 63.7 9.7 314.8

73 4.50E+05 ( 9) 5.00E+04 ( 1) 20 1 1 785.7 129.1 12902.5

74 6.25E+05 ( 10) 1.69E+06 ( 27) 16 31 12 39.0 16.7 82.1

75 3.44E+06 ( 155) 2.82E+06 ( 127) 45 51 9 126.3 99.6 160.0

76 9.38E+04 ( 3) 1.25E+05 ( 4) 32 2 2 78.9 11.5 447.8

77 3.50E+05 ( 7) 2.50E+05 ( 5) 20 5 4 143.5 39.9 560.2

78 2.50E+05 ( 4) 2.50E+05 ( 4) 16 5 4 103.7 19.4 538.5

79 8.33E+05 ( 10) 1.67E+05 ( 2) 12 3 4 475.0 110.4 3649.8

80 3.57E+05 ( 5) 2.86E+05 ( 4) 14 5 5 128.4 28.1 627.4

81 2.00E+06 ( 40) 1.10E+07 ( 219) 20 199 27 19.1 13.3 26.8

82 4.17E+05 ( 10) 2.92E+05 ( 7) 24 5 4 146.7 51.1 446.8

83 5.00E+05 ( 3) 1.67E+05 ( 1) 6 3 5 281.7 25.1 8176.7

84 1.07E+05 ( 3) 4.64E+05 ( 13) 28 8 5 25.1 4.4 87.3

85 2.31E+05 ( 9) 5.38E+05 ( 21) 39 10 4 45.1 18.0 101.3

86 4.10E+06 ( 41) 1.38E+07 ( 138) 10 250 43 31.1 21.3 44.2

87 7.00E+05 ( 21) 2.67E+05 ( 8) 30 5 3 265.6 115.7 679.9

88 4.33E+05 ( 13) 4.33E+05 ( 13) 30 8 4 103.7 44.5 240.5

89 8.33E+05 ( 10) 1.67E+05 ( 2) 12 3 4 475.0 110.4 3649.8

90 9.17E+05 ( 11) 1.67E+05 ( 2) 12 3 4 519.9 124.3 3890.6

91 0.00E+00 ( 0) 1.33E+05 ( 4) 30 2 2 19.8 0.7 156.6

92 9.38E+05 ( 15) 2.25E+06 ( 36) 16 41 14 43.7 22.1 81.2

93 1.36E+05 ( 6) 1.82E+05 ( 8) 44 3 2 78.5 22.4 252.9

94 8.33E+04 ( 2) 4.17E+04 ( 1) 24 1 1 193.6 10.9 6895.4

**OP1510** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Oct. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.250E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 5.00E+05 ( 9) 4.44E+05 ( 8) 18 8 6 116.1 40.0 340.6

2 5.33E+05 ( 8) 4.67E+05 ( 7) 15 8 6 117.8 37.7 375.3

3 5.56E+05 ( 5) 8.89E+05 ( 8) 9 16 11 65.6 16.8 222.3

4 2.00E+06 ( 48) 4.21E+06 ( 101) 24 77 15 49.5 34.3 70.3

5 3.81E+05 ( 8) 3.81E+05 ( 8) 21 7 5 103.5 34.0 311.4

6 6.00E+05 ( 12) 9.50E+05 ( 19) 20 17 8 65.9 29.1 141.5

7 3.89E+05 ( 14) 5.28E+05 ( 19) 36 10 4 76.6 35.5 159.8

8 9.17E+05 ( 11) 2.92E+06 ( 35) 12 53 18 33.0 15.0 65.8

9 1.05E+06 ( 21) 2.75E+06 ( 55) 20 50 14 39.9 22.8 66.7

10 3.00E+05 ( 3) 2.00E+05 ( 2) 10 4 5 151.1 17.9 1645.0

11 5.33E+05 ( 8) 1.40E+06 ( 21) 15 25 11 40.1 15.2 92.8

12 2.00E+05 ( 14) 4.43E+05 ( 31) 70 8 3 47.2 23.1 90.7

13 1.15E+06 ( 23) 5.15E+06 ( 103) 20 94 19 23.4 14.1 36.8

14 2.50E+05 ( 6) 1.00E+06 ( 24) 24 18 7 26.6 8.7 65.2

15 4.17E+05 ( 20) 1.48E+06 ( 71) 48 27 6 29.5 16.9 48.7

16 3.57E+05 ( 10) 6.07E+05 ( 17) 28 11 5 61.5 25.0 140.5

17 1.25E+05 ( 3) 1.25E+05 ( 3) 24 2 2 103.5 14.0 735.5

18 4.17E+05 ( 10) 8.75E+05 ( 21) 24 16 7 49.9 20.8 109.4

19 1.56E+05 ( 5) 5.63E+05 ( 18) 32 10 5 29.6 8.4 80.5

20 3.00E+05 ( 6) 8.50E+05 ( 17) 20 15 7 37.4 11.9 97.2

21 7.69E+04 ( 1) 4.62E+05 ( 6) 13 8 7 19.4 0.4 141.8

22 4.29E+05 ( 18) 6.67E+05 ( 28) 42 12 5 66.9 34.8 124.5

23 5.33E+05 ( 8) 1.80E+06 ( 27) 15 33 13 31.3 12.1 69.6

24 2.92E+05 ( 7) 7.50E+05 ( 18) 24 14 6 41.0 14.3 101.1

25 1.44E+06 ( 23) 4.13E+06 ( 66) 16 75 19 36.4 21.5 59.0

26 4.44E+05 ( 4) 3.33E+05 ( 3) 9 6 6 135.9 23.5 886.0

27 6.67E+05 ( 8) 1.17E+06 ( 14) 12 21 11 59.9 21.6 150.6

28 1.88E+05 ( 3) 1.06E+06 ( 17) 16 19 9 19.2 3.5 63.4

29 8.75E+05 ( 7) 1.63E+06 ( 13) 8 30 16 56.5 18.9 149.8

30 9.44E+05 ( 17) 3.00E+06 ( 54) 18 55 15 33.0 17.8 57.3

31 1.22E+06 ( 22) 2.72E+06 ( 49) 18 49 14 46.9 26.9 78.5

32 1.11E+05 ( 2) 5.56E+04 ( 1) 18 1 2 193.1 10.9 6885.2

33 2.14E+05 ( 6) 5.00E+05 ( 14) 28 9 5 45.2 14.1 122.7

34 1.25E+05 ( 1) 1.25E+05 ( 1) 8 2 4 103.5 1.3 5286.0

35 5.31E+05 ( 17) 7.50E+05 ( 24) 32 14 6 73.7 37.1 142.0

36 1.67E+05 ( 2) 1.67E+05 ( 2) 12 3 4 103.5 7.6 1299.3

37 8.75E+05 ( 35) 8.25E+05 ( 33) 40 15 5 109.7 66.4 181.3

38 2.33E+05 ( 7) 5.33E+05 ( 16) 30 10 5 46.1 15.9 116.3

39 2.00E+05 ( 12) 1.50E+05 ( 9) 60 3 2 137.0 53.5 363.5

40 2.22E+05 ( 4) 3.33E+05 ( 6) 18 6 5 70.1 14.4 286.9

41 5.42E+05 ( 13) 1.08E+06 ( 26) 24 20 8 52.3 24.5 104.5

42 1.33E+05 ( 2) 7.33E+05 ( 11) 15 13 8 20.1 2.0 86.4

43 5.56E+05 ( 5) 1.78E+06 ( 16) 9 32 16 33.2 9.3 92.5

44 4.00E+05 ( 4) 1.20E+06 ( 12) 10 22 12 35.6 8.2 113.8

45 4.29E+05 ( 9) 8.10E+05 ( 17) 21 15 7 55.5 21.6 129.8

46 2.00E+05 ( 6) 2.67E+05 ( 8) 30 5 3 78.3 22.3 252.3

47 1.04E+05 ( 5) 6.46E+05 ( 31) 48 12 4 17.3 5.1 43.5

48 6.88E+05 ( 11) 1.31E+06 ( 21) 16 24 10 54.8 23.7 117.6

49 2.00E+05 ( 6) 1.00E+05 ( 3) 30 2 2 200.3 44.4 1175.7

50 6.11E+05 ( 11) 7.78E+05 ( 14) 18 14 7 81.7 33.6 191.6

51 6.67E+05 ( 10) 6.67E+05 ( 10) 15 12 7 103.5 38.8 273.5

52 5.00E+05 ( 30) 1.48E+06 ( 89) 60 27 6 35.2 22.4 53.6

53 5.00E+05 ( 6) 6.67E+05 ( 8) 12 12 8 78.3 22.3 252.3

54 5.33E+05 ( 8) 6.67E+05 ( 10) 15 12 7 83.3 28.5 230.8

55 1.33E+05 ( 4) 6.33E+05 ( 19) 30 12 5 22.6 5.4 65.8

56 7.33E+05 ( 11) 2.13E+06 ( 32) 15 39 14 36.1 16.3 72.7

57 2.86E+04 ( 2) 3.00E+05 ( 21) 70 5 2 10.6 1.1 40.5

58 2.86E+05 ( 4) 7.14E+05 ( 10) 14 13 8 42.6 9.5 143.2

59 3.25E+05 ( 13) 6.00E+05 ( 24) 40 11 4 56.6 26.4 114.5

60 8.33E+05 ( 15) 2.44E+06 ( 44) 18 44 13 35.7 18.3 64.9

61 2.67E+05 ( 4) 6.67E+05 ( 10) 15 12 7 42.6 9.5 143.2

62 5.00E+05 ( 6) 1.58E+06 ( 19) 12 29 13 33.5 10.8 85.3

63 1.68E+06 ( 67) 3.45E+06 ( 138) 40 63 11 50.5 37.1 68.0

64 4.58E+05 ( 11) 3.75E+05 ( 9) 24 7 4 125.9 47.8 339.2

65 2.22E+05 ( 4) 7.22E+05 ( 13) 18 13 7 32.9 7.6 103.1

66 1.33E+05 ( 4) 5.67E+05 ( 17) 30 10 5 25.2 6.0 74.9

67 1.67E+05 ( 6) 5.00E+05 ( 18) 36 9 4 35.3 11.3 90.9

68 1.33E+05 ( 2) 5.33E+05 ( 8) 15 10 7 27.5 2.7 129.4

69 6.67E+05 ( 16) 4.17E+05 ( 10) 24 8 5 163.8 70.8 399.1

70 1.39E+05 ( 5) 1.39E+05 ( 5) 36 3 2 103.5 24.0 438.2

71 3.33E+05 ( 18) 4.70E+06 ( 254) 54 86 11 7.5 4.3 11.9

72 1.04E+06 ( 52) 1.58E+06 ( 79) 50 29 6 68.4 47.2 98.1

73 3.33E+04 ( 2) 1.17E+05 ( 7) 60 2 2 31.3 3.0 154.7

74 3.33E+05 ( 5) 4.67E+05 ( 7) 15 8 6 74.7 18.6 267.2

75 3.33E+04 ( 1) 2.00E+05 ( 6) 30 4 3 19.4 0.4 141.8

76 1.00E+06 ( 10) 1.50E+06 ( 15) 10 27 14 69.5 27.9 163.5

77 1.07E+06 ( 30) 2.11E+06 ( 59) 28 38 10 53.0 32.9 83.2

78 1.85E+05 ( 5) 5.93E+05 ( 16) 27 11 5 33.2 9.3 92.5

79 3.14E+05 ( 11) 3.14E+05 ( 11) 35 6 3 103.5 40.9 260.2

80 1.07E+05 ( 6) 2.86E+05 ( 16) 56 5 3 39.7 12.5 104.5

81 4.44E+05 ( 8) 6.11E+05 ( 11) 18 11 7 75.8 26.4 203.9

82 4.69E+05 ( 15) 1.09E+06 ( 35) 32 20 7 44.8 22.6 83.5

**OP1513** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Oct. 2016)

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 3.57E+04 ( 1) 5.36E+05 ( 15) 28 10 5 7.9 0.2 45.0

2 5.00E+04 ( 1) 3.00E+05 ( 6) 20 5 4 19.4 0.4 141.6

3 8.57E+04 ( 3) 1.29E+06 ( 45) 35 23 7 7.3 1.4 21.6

4 0.00E+00 ( 0) 1.25E+05 ( 5) 40 2 2 15.5 0.5 112.8

5 1.67E+05 ( 1) 1.50E+06 ( 9) 6 27 18 13.0 0.3 83.1

6 2.00E+05 ( 4) 1.65E+06 ( 33) 20 30 10 13.1 3.2 35.4

7 1.21E+05 ( 4) 3.61E+06 ( 119) 33 66 12 3.6 0.9 9.2

8 4.88E+04 ( 2) 4.15E+05 ( 17) 41 8 4 13.1 1.4 51.5

9 8.62E+04 ( 5) 1.78E+06 ( 103) 58 32 6 5.2 1.6 12.2

10 5.00E+05 ( 6) 6.58E+06 ( 79) 12 120 27 8.1 2.8 18.0

11 3.51E+04 ( 2) 2.28E+05 ( 13) 57 4 2 17.0 1.8 70.5

12 5.00E+05 ( 4) 1.98E+07 ( 158) 8 360 58 2.7 0.7 6.9

13 7.32E+04 ( 3) 4.63E+05 ( 19) 41 8 4 17.2 3.1 55.7

14 2.78E+04 ( 1) 3.17E+06 ( 114) 36 58 11 1.0 0.0 5.2

15 6.67E+04 ( 2) 9.33E+05 ( 28) 30 17 6 8.0 0.9 29.5

16 1.05E+05 ( 4) 1.82E+06 ( 69) 38 33 8 6.3 1.6 16.2

17 7.14E+04 ( 2) 8.57E+05 ( 24) 28 16 6 9.3 1.0 34.9

18 1.25E+05 ( 3) 1.38E+06 ( 33) 24 25 9 9.9 1.9 30.1

19 9.76E+04 ( 4) 2.17E+06 ( 89) 41 40 8 4.9 1.2 12.4

20 4.00E+04 ( 2) 7.60E+05 ( 38) 50 14 4 5.9 0.6 21.2

21 7.69E+04 ( 6) 9.87E+05 ( 77) 78 18 4 8.3 2.9 18.5

22 4.88E+04 ( 2) 4.63E+05 ( 19) 41 8 4 11.7 1.2 45.3

23 8.33E+04 ( 3) 1.42E+06 ( 51) 36 26 7 6.4 1.2 18.9

24 6.38E+04 ( 3) 1.87E+06 ( 88) 47 34 7 3.7 0.7 10.7

**OP1517** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Oct. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.220E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 0.00E+00 ( 0) 9.68E+04 ( 6) 62 2 1 12.7 0.4 87.7

2 2.78E+04 ( 1) 1.03E+06 ( 37) 36 19 6 3.2 0.1 16.6

3 5.56E+04 ( 2) 5.56E+05 ( 20) 36 10 4 11.1 1.2 42.7

4 1.13E+05 ( 8) 8.87E+05 ( 63) 71 16 4 13.4 5.5 27.6

5 6.25E+04 ( 1) 1.31E+06 ( 21) 16 24 10 5.6 0.1 30.7

6 5.33E+04 ( 4) 1.53E+06 ( 115) 75 28 5 3.8 1.0 9.5

7 6.06E+04 ( 2) 6.36E+05 ( 21) 33 12 5 10.6 1.1 40.4

8 1.79E+04 ( 1) 9.29E+05 ( 52) 56 17 5 2.3 0.0 11.6

9 2.71E+05 ( 13) 6.67E+06 ( 320) 48 122 14 4.3 2.2 7.3

10 7.14E+04 ( 3) 2.43E+06 ( 102) 42 44 9 3.2 0.6 9.2

11 1.00E+05 ( 6) 8.67E+05 ( 52) 60 16 4 12.3 4.2 27.9

12 0.00E+00 ( 0) 9.38E+05 ( 15) 16 17 9 4.9 0.2 28.9

13 9.52E+03 ( 1) 1.52E+05 ( 16) 105 3 1 7.4 0.2 41.7

14 0.00E+00 ( 0) 1.27E+06 ( 38) 30 23 7 1.9 0.1 10.6

15 1.18E+04 ( 1) 2.24E+05 ( 19) 85 4 2 6.2 0.1 34.3

16 3.45E+04 ( 2) 5.52E+05 ( 32) 58 10 4 7.0 0.8 25.4

17 0.00E+00 ( 0) 2.50E+04 ( 2) 80 0 1 42.9 1.3 531.1

**OP1521** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Nov. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.200E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 8.33E+04 ( 2) 1.71E+06 ( 41) 24 31 10 5.4 0.6 19.5

2 6.00E+05 ( 36) 1.07E+06 ( 64) 60 20 5 58.2 37.5 88.6

3 4.17E+04 ( 4) 1.04E+05 ( 10) 96 2 1 42.3 9.5 142.3

4 1.00E+05 ( 6) 1.60E+06 ( 96) 60 29 6 6.6 2.3 14.6

5 5.67E+05 ( 17) 2.97E+06 ( 89) 30 54 12 19.9 11.0 33.5

6 4.12E+05 ( 7) 1.65E+06 ( 28) 17 30 11 26.3 9.5 60.5

7 0.00E+00 ( 0) 1.73E+05 ( 9) 52 3 2 8.3 0.3 52.3

8 6.00E+04 ( 3) 2.40E+05 ( 12) 50 4 2 26.9 4.7 95.4

9 5.00E+05 ( 6) 3.92E+06 ( 47) 12 72 21 13.5 4.6 31.0

10 5.00E+05 ( 8) 3.00E+06 ( 48) 16 55 16 17.6 7.1 36.8

11 6.25E+04 ( 1) 2.25E+06 ( 36) 16 41 14 3.3 0.1 17.1

12 4.38E+05 ( 7) 9.38E+05 ( 15) 16 17 9 48.8 16.7 124.9

13 4.00E+05 ( 10) 2.60E+06 ( 65) 25 48 12 16.2 7.3 31.2

14 2.92E+05 ( 19) 1.97E+06 ( 128) 65 36 6 15.5 9.0 25.0

15 1.46E+06 ( 35) 3.50E+06 ( 84) 24 64 14 43.2 28.2 64.6

16 7.50E+05 ( 6) 1.88E+06 ( 15) 8 34 17 42.0 13.2 112.2

17 5.33E+05 ( 16) 2.43E+06 ( 73) 30 45 10 22.9 12.3 39.3

18 4.58E+05 ( 22) 3.38E+06 ( 162) 48 62 10 14.2 8.6 22.0

19 0.00E+00 ( 0) 1.73E+06 ( 109) 63 32 6 0.7 0.0 3.6

20 2.94E+04 ( 2) 7.65E+05 ( 52) 68 14 4 4.3 0.5 15.1

21 3.57E+04 ( 1) 1.07E+05 ( 3) 28 2 2 37.5 0.7 416.8

22 1.79E+05 ( 5) 1.93E+06 ( 54) 28 35 10 9.9 3.0 23.8

23 6.67E+04 ( 2) 1.23E+06 ( 37) 30 23 7 6.0 0.7 21.7

24 6.67E+04 ( 4) 1.23E+06 ( 74) 60 23 5 5.8 1.5 15.0

25 3.33E+05 ( 8) 4.17E+05 ( 10) 24 8 5 82.8 28.4 229.4

26 2.40E+05 ( 12) 1.76E+06 ( 88) 50 32 7 14.3 7.0 25.9

27 5.56E+04 ( 1) 6.11E+05 ( 11) 18 11 7 10.6 0.2 64.6

28 1.17E+06 ( 7) 1.67E+05 ( 1) 6 3 5 617.1 92.5 11630.7

29 2.00E+06 ( 20) 7.00E+05 ( 7) 10 13 9 285.5 119.2 780.4

30 2.50E+05 ( 4) 6.88E+05 ( 11) 16 13 7 38.5 8.7 126.1

31 6.00E+05 ( 18) 2.67E+05 ( 8) 30 5 3 226.7 95.7 592.3

32 5.00E+04 ( 3) 1.13E+06 ( 68) 60 21 5 4.8 0.9 13.9

33 1.29E+06 ( 18) 3.64E+06 ( 51) 14 67 19 36.7 20.1 63.5

34 4.44E+05 ( 8) 2.89E+06 ( 52) 18 53 15 16.2 6.5 33.8

35 2.34E+05 ( 11) 9.79E+05 ( 46) 47 18 5 25.0 11.6 48.5

36 2.00E+05 ( 4) 1.25E+06 ( 25) 20 23 9 17.1 4.2 47.9

37 1.43E+05 ( 6) 4.05E+05 ( 17) 42 7 4 37.1 11.8 96.6

38 2.50E+05 ( 3) 2.42E+06 ( 29) 12 44 16 11.2 2.1 34.5

39 9.52E+04 ( 2) 8.57E+05 ( 18) 21 16 7 12.3 1.3 48.0

40 4.17E+04 ( 1) 8.33E+04 ( 2) 24 2 2 54.9 0.9 926.3

41 2.50E+05 ( 4) 3.69E+06 ( 59) 16 67 18 7.3 1.9 19.0

42 3.75E+05 ( 3) 5.00E+05 ( 4) 8 9 9 78.3 11.4 444.2

43 4.00E+05 ( 6) 1.80E+06 ( 27) 15 33 13 23.5 7.8 56.8

44 4.76E+04 ( 5) 1.90E+05 ( 20) 105 3 2 26.5 7.6 70.8

45 4.38E+05 ( 7) 2.44E+06 ( 39) 16 45 14 18.9 7.0 42.0

46 6.67E+05 ( 4) 1.67E+05 ( 1) 6 3 5 365.5 40.9 9203.3

47 2.92E+05 ( 7) 4.17E+04 ( 1) 24 1 1 617.1 92.5 11630.7

48 0.00E+00 ( 0) 2.89E+05 ( 11) 38 5 3 6.7 0.2 41.2

49 1.82E+05 ( 6) 2.82E+06 ( 93) 33 52 11 6.9 2.4 15.1

50 1.25E+05 ( 2) 8.13E+05 ( 13) 16 15 8 17.0 1.7 70.1

51 1.67E+05 ( 1) 3.33E+05 ( 2) 6 6 8 54.9 0.9 926.3

52 3.00E+05 ( 3) 4.00E+05 ( 4) 10 7 7 78.3 11.4 444.2

53 6.67E+05 ( 6) 2.56E+06 ( 23) 9 47 19 27.5 9.0 68.0

54 3.75E+05 ( 9) 1.04E+06 ( 25) 24 19 8 37.7 15.3 82.2

55 1.43E+04 ( 1) 1.57E+05 ( 11) 70 3 2 10.6 0.2 64.6

56 0.00E+00 ( 0) 2.33E+05 ( 17) 73 4 2 4.3 0.2 25.1

57 1.40E+05 ( 7) 5.20E+05 ( 26) 50 10 4 28.3 10.2 65.7

58 5.56E+04 ( 1) 3.33E+05 ( 6) 18 6 5 19.3 0.4 140.9

59 2.16E+05 ( 11) 3.33E+05 ( 17) 51 6 3 67.1 28.3 150.2

60 1.00E+05 ( 2) 9.50E+05 ( 19) 20 17 8 11.7 1.2 45.1

61 3.75E+05 ( 6) 5.00E+05 ( 8) 16 9 6 77.8 22.2 250.8

62 8.33E+04 ( 1) 8.33E+04 ( 1) 12 2 2 102.9 1.3 5264.1

63 1.25E+06 ( 15) 5.83E+05 ( 7) 12 11 8 215.8 84.7 614.3

64 7.32E+04 ( 3) 1.12E+06 ( 46) 41 21 6 7.1 1.3 21.0

65 2.88E+05 ( 19) 5.14E+06 ( 339) 66 94 11 5.9 3.5 9.2

66 1.43E+05 ( 1) 2.14E+06 ( 15) 7 39 20 7.8 0.2 44.8

67 6.25E+04 ( 1) 5.63E+05 ( 9) 16 10 7 13.0 0.3 82.7

68 1.50E+05 ( 3) 2.20E+06 ( 44) 20 40 12 7.4 1.4 22.0

69 4.17E+05 ( 10) 2.17E+06 ( 52) 24 40 11 20.2 9.0 39.6

70 1.39E+05 ( 5) 1.11E+06 ( 40) 36 20 6 13.3 4.0 32.8

71 9.17E+05 ( 11) 2.50E+05 ( 3) 12 5 5 356.3 99.6 1835.1

72 3.00E+05 ( 6) 2.55E+06 ( 51) 20 47 13 12.5 4.3 28.4

73 2.40E+05 ( 12) 2.48E+06 ( 124) 50 45 8 10.2 5.0 18.2

74 6.67E+05 ( 6) 3.33E+05 ( 3) 9 6 7 199.1 44.1 1169.2

75 7.50E+05 ( 12) 9.94E+06 ( 159) 16 182 29 7.9 4.0 14.1

76 1.85E+05 ( 5) 9.26E+05 ( 25) 27 17 7 21.2 6.2 55.0

77 1.00E+05 ( 5) 9.80E+05 ( 49) 50 18 5 10.9 3.3 26.4

78 2.50E+05 ( 2) 6.50E+06 ( 52) 8 119 33 4.3 0.5 15.1

79 5.56E+04 ( 1) 6.67E+05 ( 12) 18 12 7 9.8 0.2 58.2

80 1.00E+06 ( 6) 3.00E+06 ( 18) 6 55 26 35.1 11.2 90.3

81 0.00E+00 ( 0) 4.07E+05 ( 11) 27 7 4 6.7 0.2 41.2

82 4.44E+05 ( 8) 9.44E+05 ( 17) 18 17 8 49.1 18.2 118.3

83 8.33E+04 ( 1) 1.25E+06 ( 15) 12 23 12 7.8 0.2 44.8

84 1.65E+05 ( 13) 2.30E+06 ( 182) 79 42 6 7.5 3.9 13.0

85 3.33E+05 ( 6) 2.22E+05 ( 4) 18 4 4 151.8 36.8 709.1

86 1.25E+05 ( 3) 1.21E+06 ( 29) 24 22 8 11.2 2.1 34.5

87 6.00E+04 ( 3) 1.20E+05 ( 6) 50 2 2 52.9 8.4 238.4

88 2.80E+05 ( 14) 3.04E+06 ( 152) 50 56 9 9.6 5.1 16.5

89 1.88E+05 ( 3) 4.38E+05 ( 7) 16 8 6 45.6 7.4 191.9

90 8.33E+04 ( 2) 4.58E+05 ( 11) 24 8 5 20.0 2.0 85.9

91 2.22E+05 ( 2) 5.33E+06 ( 48) 9 98 28 4.6 0.5 16.5

92 1.37E+04 ( 1) 5.07E+05 ( 37) 73 9 3 3.2 0.1 16.6

93 1.50E+05 ( 6) 1.93E+06 ( 77) 40 35 8 8.3 2.9 18.4

94 4.44E+05 ( 12) 1.78E+06 ( 48) 27 33 9 26.1 12.5 49.4

95 4.17E+04 ( 1) 8.33E+04 ( 2) 24 2 2 54.9 0.9 926.3

96 1.11E+05 ( 4) 3.06E+05 ( 11) 36 6 3 38.5 8.7 126.1

97 1.25E+05 ( 1) 5.00E+05 ( 4) 8 9 9 28.5 0.5 256.9

98 2.67E+05 ( 4) 1.27E+06 ( 19) 15 23 11 22.5 5.4 65.4

99 9.17E+05 ( 22) 6.13E+06 ( 147) 24 112 19 15.6 9.4 24.4

100 3.08E+05 ( 12) 2.92E+06 ( 114) 39 53 10 11.0 5.5 19.8

101 1.50E+05 ( 9) 1.75E+06 ( 105) 60 32 6 9.0 4.0 17.5

102 6.25E+04 ( 1) 1.13E+06 ( 18) 16 21 10 6.5 0.1 36.4

103 2.50E+05 ( 10) 3.35E+06 ( 134) 40 61 11 7.9 3.6 14.7

**OP1522** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Nov. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.180E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 5.00E+05 ( 12) 2.88E+06 ( 69) 24 53 13 18.2 8.9 33.4

2 5.00E+05 ( 12) 1.63E+06 ( 39) 24 30 10 32.0 15.1 61.8

3 3.50E+05 ( 7) 3.00E+05 ( 6) 20 6 4 119.1 34.6 420.8

4 7.14E+04 ( 5) 1.34E+06 ( 94) 70 25 5 5.7 1.7 13.3

5 6.67E+04 ( 3) 2.22E+04 ( 1) 45 0 1 278.7 24.9 8126.1

6 4.76E+04 ( 2) 2.38E+04 ( 1) 42 0 1 191.5 10.8 6849.2

7 1.55E+06 ( 62) 3.40E+06 ( 136) 40 62 11 47.1 34.2 63.9

8 5.94E+05 ( 19) 1.50E+06 ( 48) 32 28 8 41.0 22.7 70.6

9 3.70E+04 ( 1) 3.70E+04 ( 1) 27 1 1 102.6 1.3 5255.3

10 4.05E+05 ( 17) 3.10E+05 ( 13) 42 6 3 133.5 61.5 296.1

11 3.33E+04 ( 1) 1.67E+05 ( 5) 30 3 3 22.9 0.4 182.3

12 5.00E+05 ( 27) 2.30E+06 ( 124) 54 42 8 22.6 14.2 34.3

13 2.50E+04 ( 1) 2.50E+04 ( 1) 40 0 1 102.6 1.3 5255.3

14 6.00E+05 ( 12) 1.65E+06 ( 33) 20 30 10 37.8 17.7 74.4

15 1.18E+06 ( 71) 3.45E+06 ( 207) 60 63 9 35.5 27.1 46.7

16 1.00E+06 ( 35) 2.54E+06 ( 89) 35 47 10 40.7 26.6 60.6

17 1.85E+04 ( 1) 5.56E+04 ( 3) 54 1 1 37.5 0.7 415.8

18 1.48E+05 ( 8) 5.74E+05 ( 31) 54 11 4 27.0 10.6 59.1

19 2.67E+05 ( 8) 2.33E+05 ( 7) 30 4 3 116.8 37.3 372.2

20 1.39E+06 ( 39) 2.29E+06 ( 64) 28 42 11 62.8 41.0 94.7

**OP1527** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Nov. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.170E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 1.19E+05 ( 5) 1.19E+06 ( 50) 42 22 6 10.6 3.2 25.7

2 1.14E+05 ( 4) 1.60E+06 ( 56) 35 29 8 7.7 1.9 20.0

3 2.50E+05 ( 5) 3.00E+06 ( 60) 20 55 14 8.9 2.7 21.2

4 1.22E+05 ( 11) 8.22E+05 ( 74) 90 15 4 15.5 7.3 29.1

5 5.00E+04 ( 3) 5.00E+05 ( 30) 60 9 3 10.8 2.0 33.2

6 1.29E+05 ( 9) 1.50E+06 ( 105) 70 28 5 9.0 3.9 17.5

7 7.20E+05 ( 36) 1.76E+06 ( 88) 50 32 7 42.2 27.8 62.7

8 1.67E+05 ( 8) 1.83E+06 ( 88) 48 34 7 9.6 3.9 19.3

9 1.79E+05 ( 5) 1.96E+06 ( 55) 28 36 10 9.7 2.9 23.2

10 4.38E+05 ( 14) 1.13E+06 ( 36) 32 21 7 40.3 20.0 75.9

11 2.14E+05 ( 6) 8.21E+05 ( 23) 28 15 6 27.4 9.0 67.8

12 5.00E+05 ( 6) 1.58E+06 ( 19) 12 29 13 33.1 10.7 84.5

13 2.00E+05 ( 4) 3.35E+06 ( 67) 20 62 15 6.4 1.6 16.5

14 2.50E+05 ( 8) 2.63E+06 ( 84) 32 48 11 10.0 4.1 20.3

15 7.50E+04 ( 3) 2.13E+06 ( 85) 40 39 9 3.8 0.7 11.0

16 3.57E+04 ( 1) 4.29E+05 ( 12) 28 8 4 9.7 0.2 58.0

17 5.56E+04 ( 2) 1.33E+06 ( 48) 36 24 7 4.6 0.5 16.4

18 8.57E+04 ( 3) 3.49E+06 ( 122) 35 64 12 2.7 0.5 7.6

19 4.69E+05 ( 15) 2.56E+06 ( 82) 32 47 10 19.0 10.1 33.0

20 1.88E+05 ( 15) 1.08E+06 ( 86) 80 20 4 18.2 9.7 31.4

21 2.33E+05 ( 7) 4.47E+06 ( 134) 30 82 14 5.5 2.1 11.4

22 8.33E+04 ( 2) 2.42E+06 ( 58) 24 44 12 3.8 0.4 13.5

23 2.00E+05 ( 4) 3.50E+05 ( 7) 20 6 5 59.7 12.7 228.2

24 3.50E+05 ( 7) 2.00E+06 ( 40) 20 37 12 18.4 6.8 40.7

25 2.50E+05 ( 4) 2.31E+06 ( 37) 16 42 14 11.6 2.9 31.0

26 1.67E+05 ( 2) 8.33E+04 ( 1) 12 2 2 191.3 10.7 6844.0

27 1.25E+05 ( 5) 1.58E+06 ( 63) 40 29 7 8.4 2.6 20.1

28 1.57E+05 ( 11) 1.61E+06 ( 113) 70 30 6 10.2 4.9 18.7

29 1.20E+05 ( 3) 3.00E+06 ( 75) 25 55 13 4.3 0.8 12.5

30 4.00E+05 ( 24) 2.60E+06 ( 156) 60 48 8 16.0 9.9 24.5

31 3.75E+04 ( 3) 1.09E+06 ( 87) 80 20 4 3.7 0.7 10.8

32 1.00E+05 ( 1) 1.00E+05 ( 1) 10 2 3 102.5 1.3 5250.9

33 6.67E+05 ( 12) 5.56E+04 ( 1) 18 1 2 1012.1 180.8 14321.3

34 3.33E+05 ( 8) 2.13E+06 ( 51) 24 39 11 16.5 6.6 34.3

35 0.00E+00 ( 0) 7.14E+04 ( 1) 14 1 2 102.5 2.6 3130.2

36 2.14E+05 ( 6) 2.68E+06 ( 75) 28 49 11 8.5 2.9 18.8

37 8.33E+04 ( 2) 4.17E+04 ( 1) 24 1 1 191.3 10.7 6844.0

38 2.22E+05 ( 2) 1.22E+06 ( 11) 9 22 13 19.9 2.0 85.5

39 8.33E+04 ( 2) 1.29E+06 ( 31) 24 24 8 7.1 0.8 26.2

40 4.00E+05 ( 8) 5.80E+06 ( 116) 20 106 20 7.3 3.0 14.5

41 4.67E+05 ( 7) 8.27E+06 ( 124) 15 152 28 6.0 2.3 12.4

42 1.00E+05 ( 1) 1.40E+06 ( 14) 10 26 14 8.4 0.2 48.3

43 6.80E+05 ( 34) 3.72E+06 ( 186) 50 68 10 18.9 12.7 27.3

44 2.50E+05 ( 3) 3.67E+06 ( 44) 12 67 20 7.4 1.4 22.0

45 4.17E+05 ( 5) 6.58E+06 ( 79) 12 121 27 6.7 2.1 15.9

46 1.07E+05 ( 3) 1.39E+06 ( 39) 28 26 8 8.3 1.6 25.0

47 6.67E+05 ( 20) 8.27E+06 ( 248) 30 152 20 8.4 5.0 13.2

48 6.00E+05 ( 6) 1.05E+07 ( 105) 10 193 38 6.1 2.1 13.3

49 3.33E+05 ( 2) 1.50E+06 ( 9) 6 28 18 24.3 2.4 110.0

50 8.33E+04 ( 2) 4.17E+04 ( 1) 24 1 1 191.3 10.7 6844.0

51 1.00E+05 ( 2) 2.35E+06 ( 47) 20 43 13 4.7 0.5 16.8

52 5.00E+05 ( 3) 5.00E+05 ( 3) 6 9 10 102.5 13.8 728.8

53 2.50E+05 ( 5) 1.15E+06 ( 23) 20 21 9 23.0 6.7 60.2

54 2.50E+05 ( 2) 3.25E+06 ( 26) 8 60 23 8.5 0.9 31.7

55 1.67E+05 ( 3) 1.72E+06 ( 31) 18 32 11 10.5 2.0 32.0

56 3.33E+05 ( 3) 1.11E+05 ( 1) 9 2 3 278.4 24.8 8120.4

57 1.33E+05 ( 2) 1.40E+06 ( 21) 15 26 11 10.5 1.1 40.2

58 1.27E+06 ( 19) 2.00E+06 ( 30) 15 37 13 65.3 34.7 119.1

59 0.00E+00 ( 0) 3.00E+05 ( 6) 20 6 4 12.6 0.4 87.2

60 5.56E+04 ( 2) 1.72E+06 ( 62) 36 32 8 3.6 0.4 12.6

61 1.83E+05 ( 11) 2.77E+06 ( 166) 60 51 8 6.9 3.3 12.6

62 2.59E+05 ( 7) 2.37E+06 ( 64) 27 44 11 11.5 4.4 24.6

63 3.78E+05 ( 17) 1.96E+06 ( 88) 45 36 8 20.1 11.1 33.7

64 3.33E+05 ( 2) 2.00E+06 ( 12) 6 37 21 18.3 1.9 76.9

65 5.00E+05 ( 3) 1.33E+06 ( 8) 6 24 17 39.9 6.6 159.5

66 3.75E+05 ( 21) 1.46E+06 ( 82) 56 27 6 26.6 15.5 43.1

67 4.17E+04 ( 1) 1.13E+06 ( 27) 24 21 8 4.4 0.1 23.2

68 1.67E+05 ( 2) 2.67E+06 ( 32) 12 49 17 6.9 0.7 25.3

69 3.33E+05 ( 8) 1.75E+06 ( 42) 24 32 10 20.0 8.0 42.3

70 1.85E+05 ( 5) 1.15E+06 ( 31) 27 21 8 17.1 5.1 43.1

71 4.29E+05 ( 6) 2.50E+06 ( 35) 14 46 15 18.1 6.1 42.4

72 2.83E+05 ( 17) 2.00E+06 ( 120) 60 37 7 14.7 8.2 24.4

73 1.88E+05 ( 3) 1.50E+06 ( 24) 16 28 11 13.5 2.5 42.4

74 6.67E+04 ( 1) 1.20E+06 ( 18) 15 22 10 6.5 0.1 36.3

75 8.89E+05 ( 8) 4.67E+06 ( 42) 9 86 26 20.0 8.0 42.3

76 2.50E+05 ( 3) 5.00E+05 ( 6) 12 9 7 52.8 8.4 237.5

77 4.08E+04 ( 2) 8.98E+05 ( 44) 49 16 5 5.0 0.6 18.0

78 2.20E+05 ( 11) 1.60E+05 ( 8) 50 3 2 139.8 51.8 394.7

79 3.33E+04 ( 2) 6.67E+04 ( 4) 60 1 1 53.3 4.7 350.8

80 4.17E+05 ( 15) 6.39E+05 ( 23) 36 12 5 67.3 32.6 133.5

81 6.25E+05 ( 20) 1.50E+06 ( 48) 32 28 8 43.1 24.1 73.6

82 5.43E+05 ( 38) 2.29E+05 ( 16) 70 4 2 239.4 132.1 455.2

83 6.67E+04 ( 2) 2.00E+05 ( 6) 30 4 3 36.1 3.4 189.8

84 1.00E+05 ( 2) 3.30E+06 ( 66) 20 61 15 3.4 0.4 11.8

85 1.67E+05 ( 2) 1.25E+06 ( 15) 12 23 12 14.7 1.5 59.0

86 2.14E+05 ( 9) 1.05E+06 ( 44) 42 19 6 21.4 9.1 43.7

87 5.56E+04 ( 2) 4.17E+05 ( 15) 36 8 4 14.7 1.5 59.0

88 3.50E+05 ( 7) 1.05E+06 ( 21) 20 19 8 34.9 12.3 83.6

89 9.26E+04 ( 5) 2.93E+06 ( 158) 54 54 9 3.4 1.0 7.8

90 8.33E+04 ( 3) 3.61E+05 ( 13) 36 7 4 24.8 4.4 86.2

91 2.00E+05 ( 6) 1.87E+06 ( 56) 30 34 9 11.3 3.9 25.6

92 2.50E+05 ( 6) 3.08E+06 ( 74) 24 57 13 8.6 3.0 19.1

93 2.86E+05 ( 6) 1.81E+06 ( 38) 21 33 11 16.7 5.6 38.8

94 8.33E+04 ( 1) 1.58E+06 ( 19) 12 29 13 6.2 0.1 34.1

95 2.00E+05 ( 12) 2.13E+06 ( 128) 60 39 7 9.8 4.9 17.5

96 0.00E+00 ( 0) 1.94E+05 ( 7) 36 4 3 10.7 0.4 71.3

97 2.08E+04 ( 1) 2.29E+05 ( 11) 48 4 2 10.6 0.2 64.3

98 3.67E+05 ( 11) 2.13E+06 ( 64) 30 39 10 18.0 8.4 33.9

99 9.68E+04 ( 3) 1.77E+06 ( 55) 31 33 9 5.9 1.1 17.3

100 8.33E+05 ( 15) 2.17E+06 ( 39) 18 40 13 39.9 20.3 73.4

101 6.60E+05 ( 33) 5.54E+06 ( 277) 50 102 13 12.4 8.3 17.7

102 2.00E+05 ( 3) 3.00E+06 ( 45) 15 55 16 7.2 1.4 21.4

103 7.41E+04 ( 4) 8.15E+05 ( 44) 54 15 5 9.7 2.4 25.8

**OP1528** (Olympics) sedimentary bedrock, Counted by Sarah Falkowski May 2017

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 9.280E+05

RELATIVE ERROR (%): 1.51

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 261.20 6.80

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 1.20E+05 ( 3) 1.20E+06 ( 30) 25 19 7 12.7 2.4 38.9

2 2.00E+05 ( 2) 1.00E+05 ( 1) 10 2 3 223.9 12.6 7536.3

3 0.00E+00 ( 0) 3.33E+05 ( 2) 6 5 7 50.0 1.5 615.2

4 8.33E+04 ( 4) 1.02E+06 ( 49) 48 17 5 10.3 2.6 27.0

5 3.13E+04 ( 1) 8.13E+05 ( 26) 32 13 5 5.3 0.1 28.3

6 1.71E+05 ( 6) 1.40E+06 ( 49) 35 23 6 15.2 5.2 34.6

7 0.00E+00 ( 0) 2.89E+06 ( 101) 35 47 9 0.8 0.0 4.5

8 0.00E+00 ( 0) 3.27E+06 ( 157) 48 53 9 0.5 0.0 2.9

9 3.70E+04 ( 1) 5.93E+05 ( 16) 27 10 5 8.6 0.2 48.6

10 1.25E+05 ( 2) 8.13E+05 ( 13) 16 13 7 19.8 2.0 81.9

11 8.33E+04 ( 3) 2.50E+05 ( 9) 36 4 3 41.7 7.0 160.0

12 2.50E+05 ( 7) 1.54E+06 ( 43) 28 25 8 20.1 7.5 44.1

13 1.20E+05 ( 3) 2.16E+06 ( 54) 25 35 10 7.1 1.3 20.7

14 2.33E+05 ( 7) 3.73E+06 ( 112) 30 60 12 7.7 3.0 16.1

15 4.25E+05 ( 17) 4.30E+06 ( 172) 40 70 11 12.1 6.8 19.7

16 2.29E+05 ( 8) 4.49E+06 ( 157) 35 73 12 6.3 2.6 12.5

17 1.25E+05 ( 5) 2.23E+06 ( 89) 40 36 8 7.0 2.2 16.5

18 4.00E+04 ( 1) 4.80E+05 ( 12) 25 8 4 11.4 0.2 67.9

19 0.00E+00 ( 0) 1.25E+05 ( 5) 40 2 2 18.0 0.6 131.0

20 6.67E+04 ( 4) 2.83E+06 ( 170) 60 46 7 3.0 0.8 7.4

21 6.67E+04 ( 2) 5.00E+05 ( 15) 30 8 4 17.2 1.8 69.2

22 1.00E+05 ( 5) 9.00E+05 ( 45) 50 15 4 13.8 4.2 33.8

23 1.00E+05 ( 5) 3.94E+06 ( 197) 50 64 9 3.2 1.0 7.3

24 6.90E+04 ( 6) 2.69E+06 ( 234) 87 43 6 3.2 1.1 6.9

25 0.00E+00 ( 0) 7.30E+05 ( 73) 100 12 3 1.2 0.0 6.3

26 4.17E+04 ( 1) 1.00E+06 ( 24) 24 16 7 5.7 0.1 30.9

27 0.00E+00 ( 0) 2.22E+05 ( 10) 45 4 2 8.7 0.3 53.9

28 8.33E+04 ( 3) 2.69E+06 ( 97) 36 44 9 3.9 0.8 11.3

29 1.11E+05 ( 2) 5.00E+06 ( 90) 18 81 17 2.9 0.3 10.0

30 7.50E+04 ( 3) 2.18E+06 ( 87) 40 35 8 4.4 0.8 12.6

31 6.25E+05 ( 20) 1.05E+07 ( 335) 32 169 19 7.3 4.4 11.4

32 7.14E+04 ( 5) 1.07E+06 ( 75) 70 17 4 8.3 2.5 19.7

33 2.50E+04 ( 1) 3.00E+05 ( 12) 40 5 3 11.4 0.2 67.9

34 2.08E+05 ( 5) 2.71E+06 ( 65) 24 44 11 9.6 2.9 22.9

35 1.00E+05 ( 3) 2.37E+06 ( 71) 30 38 9 5.4 1.0 15.6

36 1.25E+05 ( 3) 2.50E+06 ( 60) 24 40 10 6.4 1.2 18.6

37 1.25E+05 ( 7) 3.59E+06 ( 201) 56 58 8 4.3 1.7 8.9

38 6.67E+04 ( 2) 8.00E+05 ( 24) 30 13 5 10.8 1.2 40.6

39 2.50E+05 ( 5) 3.40E+06 ( 68) 20 55 13 9.2 2.8 21.8

40 3.33E+04 ( 3) 4.33E+05 ( 39) 90 7 2 9.8 1.8 29.3

41 5.00E+05 ( 10) 7.55E+06 ( 151) 20 122 20 8.1 3.8 15.2

42 0.00E+00 ( 0) 9.52E+04 ( 4) 42 2 1 22.9 0.8 181.1

43 4.00E+05 ( 8) 8.65E+06 ( 173) 20 140 22 5.7 2.4 11.3

44 3.75E+05 ( 21) 2.20E+06 ( 123) 56 36 6 20.8 12.3 33.0

45 4.17E+04 ( 2) 8.33E+05 ( 40) 48 13 4 6.5 0.7 23.3

**OP1531** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Nov. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.150E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 9.60E+05 ( 24) 6.40E+05 ( 16) 25 12 6 152.3 78.3 304.3

2 3.00E+05 ( 12) 1.55E+06 ( 62) 40 29 7 20.1 9.8 37.3

3 1.44E+05 ( 13) 6.11E+05 ( 55) 90 11 3 24.5 12.2 45.0

4 4.00E+05 ( 20) 1.06E+06 ( 53) 50 20 5 39.0 22.0 65.9

5 4.69E+04 ( 3) 1.56E+05 ( 10) 64 3 2 32.0 5.5 119.0

6 4.94E+04 ( 4) 1.48E+05 ( 12) 81 3 2 35.2 8.1 112.4

7 3.13E+04 ( 1) 5.94E+05 ( 19) 32 11 5 6.2 0.1 34.0

8 2.86E+04 ( 2) 7.14E+04 ( 5) 70 1 1 42.9 3.9 247.1

9 1.09E+06 ( 76) 7.37E+06 ( 516) 70 136 13 15.2 11.9 19.5

10 1.67E+05 ( 4) 9.58E+05 ( 23) 24 18 7 18.5 4.5 52.3

11 2.50E+05 ( 3) 1.08E+06 ( 13) 12 20 11 24.7 4.3 86.0

12 4.79E+05 ( 23) 3.23E+06 ( 155) 48 59 10 15.4 9.4 23.8

13 8.89E+04 ( 8) 1.11E+05 ( 10) 90 2 1 82.3 28.2 228.1

14 1.07E+05 ( 6) 1.59E+06 ( 89) 56 29 6 7.1 2.5 15.7

15 2.50E+05 ( 6) 4.54E+06 ( 109) 24 84 16 5.8 2.0 12.7

16 2.14E+05 ( 6) 2.04E+06 ( 57) 28 37 10 11.1 3.8 25.1

17 4.00E+04 ( 4) 1.80E+05 ( 18) 100 3 2 23.6 5.6 69.2

18 8.57E+04 ( 6) 1.39E+06 ( 97) 70 26 5 6.5 2.3 14.4

19 2.50E+05 ( 25) 2.57E+06 ( 257) 100 47 6 10.1 6.4 15.1

20 1.83E+05 ( 11) 1.93E+06 ( 116) 60 36 7 9.9 4.7 18.1

21 3.40E+05 ( 17) 1.00E+05 ( 5) 50 2 2 333.9 122.8 1113.3

22 1.67E+04 ( 1) 2.83E+05 ( 17) 60 5 2 6.9 0.1 38.6

23 1.10E+06 ( 22) 1.30E+06 ( 26) 20 24 9 86.7 46.9 158.2

24 2.83E+05 ( 17) 2.15E+06 ( 129) 60 40 7 13.7 7.7 22.6

25 2.50E+04 ( 1) 3.50E+05 ( 14) 40 6 3 8.3 0.2 48.2

26 4.60E+05 ( 23) 7.02E+06 ( 351) 50 129 14 6.8 4.2 10.3

27 9.00E+04 ( 9) 3.30E+05 ( 33) 100 6 2 28.4 11.8 59.8

28 5.67E+05 ( 34) 5.47E+06 ( 328) 60 101 11 10.7 7.3 15.2

29 4.44E+04 ( 4) 3.89E+05 ( 35) 90 7 2 12.2 3.0 32.9

30 3.75E+05 ( 15) 3.23E+06 ( 129) 40 59 11 12.1 6.5 20.5

31 6.67E+04 ( 4) 1.17E+05 ( 7) 60 2 2 59.6 12.6 227.7

32 7.50E+04 ( 6) 2.50E+05 ( 20) 80 5 2 31.4 10.1 79.4

33 4.00E+04 ( 4) 6.70E+05 ( 67) 100 12 3 6.4 1.6 16.5

34 1.00E+05 ( 8) 1.34E+06 ( 107) 80 25 5 7.8 3.2 15.7

35 1.11E+05 ( 10) 9.00E+05 ( 81) 90 17 4 12.9 5.9 24.6

36 3.88E+05 ( 31) 3.53E+06 ( 282) 80 65 8 11.4 7.5 16.5

37 5.00E+04 ( 4) 2.88E+05 ( 23) 80 5 2 18.5 4.5 52.3

38 2.50E+05 ( 20) 1.11E+06 ( 89) 80 20 4 23.3 13.5 37.9

39 5.75E+05 ( 23) 2.60E+06 ( 104) 40 48 9 22.9 13.8 36.0

40 1.25E+05 ( 2) 2.50E+05 ( 4) 16 5 4 53.2 4.7 350.0

41 1.58E+06 ( 19) 2.50E+05 ( 3) 12 5 5 596.6 189.2 2759.8

42 5.25E+05 ( 21) 2.15E+06 ( 86) 40 40 9 25.3 14.8 40.8

43 5.50E+05 ( 11) 8.65E+06 ( 173) 20 159 25 6.6 3.2 12.0

44 2.00E+05 ( 16) 2.19E+06 ( 175) 80 40 6 9.5 5.3 15.7

45 1.70E+05 ( 17) 1.50E+06 ( 150) 100 28 5 11.8 6.6 19.3

46 5.75E+05 ( 23) 1.80E+06 ( 72) 40 33 8 33.0 19.6 53.1

47 1.67E+05 ( 10) 2.02E+06 ( 121) 60 37 7 8.6 4.0 16.2

48 1.20E+05 ( 3) 3.60E+05 ( 9) 25 7 4 35.4 6.0 136.3

49 1.04E+05 ( 5) 1.04E+06 ( 50) 48 19 5 10.6 3.2 25.7

50 9.38E+04 ( 3) 1.56E+05 ( 5) 32 3 2 62.8 9.6 310.3

51 3.67E+05 ( 22) 6.67E+05 ( 40) 60 12 4 56.6 32.0 97.1

52 1.43E+05 ( 3) 2.86E+05 ( 6) 21 5 4 52.6 8.3 237.0

53 5.00E+05 ( 15) 3.00E+05 ( 9) 30 6 4 168.3 70.0 430.7

54 1.80E+05 ( 9) 1.44E+06 ( 72) 50 27 6 13.1 5.7 25.8

55 4.08E+04 ( 2) 5.51E+05 ( 27) 49 10 4 8.2 0.9 30.3

56 6.67E+04 ( 2) 5.00E+05 ( 15) 30 9 5 14.6 1.5 58.8

57 9.00E+04 ( 9) 1.30E+06 ( 130) 100 24 4 7.3 3.2 14.0

58 6.50E+05 ( 13) 1.40E+06 ( 28) 20 26 10 48.0 22.7 94.8

59 1.22E+05 ( 11) 8.89E+05 ( 80) 90 16 4 14.3 6.8 26.7

60 2.00E+05 ( 9) 1.27E+06 ( 57) 45 23 6 16.5 7.1 33.1

61 1.40E+05 ( 14) 3.50E+05 ( 35) 100 6 2 41.4 20.4 78.2

62 1.11E+05 ( 4) 3.61E+05 ( 13) 36 7 4 32.5 7.5 101.9

63 5.71E+04 ( 4) 1.86E+05 ( 13) 70 3 2 32.5 7.5 101.9

64 7.14E+04 ( 3) 1.05E+06 ( 44) 42 19 6 7.4 1.4 21.9

65 5.71E+05 ( 40) 6.47E+06 ( 453) 70 119 12 9.1 6.4 12.6

66 1.25E+05 ( 9) 3.33E+05 ( 24) 72 6 2 39.0 15.8 85.6

67 6.25E+04 ( 2) 2.81E+05 ( 9) 32 5 3 24.2 2.4 109.8

68 6.25E+04 ( 1) 6.25E+04 ( 1) 16 1 2 102.2 1.3 5242.1

69 3.93E+05 ( 11) 8.57E+05 ( 24) 28 16 6 47.4 20.8 99.5

70 3.33E+05 ( 12) 1.11E+06 ( 40) 36 20 6 31.1 14.7 59.9

71 1.00E+05 ( 10) 9.50E+05 ( 95) 100 17 4 11.0 5.0 20.8

72 1.67E+05 ( 2) 1.58E+06 ( 19) 12 29 13 11.6 1.2 44.8

73 1.50E+05 ( 6) 4.00E+05 ( 16) 40 7 4 39.2 12.4 103.2

74 1.88E+05 ( 15) 5.13E+05 ( 41) 80 9 3 37.9 19.3 69.3

75 2.89E+05 ( 13) 3.49E+06 ( 157) 45 64 10 8.6 4.4 15.0

76 5.83E+05 ( 35) 1.55E+06 ( 93) 60 29 6 38.8 25.4 57.6

77 2.50E+04 ( 1) 2.75E+05 ( 11) 40 5 3 10.6 0.2 64.2

78 5.40E+05 ( 27) 4.56E+06 ( 228) 50 84 11 12.3 7.9 18.2

79 2.08E+05 ( 10) 2.06E+06 ( 99) 48 38 8 10.6 4.8 19.9

80 2.50E+05 ( 6) 8.33E+04 ( 2) 24 2 2 288.0 55.0 2553.3

81 4.81E+05 ( 13) 1.33E+06 ( 36) 27 25 8 37.4 18.1 71.5

82 3.33E+05 ( 2) 5.00E+05 ( 3) 6 9 10 70.0 5.7 573.6

83 1.25E+05 ( 4) 9.38E+04 ( 3) 32 2 2 134.3 23.2 876.0

84 3.29E+05 ( 23) 1.47E+06 ( 103) 70 27 5 23.1 13.9 36.4

85 1.02E+05 ( 5) 2.24E+05 ( 11) 49 4 2 47.5 12.7 144.7

86 4.17E+04 ( 3) 2.78E+05 ( 20) 72 5 2 16.1 2.9 51.9

87 1.35E+06 ( 27) 6.60E+06 ( 132) 20 121 21 21.1 13.4 32.0

88 1.00E+05 ( 9) 3.67E+05 ( 33) 90 7 2 28.4 11.8 59.8

89 4.94E+04 ( 4) 5.19E+05 ( 42) 81 10 3 10.2 2.6 27.0

90 4.00E+04 ( 4) 3.20E+05 ( 32) 100 6 2 13.3 3.3 36.2

91 1.60E+06 ( 64) 9.25E+05 ( 37) 40 17 6 175.5 115.9 269.5

92 1.60E+06 ( 64) 6.38E+06 ( 255) 40 117 15 26.0 19.7 34.2

93 4.00E+05 ( 12) 2.83E+06 ( 85) 30 52 11 14.7 7.2 26.7

94 3.33E+05 ( 10) 3.33E+04 ( 1) 30 1 1 854.2 144.9 13355.4

95 1.11E+06 ( 30) 2.11E+06 ( 57) 27 39 10 54.2 33.5 85.4

96 3.50E+05 ( 7) 1.45E+06 ( 29) 20 27 10 25.3 9.2 57.8

97 2.00E+05 ( 4) 1.60E+06 ( 32) 20 29 10 13.3 3.3 36.2

98 6.25E+04 ( 5) 4.25E+05 ( 34) 80 8 3 15.6 4.6 38.9

99 2.00E+05 ( 2) 1.00E+06 ( 10) 10 18 11 21.8 2.2 96.0

100 4.00E+05 ( 28) 4.36E+06 ( 305) 70 80 9 9.5 6.2 14.0

**OP1533** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Nov. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.130E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 9.09E+03 ( 1) 3.45E+05 ( 38) 110 6 2 3.1 0.1 16.0

2 2.00E+04 ( 2) 8.80E+05 ( 88) 100 16 3 2.5 0.3 8.7

3 4.41E+04 ( 3) 5.44E+05 ( 37) 68 10 3 8.7 1.6 26.3

4 1.89E+05 ( 17) 5.50E+06 ( 495) 90 101 10 3.6 2.0 5.7

5 1.48E+05 ( 4) 1.04E+06 ( 28) 27 19 7 15.2 3.7 41.9

6 1.00E+05 ( 6) 2.02E+06 ( 121) 60 37 7 5.2 1.8 11.4

7 5.56E+04 ( 2) 1.56E+06 ( 56) 36 29 8 3.9 0.4 13.9

8 3.33E+04 ( 2) 6.50E+05 ( 39) 60 12 4 5.7 0.6 20.3

9 2.50E+04 ( 1) 7.25E+05 ( 29) 40 13 5 4.0 0.1 21.4

10 7.00E+04 ( 7) 1.28E+06 ( 128) 100 24 4 5.7 2.2 11.9

11 1.00E+04 ( 1) 1.50E+05 ( 15) 100 3 1 7.8 0.2 44.4

12 3.06E+04 ( 3) 2.04E+05 ( 20) 98 4 2 16.1 2.9 51.8

13 1.00E+05 ( 5) 1.66E+06 ( 83) 50 31 7 6.4 2.0 15.0

14 8.33E+04 ( 2) 2.54E+06 ( 61) 24 47 12 3.6 0.4 12.7

15 2.19E+05 ( 7) 4.34E+06 ( 139) 32 80 14 5.3 2.0 11.0

16 1.00E+05 ( 2) 2.05E+06 ( 41) 20 38 12 5.4 0.6 19.3

17 1.43E+05 ( 5) 4.71E+06 ( 165) 35 87 14 3.2 1.0 7.4

18 5.19E+04 ( 4) 6.10E+05 ( 47) 77 11 3 9.1 2.3 23.9

19 5.00E+04 ( 5) 3.40E+05 ( 34) 100 6 2 15.5 4.6 38.8

20 9.23E+04 ( 6) 6.92E+05 ( 45) 65 13 4 14.0 4.8 32.2

**OP1539** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Nov. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.120E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 2.50E+04 ( 2) 3.25E+05 ( 26) 80 6 2 8.5 0.9 31.5

2 3.33E+04 ( 1) 8.00E+05 ( 24) 30 15 6 4.9 0.1 26.2

3 8.33E+04 ( 6) 2.50E+06 ( 180) 72 46 7 3.5 1.2 7.6

4 8.33E+04 ( 4) 7.08E+05 ( 34) 48 13 4 12.5 3.1 33.8

5 8.33E+04 ( 2) 1.21E+06 ( 29) 24 22 8 7.6 0.8 27.9

6 5.56E+04 ( 2) 2.50E+05 ( 9) 36 5 3 24.1 2.4 109.4

7 7.50E+04 ( 3) 1.45E+06 ( 58) 40 27 7 5.6 1.1 16.3

8 4.00E+05 ( 6) 2.40E+06 ( 36) 15 44 15 17.5 5.9 40.9

9 6.25E+04 ( 2) 2.00E+06 ( 64) 32 37 9 3.4 0.4 12.1

10 6.25E+04 ( 2) 2.50E+05 ( 8) 32 5 3 27.1 2.7 127.4

11 1.67E+05 ( 2) 3.17E+06 ( 38) 12 58 19 5.8 0.6 20.9

12 1.56E+05 ( 7) 2.42E+06 ( 109) 45 45 9 6.7 2.6 14.0

13 6.67E+04 ( 2) 5.00E+05 ( 15) 30 9 5 14.6 1.5 58.6

14 5.00E+05 ( 3) 1.67E+06 ( 10) 6 31 19 31.8 5.4 118.6

15 4.00E+04 ( 2) 8.60E+05 ( 43) 50 16 5 5.1 0.6 18.3

16 1.00E+05 ( 5) 1.40E+06 ( 70) 50 26 6 7.6 2.3 17.9

17 1.79E+05 ( 5) 2.89E+06 ( 81) 28 53 12 6.5 2.0 15.4

18 6.00E+04 ( 6) 1.00E+06 ( 100) 100 18 4 6.3 2.2 13.9

19 1.25E+05 ( 3) 1.71E+06 ( 41) 24 32 10 7.9 1.5 23.5

20 7.50E+04 ( 3) 6.50E+05 ( 26) 40 12 5 12.4 2.3 38.6

21 3.33E+04 ( 2) 2.67E+05 ( 16) 60 5 2 13.7 1.4 54.4

**OP1542** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski May 2017)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 9.330E+05

RELATIVE ERROR (%): 1.51

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 261.20 6.80

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 8.89E+04 ( 4) 2.67E+05 ( 12) 45 4 2 41.6 9.5 132.7

2 5.17E+04 ( 3) 1.33E+06 ( 77) 58 21 5 5.0 1.0 14.4

3 1.22E+05 ( 11) 1.68E+06 ( 151) 90 27 4 9.0 4.3 16.3

4 1.44E+05 ( 13) 8.22E+05 ( 74) 90 13 3 21.6 10.9 38.8

5 8.75E+04 ( 7) 1.19E+06 ( 95) 80 19 4 9.2 3.5 19.2

6 2.80E+05 ( 28) 1.32E+06 ( 132) 100 21 4 25.9 16.5 39.0

7 3.17E+04 ( 2) 4.92E+05 ( 31) 63 8 3 8.4 0.9 30.8

8 6.19E+05 ( 26) 1.93E+06 ( 81) 42 31 7 39.2 24.1 61.3

9 5.71E+04 ( 2) 2.97E+06 ( 104) 35 48 9 2.5 0.3 8.7

10 4.00E+04 ( 4) 6.00E+05 ( 60) 100 10 2 8.4 2.1 21.9

11 1.33E+05 ( 12) 1.81E+06 ( 163) 90 29 5 9.1 4.5 16.1

12 3.10E+05 ( 31) 3.26E+06 ( 326) 100 52 6 11.6 7.7 16.8

13 4.00E+04 ( 2) 3.20E+05 ( 16) 50 5 3 16.2 1.7 64.5

14 7.41E+04 ( 6) 1.72E+06 ( 139) 81 28 5 5.4 1.9 11.7

15 1.00E+05 ( 7) 1.23E+06 ( 86) 70 20 4 10.1 3.9 21.3

16 1.00E+05 ( 2) 6.50E+05 ( 13) 20 10 6 19.9 2.1 82.3

17 1.60E+05 ( 8) 6.00E+04 ( 3) 50 1 1 307.4 77.5 1667.1

18 5.00E+04 ( 5) 1.38E+06 ( 138) 100 22 4 4.6 1.4 10.6

19 2.00E+04 ( 2) 4.30E+05 ( 43) 100 7 2 6.1 0.7 21.7

20 3.33E+04 ( 2) 3.83E+05 ( 23) 60 6 3 11.3 1.2 42.8

**OP1551** (Olympics), counted by Sarah Falkowski July 2017

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 9.420E+05

RELATIVE ERROR (%): 1.51

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 256.80 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 1.49E+04 ( 1) 3.73E+05 ( 25) 67 6 2 5.5 0.1 29.5

2 0.00E+00 ( 0) 2.62E+05 ( 11) 42 4 2 7.9 0.3 48.0

3 2.50E+05 ( 3) 3.42E+06 ( 41) 12 54 17 9.3 1.8 27.7

4 4.00E+04 ( 2) 9.60E+05 ( 48) 50 15 4 5.4 0.6 19.2

5 1.00E+04 ( 1) 3.00E+05 ( 30) 100 5 2 4.6 0.1 24.2

6 3.13E+04 ( 1) 5.63E+05 ( 18) 32 9 4 7.6 0.2 42.4

7 5.77E+04 ( 3) 9.42E+05 ( 49) 52 15 4 7.8 1.5 22.9

8 5.56E+04 ( 1) 5.56E+05 ( 10) 18 9 5 13.6 0.3 84.5

9 3.00E+04 ( 3) 3.10E+05 ( 31) 100 5 2 12.3 2.3 37.4

10 2.67E+05 ( 4) 2.07E+06 ( 31) 15 33 12 16.1 4.0 44.0

11 2.50E+04 ( 2) 1.15E+06 ( 92) 80 18 4 2.8 0.3 9.8

12 1.11E+05 ( 1) 1.00E+06 ( 9) 9 16 10 15.1 0.3 96.3

13 1.50E+05 ( 6) 1.63E+06 ( 65) 40 26 6 11.4 4.0 25.6

14 2.78E+04 ( 1) 4.72E+05 ( 17) 36 8 4 8.1 0.2 45.3

15 0.00E+00 ( 0) 8.33E+04 ( 2) 24 1 2 49.9 1.5 614.1

16 1.43E+05 ( 5) 3.57E+06 ( 125) 35 57 10 5.0 1.5 11.6

17 4.76E+04 ( 1) 1.52E+06 ( 32) 21 24 9 4.3 0.1 22.6

18 2.38E+05 ( 10) 7.38E+06 ( 310) 42 118 14 4.0 1.9 7.3

19 2.50E+05 ( 5) 5.05E+06 ( 101) 20 80 16 6.2 1.9 14.4

20 2.56E+04 ( 1) 3.33E+05 ( 13) 39 5 3 10.5 0.2 61.7

21 2.19E+05 ( 7) 2.44E+06 ( 78) 32 39 9 11.1 4.2 23.4

**OP1573** (Olympics), counted by Sarah Falkowski July 2017

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 9.410E+05

RELATIVE ERROR (%): 1.51

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 256.80 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 8.33E+05 ( 10) 6.00E+06 ( 72) 12 96 23 17.0 7.7 32.6

2 2.00E+04 ( 2) 2.50E+05 ( 25) 100 4 2 10.3 1.1 38.7

3 3.75E+05 ( 3) 4.13E+06 ( 33) 8 66 23 11.5 2.2 34.9

4 5.00E+04 ( 2) 5.00E+05 ( 20) 40 8 4 12.9 1.4 49.6

5 1.00E+06 ( 1) 2.60E+07 ( 26) 1 414 162 5.3 0.1 28.2

6 2.50E+05 ( 10) 6.48E+06 ( 259) 40 103 13 4.7 2.2 8.7

**OP1582** (Olympics) sedimentary bedrock, (Counted by Sarah Falkowski Nov. 2016)

EFFECTIVE TRACK DENSITY FOR FLUENCE MONITOR (tracks/cm^2): 8.100E+05

RELATIVE ERROR (%): 1.48

EFFECTIVE URANIUM CONTENT OF MONITOR (ppm): 15.00

ZETA FACTOR AND STANDARD ERROR (yr cm^2): 252.90 5.00

SIZE OF COUNTER SQUARE (cm^2): 1.000E-06

**Grain RhoS (Ns) RhoI (Ni) Squares U+/-2s Grain Age (Ma)**

**no. (cm^-2) (cm^-2) Age --95% CI--**

1 1.67E+05 ( 5) 2.23E+06 ( 67) 30 41 10 7.9 2.4 18.7

2 4.17E+04 ( 2) 1.35E+06 ( 65) 48 25 6 3.4 0.4 11.8

3 1.25E+05 ( 2) 1.44E+06 ( 23) 16 27 11 9.5 1.0 36.0

4 6.00E+04 ( 3) 4.60E+05 ( 23) 50 9 4 14.0 2.6 44.1

5 6.67E+03 ( 1) 2.73E+05 ( 41) 150 5 2 2.9 0.1 14.7

6 0.00E+00 ( 0) 1.67E+05 ( 3) 18 3 3 26.6 0.9 243.3

7 2.78E+04 ( 2) 2.50E+05 ( 18) 72 5 2 12.1 1.3 47.4

8 1.17E+05 ( 7) 3.00E+06 ( 180) 60 56 8 4.1 1.6 8.4

9 2.03E+05 ( 13) 3.58E+06 ( 229) 64 66 9 5.9 3.0 10.1

10 1.94E+04 ( 3) 1.87E+05 ( 29) 155 3 1 11.1 2.1 34.1

11 4.17E+04 ( 2) 4.17E+05 ( 20) 48 8 3 10.9 1.2 42.1

12 3.00E+05 ( 9) 7.03E+06 ( 211) 30 130 18 4.4 2.0 8.5

13 1.16E+04 ( 1) 3.95E+05 ( 34) 86 7 3 3.4 0.1 17.9

14 5.71E+04 ( 4) 3.14E+05 ( 22) 70 6 2 19.2 4.7 54.6

15 1.78E+05 ( 8) 2.91E+06 ( 131) 45 54 10 6.4 2.6 12.7

16 1.11E+05 ( 10) 1.59E+06 ( 143) 90 29 5 7.3 3.4 13.6

17 1.43E+05 ( 5) 1.17E+06 ( 41) 35 22 7 12.8 3.8 31.5

18 3.25E+05 ( 13) 6.68E+06 ( 267) 40 124 16 5.0 2.6 8.7

19 1.51E+05 ( 8) 1.62E+06 ( 86) 53 30 7 9.7 4.0 19.6

20 4.00E+04 ( 2) 4.20E+05 ( 21) 50 8 3 10.4 1.1 39.8

21 1.00E+05 ( 11) 2.05E+06 ( 226) 110 38 5 5.1 2.5 9.1

22 4.29E+04 ( 3) 9.29E+05 ( 65) 70 17 4 5.0 0.9 14.4