

FELDSPAR ANALYSES FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 25 | | 26 | | 27 | | 28 | |
|--------------------------------|--------|-------|-------|-------|--------|-------|-------|-------|
| SiO ₂ | 68.95 | | 63.77 | | 67.85 | | 66.00 | |
| Al ₂ O ₃ | 19.17 | | 18.69 | | 20.30 | | 20.74 | |
| CaO | .05 | | .00 | | .34 | | 1.03 | |
| Na ₂ O | .17 | | .80 | | 11.70 | | 11.37 | |
| K ₂ O | 12.27 | | 16.01 | | .23 | | .29 | |
| SUM | 100.61 | | 99.27 | | 100.42 | | 99.43 | |
| Si | 3.067 | * | 2.973 | * | 2.959 | * | 2.917 | * |
| Al | 1.005 | 4.072 | 1.027 | 4.000 | 1.043 | 4.002 | 1.080 | 3.998 |
| Ca | .002 | * | .000 | * | .016 | * | .049 | * |
| Na | .015 | * | .072 | * | .989 | * | .974 | * |
| K | .696 | .713 | .952 | 1.024 | .013 | 1.018 | .016 | 1.040 |
| O | 8.000 | * | 8.000 | * | 8.000 | * | 8.000 | * |
| AN | | .33 | | .00 | | 1.56 | | 4.69 |
| AB | | 2.06 | | 7.06 | | 97.18 | | 93.73 |
| OR | | 97.61 | | 92.94 | | 1.26 | | 1.57 |

25 ED1-834 ALKALI FELDSPAR (USC)

26 ED1-872 ALKALI FELDSPAR, wide area analysis (USC)

27 ED1-872 PLAGIOCLASE (USC)

28 ED1-872 PLAGIOCLASE (USC)

| | 29 | | 30 | |
|--------------------------------|-------|-------|--------|-------|
| SiO ₂ | 67.44 | | 64.48 | |
| Al ₂ O ₃ | 20.11 | | 18.82 | |
| CaO | .33 | | .00 | |
| Na ₂ O | 10.89 | | 1.06 | |
| K ₂ O | .18 | | 15.82 | |
| SUM | 98.95 | | 100.18 | |
| Si | 2.973 | * | 2.976 | * |
| Al | 1.045 | 4.018 | 1.023 | 3.999 |
| Ca | .016 | * | .000 | * |
| Na | .931 | * | .095 | * |
| K | .010 | .957 | .931 | 1.026 |
| O | 8.000 | * | 8.000 | * |
| AN | | 1.63 | | .00 |
| AB | | 97.31 | | 9.24 |
| OR | | 1.06 | | 90.76 |

29 ED1-926 PLAGIOCLASE (USC)

30 ED1-926 ALKALI FELDSPAR, wide area analysis (USC)

GARNET ANALYSES FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 33.93 | | 35.97 | | 36.15 | | 37.21 | |
| TiO2 | .18 | | .30 | | .20 | | .07 | |
| Al2O3 | 21.31 | | 20.65 | | 20.34 | | 20.78 | |
| FeO | 9.23 | | 11.56 | | 12.06 | | 12.79 | |
| MnO | 34.24 | | 31.49 | | 30.53 | | 30.82 | |
| MgO | .12 | | .22 | | .23 | | .21 | |
| CaO | .74 | | .61 | | .58 | | .48 | |
| Na2O | .02 | | .02 | | .03 | | .00 | |
| K2O | .00 | | .01 | | .00 | | .00 | |
| F | .00 | | .00 | | .00 | | .00 | |
| SUM | 99.77 | | 100.83 | | 100.12 | | 102.36 | |
| -O= F | .00 | | .00 | | .00 | | .00 | |
| SUM | 99.77 | | 100.83 | | 100.12 | | 102.36 | |
| Si | 2.837 | * | 2.951 | * | 2.981 | * | 2.999 | * |
| Al | .163 | 3.000 | .049 | 3.000 | .019 | 3.000 | .001 | 3.000 |
| Al | 1.936 | * | 1.948 | * | 1.958 | * | 1.972 | * |
| Ti | .011 | * | .019 | * | .012 | * | .004 | * |
| Fe | .052 | 2.000 | .034 | 2.000 | .030 | 2.000 | .023 | 2.000 |
| Fe | .593 | * | .760 | * | .802 | * | .839 | * |
| Mg | .015 | * | .027 | * | .028 | * | .025 | * |
| Mn | 2.425 | * | 2.188 | * | 2.133 | * | 2.104 | * |
| Ca | .066 | * | .054 | * | .051 | * | .041 | * |
| Na | .003 | * | .003 | * | .005 | * | .000 | * |
| K | .000 | 3.102 | .001 | 3.033 | .000 | 3.019 | .000 | 3.009 |
| O | 12.000 | * | 12.000 | * | 12.000 | * | 12.000 | * |
| ALM | 19.14 | | 25.09 | | 26.61 | | 27.88 | |
| PY | .48 | | .89 | | .93 | | .83 | |
| SPS | 78.25 | | 72.24 | | 70.77 | | 69.92 | |
| GRAN | 2.13 | | 1.78 | | 1.69 | | 1.36 | |
| A | .1957 | | .1915 | | .1889 | | .1955 | |
| Mg/FeMg | .0226 | | .0328 | | .0329 | | .0284 | |
| Mn/FeMn | .7898 | | .7339 | | .7194 | | .7093 | |

- 1 CB7-15 B GARNET RIM (VPI)
2 CB7-15 C GARNET CORE (VPI)
3 CB7-15 C GARNET CORE (VPI)
4 CB7-15 C GARNET RIM (VPI)

GARNET ANALYSES FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 36.50 | | 36.11 | | 36.87 | | 35.09 | |
| TiO2 | .00 | | .15 | | .13 | | .09 | |
| Al2O3 | 21.86 | | 19.93 | | 19.92 | | 20.66 | |
| FeO | 13.63 | | 9.98 | | 10.35 | | 10.09 | |
| MnO | 29.65 | | 32.58 | | 32.87 | | 32.63 | |
| MgO | .15 | | .23 | | .25 | | .21 | |
| CaO | .52 | | .88 | | .82 | | .78 | |
| Na2O | .00 | | .05 | | .06 | | .02 | |
| K2O | .06 | | .01 | | .00 | | .01 | |
| F | .00 | | .00 | | .00 | | .00 | |
| SUM | 102.37 | | 99.92 | | 101.27 | | 99.58 | |
| -O= F | .00 | | .00 | | .00 | | .00 | |
| SUM | 102.37 | | 99.92 | | 101.27 | | 99.58 | |
| Si | 2.940 | * | 2.989 | * | 3.011 | * | 2.922 | * |
| Al | .060 | 3.000 | .011 | 3.000 | .000 | 3.011 | .078 | 3.000 |
| Al | 2.015 | * | 1.933 | * | 1.917 | * | 1.950 | * |
| Ti | .000 | * | .009 | * | .008 | * | .006 | * |
| Fe | .000 | 2.015 | .058 | 2.000 | .075 | 2.000 | .045 | 2.000 |
| Fe | .918 | * | .633 | * | .631 | * | .658 | * |
| Mg | .018 | * | .028 | * | .030 | * | .026 | * |
| Mn | 2.023 | * | 2.284 | * | 2.273 | * | 2.302 | * |
| Ca | .045 | * | .078 | * | .072 | * | .070 | * |
| Na | .000 | * | .008 | * | .009 | * | .003 | * |
| K | .006 | 3.010 | .001 | 3.033 | .000 | 3.016 | .001 | 3.060 |
| O | 12.000 | * | 12.000 | * | 12.000 | * | 12.000 | * |
| ALM | 30.56 | | 20.94 | | 20.99 | | 21.53 | |
| PY | .60 | | .94 | | .99 | | .85 | |
| SPS | 67.34 | | 75.53 | | 75.62 | | 75.33 | |
| GRAN | 1.49 | | 2.59 | | 2.40 | | 2.29 | |
| A | .2509 | | .2288 | | .2268 | | .2374 | |
| Mg/FeMg | .0192 | | .0395 | | .0413 | | .0357 | |
| Mn/FeMn | .6878 | | .7678 | | .7628 | | .7661 | |

- 1 CB7-15 C GARNET RIM (VPI)
2 CB7-15 D GARNET (VPI)
3 CB7-15 D GARNET (VPI)
4 CB7-15 D GARNET (VPI)

GARNET ANALYSES FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|--------------------------------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO ₂ | 36.14 | | 36.39 | | 35.07 | | 36.36 | |
| TiO ₂ | .23 | | .21 | | .32 | | .34 | |
| Al ₂ O ₃ | 20.63 | | 26.84 | | 26.94 | | 26.56 | |
| FeO | 12.95 | | 9.66 | | 10.54 | | 10.89 | |
| MnO | 29.85 | | 27.15 | | 26.03 | | 25.85 | |
| MgO | .39 | | .14 | | .14 | | .16 | |
| CaO | .66 | | .72 | | .61 | | .56 | |
| Na ₂ O | .15 | | .00 | | .00 | | .00 | |
| K ₂ O | .09 | | .03 | | .02 | | .02 | |
| F | .43 | | .00 | | .00 | | .00 | |
| SUM | 101.53 | | 101.14 | | 99.67 | | 100.74 | |
| -O= F | .18 | | .00 | | .00 | | .00 | |
| SUM | 101.34 | | 101.14 | | 99.67 | | 100.74 | |
| Si | 2.942 | * | 2.861 | * | 2.806 | * | 2.870 | * |
| Al | .058 | 3.000 | .139 | 3.000 | .194 | 3.000 | .130 | 3.000 |
| Al | 1.922 | * | 2.348 | * | 2.345 | * | 2.340 | * |
| Ti | .014 | * | .012 | * | .019 | * | .020 | * |
| Fe | .064 | 2.000 | .000 | 2.360 | .000 | 2.365 | .000 | 2.360 |
| Fe | .818 | * | .635 | * | .705 | * | .719 | * |
| Mg | .047 | * | .016 | * | .017 | * | .019 | * |
| Mn | 2.058 | * | 1.808 | * | 1.764 | * | 1.728 | * |
| Ca | .058 | * | .061 | * | .052 | * | .047 | * |
| Na | .024 | * | .000 | * | .000 | * | .000 | * |
| K | .009 | 3.014 | .003 | 2.523 | .002 | 2.540 | .002 | 2.515 |
| O | 12.000 | * | 12.000 | * | 12.000 | * | 12.000 | * |
| ALM | 27.44 | | 25.20 | | 27.78 | | 28.61 | |
| PY | 1.58 | | .63 | | .67 | | .76 | |
| SPS | 69.04 | | 71.75 | | 69.50 | | 68.76 | |
| GRAN | 1.95 | | 2.42 | | 2.05 | | 1.87 | |
| A | .2348 | | .3248 | | .3389 | | .3253 | |
| Mg/FeMg | .0509 | | .0252 | | .0231 | | .0255 | |
| Mn/FeMn | .7001 | | .7400 | | .7144 | | .7062 | |

1 CB7-15 G GARNET (VPI)

2 S7-50a C GARNET RIM, Bad analysis - high alumina (VPI)

3 S7-50a C GARNET BETWEEN CORE AND RIM, Bad analysis - high alumina (VPI)

4 S7-50a C GARNET CORE, Bad analysis - high alumina (VPI)

GARNET ANALYSES FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 35.99 | | 36.69 | | 34.89 | | 35.25 | |
| TiO2 | .27 | | .26 | | .32 | | .31 | |
| Al2O3 | 25.48 | | 26.26 | | 19.81 | | 20.18 | |
| FeO | 10.69 | | 11.12 | | 9.88 | | 10.10 | |
| MnO | 26.69 | | 27.19 | | 32.01 | | 33.81 | |
| MgO | .00 | | .00 | | .42 | | .40 | |
| CaO | .75 | | .65 | | .99 | | .91 | |
| Na2O | .00 | | .00 | | .15 | | .15 | |
| K2O | .01 | | .02 | | .10 | | .09 | |
| F | .00 | | .00 | | .94 | | .98 | |
| SUM | 99.88 | | 102.19 | | 99.51 | | 102.18 | |
| -O= F | .00 | | .00 | | .39 | | .41 | |
| SUM | 99.88 | | 102.19 | | 99.12 | | 101.17 | |
| Si | 2.883 | * | 2.873 | * | 2.907 | * | 2.876 | * |
| Al | .117 | 3.000 | .127 | 3.000 | .093 | 3.000 | .124 | 3.000 |
| Al | 2.288 | * | 2.296 | * | 1.851 | * | 1.817 | * |
| Ti | .016 | * | .015 | * | .020 | * | .019 | * |
| Fe | .000 | 2.305 | .000 | 2.312 | .129 | 2.000 | .164 | 2.000 |
| Fe | .716 | * | .728 | * | .560 | * | .525 | * |
| Mg | .000 | * | .000 | * | .052 | * | .049 | * |
| Mn | 1.811 | * | 1.803 | * | 2.259 | * | 2.337 | * |
| Ca | .064 | * | .055 | * | .088 | * | .080 | * |
| Na | .000 | * | .000 | * | .024 | * | .024 | * |
| K | .001 | 2.593 | .002 | 2.588 | .011 | 2.994 | .009 | 3.023 |
| O | 12.000 | * | 12.000 | * | 12.000 | * | 12.000 | * |
| ALM | 27.63 | | 28.50 | | 18.93 | | 17.55 | |
| PY | .00 | | .00 | | 1.76 | | 1.64 | |
| SPS | 69.89 | | 69.72 | | 76.34 | | 78.13 | |
| GRAN | 2.47 | | 2.13 | | 2.97 | | 2.67 | |
| A | .3108 | | .3138 | | .2245 | | .2216 | |
| Mg/FeMg | .0000 | | .0000 | | .0704 | | .0659 | |
| Mn/FeMn | .7166 | | .7123 | | .7664 | | .7722 | |

- 1 S7-54 GARNET, Bad analysis - high alumina (VPI)
2 S7-54 GARNET, Bad analysis - high alumina (VPI)
3 S7-55 A GARNET (VPI)
4 S7-55 A GARNET (VPI)

GARNET ANALYSES FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 34.92 | | 34.95 | | 34.95 | | 35.00 | |
| TiO2 | .35 | | .33 | | .18 | | .23 | |
| Al2O3 | 19.77 | | 20.00 | | 20.14 | | 19.24 | |
| FeO | 9.87 | | 9.90 | | 9.82 | | 9.98 | |
| MnO | 32.77 | | 32.45 | | 33.16 | | 33.17 | |
| MgO | .41 | | .41 | | .15 | | .14 | |
| CaO | .97 | | .96 | | .72 | | .98 | |
| Na2O | .15 | | .14 | | .00 | | .02 | |
| K2O | .09 | | .09 | | .00 | | .00 | |
| F | .90 | | .86 | | .00 | | .00 | |
| SUM | 100.20 | | 100.09 | | 99.12 | | 98.76 | |
| -O= F | .00 | | .36 | | .00 | | .00 | |
| SUM | 99.82 | | 99.73 | | 99.12 | | 98.76 | |
| Si | 2.898 | * | 2.898 | * | 2.931 | * | 2.956 | * |
| Al | .102 | 3.000 | .102 | 3.000 | .069 | 3.000 | .044 | 3.000 |
| Al | 1.831 | * | 1.852 | * | 1.922 | * | 1.871 | * |
| Ti | .022 | * | .021 | * | .011 | * | .015 | * |
| Fe | .147 | 2.000 | .127 | 2.000 | .067 | 2.000 | .115 | 2.000 |
| Fe | .538 | * | .559 | * | .622 | * | .590 | * |
| Mg | .051 | * | .051 | * | .019 | * | .018 | * |
| Mn | 2.303 | * | 2.279 | * | 2.356 | * | 2.373 | * |
| Ca | .086 | * | .085 | * | .065 | * | .089 | * |
| Na | .024 | * | .023 | * | .000 | * | .003 | * |
| K | .010 | 3.012 | .010 | 3.006 | .000 | 3.061 | .000 | 3.073 |
| O | 12.000 | * | 12.000 | * | 12.000 | * | 12.000 | * |
| ALM | 18.06 | | 18.80 | | 20.31 | | 19.22 | |
| PY | 1.71 | | 1.71 | | .62 | | .59 | |
| SPS | 77.33 | | 76.63 | | 76.94 | | 77.30 | |
| GRAN | 2.88 | | 2.86 | | 2.12 | | 2.89 | |
| A | .2216 | | .2253 | | .2333 | | .2191 | |
| Mg/FeMg | .0689 | | .0687 | | .0265 | | .0244 | |
| Mn/FeMn | .7708 | | .7685 | | .7737 | | .7709 | |

- 1 S7-55 C GARNET (VPI)
2 S7-55 C GARNET (VPI)
4 S7-55 B GARNET CORE (VPI)
3 S7-55 B GARNET CORE (VPI)

GARNET ANALYSES FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|--------------------------------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO ₂ | 34.06 | | 33.93 | | 35.70 | | 35.81 | |
| TiO ₂ | .10 | | .10 | | .42 | | .44 | |
| Al ₂ O ₃ | 19.83 | | 19.91 | | 20.18 | | 20.39 | |
| FeO | 10.26 | | 9.59 | | 10.36 | | 10.48 | |
| MnO | 33.06 | | 33.61 | | 26.32 | | 26.62 | |
| MgO | .60 | | .71 | | 1.25 | | 1.26 | |
| CaO | .13 | | .11 | | .34 | | .22 | |
| Na ₂ O | .00 | | .00 | | .14 | | .07 | |
| K ₂ O | .00 | | .00 | | .03 | | .03 | |
| F | .00 | | .00 | | .00 | | .00 | |
| SUM | 98.04 | | 97.96 | | 94.74 | | 95.32 | |
| -O= F | .00 | | .00 | | .00 | | .00 | |
| SUM | 98.04 | | 97.96 | | 94.74 | | 95.32 | |
| Si | 2.900 | * | 2.890 | * | 3.037 | * | 3.029 | * |
| Al | .100 | 3.000 | .110 | 3.000 | .000 | 3.037 | .000 | 3.029 |
| Al | 1.889 | * | 1.889 | * | 2.023 | * | 2.033 | * |
| Ti | .006 | * | .006 | * | .027 | * | .028 | * |
| Fe | .104 | 2.000 | .105 | 2.000 | .000 | 2.050 | .000 | 2.061 |
| Fe | .626 | * | .578 | * | .737 | * | .741 | * |
| Mg | .076 | * | .090 | * | .159 | * | .159 | * |
| Mn | 2.384 | * | 2.425 | * | 1.897 | * | 1.907 | * |
| Ca | .012 | * | .010 | * | .031 | * | .020 | * |
| Na | .000 | * | .000 | * | .023 | * | .011 | * |
| K | .000 | 3.098 | .000 | 3.103 | .003 | 2.850 | .003 | 2.842 |
| O | 12.000 | * | 12.000 | * | 12.000 | * | 12.000 | * |
| ALM | 20.21 | | 18.63 | | 26.10 | | 26.21 | |
| PY | 2.45 | | 2.90 | | 5.63 | | 5.62 | |
| SPS | 76.95 | | 78.15 | | 67.17 | | 67.46 | |
| GRAN | .39 | | .32 | | 1.10 | | .71 | |
| A | .2358 | | .2365 | | .2576 | | .2608 | |
| Mg/FeMg | .0944 | | .1165 | | .1770 | | .1765 | |
| Mn/FeMn | .7654 | | .7802 | | .7201 | | .7201 | |

- 1 ED1-872 GARNET (USC)
2 ED1-872 GARNET RIM (USC)
3 ED1-909 1 GARNET (USC)
4 ED1-909 1 GARNET (USC)

MUSCOVITE ANALYSES (H2O CALCULATED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 50.13 | | 49.11 | | 49.27 | | 48.41 | |
| TiO2 | .69 | | .49 | | .42 | | .31 | |
| Al2O3 | 30.00 | | 29.70 | | 29.79 | | 31.63 | |
| FeO | 6.44 | | 6.69 | | 6.26 | | 5.40 | |
| MnO | .87 | | .85 | | .90 | | .45 | |
| MgO | 2.08 | | 2.33 | | 2.28 | | 1.84 | |
| CaO | .00 | | .00 | | .00 | | .00 | |
| Na2O | .27 | | .23 | | .28 | | .19 | |
| K2O | 7.93 | | 8.08 | | 8.48 | | 8.11 | |
| H2O | 4.60 | | 4.54 | | 4.55 | | 4.53 | |
| SUM | 103.01 | | 102.02 | | 102.23 | | 100.87 | |
| Si | 6.530 | * | 6.484 | * | 6.494 | * | 6.408 | * |
| Al | 1.470 | 8.000 | 1.516 | 8.000 | 1.506 | 8.000 | 1.592 | 8.000 |
| Al | 3.135 | * | 3.104 | * | 3.120 | * | 3.341 | * |
| Ti | .068 | * | .049 | * | .042 | * | .031 | * |
| Fe | .702 | * | .739 | * | .690 | * | .598 | * |
| Mn | .096 | * | .095 | * | .100 | * | .050 | * |
| Mg | .404 | 4.404 | .458 | 4.445 | .448 | 4.400 | .363 | 4.383 |
| Ca | .000 | * | .000 | * | .000 | * | .000 | * |
| Na | .068 | * | .059 | * | .072 | * | .049 | * |
| K | 1.318 | 1.386 | 1.361 | 1.419 | 1.426 | 1.497 | 1.369 | 1.418 |
| H | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 58.40 | | 57.16 | | 55.72 | | 59.11 | |
| Mg | 33.62 | | 35.48 | | 36.17 | | 35.90 | |
| Mn | 7.99 | | 7.36 | | 8.11 | | 4.99 | |
| A | | .5731 | | .5538 | | .5587 | | .6353 |
| Mg/FeMg | | .3653 | | .3830 | | .3936 | | .3778 |
| Mn/FeMn | | .1203 | | .1140 | | .1271 | | .0778 |

- 1 S7-50a MUSCOVITE INTERGROWN W/ CHLORITE (USC)
- 2 S7-50a MUSCOVITE INTERGROWN W/ CHLORITE (USC)
- 3 S7-50a MUSCOVITE INTERGROWN WITH CHLORITE (USC)
- 4 S7-50a MUSCOVITE (VPI)

MUSCOVITE ANALYSES (H2O CALCULATED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 51.20 | | 51.71 | | 46.63 | | 49.44 | |
| TiO2 | .63 | | .64 | | .76 | | .63 | |
| Al2O3 | 30.03 | | 30.06 | | 31.36 | | 29.35 | |
| FeO | 7.46 | | 7.98 | | 6.20 | | 7.91 | |
| MnO | 1.11 | | 1.11 | | .58 | | .94 | |
| MgO | 2.12 | | 1.93 | | 1.82 | | 2.17 | |
| CaO | .00 | | .00 | | .00 | | .00 | |
| Na2O | .09 | | .11 | | .24 | | .15 | |
| K2O | 4.45 | | 4.71 | | 9.59 | | 5.10 | |
| H2O | 4.62 | | 4.66 | | 4.48 | | 4.51 | |
| SUM | 101.71 | | 102.91 | | 101.66 | | 100.20 | |
| Si | 6.637 | * | 6.647 | * | 6.233 | * | 6.561 | * |
| Al | 1.363 | 8.000 | 1.353 | 8.000 | 1.767 | 8.000 | 1.439 | 8.000 |
| Al | 3.224 | * | 3.201 | * | 3.172 | * | 3.151 | * |
| Ti | .061 | * | .062 | * | .076 | * | .063 | * |
| Fe | .809 | * | .858 | * | .693 | * | .878 | * |
| Mn | .122 | * | .121 | * | .066 | * | .106 | * |
| Mg | .410 | 4.626 | .370 | 4.611 | .363 | 4.370 | .429 | 4.627 |
| Ca | .000 | * | .000 | * | .000 | * | .000 | * |
| Na | .023 | * | .027 | * | .062 | * | .039 | * |
| K | .736 | .758 | .772 | .800 | 1.635 | 1.697 | .863 | .902 |
| H | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 60.34 | | 63.62 | | 61.81 | | 62.14 | |
| Mg | 30.56 | | 27.42 | | 32.34 | | 30.38 | |
| Mn | 9.09 | | 8.96 | | 5.86 | | 7.48 | |
| A | .5886 | | .5823 | | .5916 | | .5666 | |
| Mg/FeMg | .3362 | | .3012 | | .3435 | | .1074 | |
| Mn/FeMn | .1309 | | .1235 | | .0865 | | .1074 | |

- 1 S7-50a MUSCOVITE (USC)
- 2 S7-50a MUSCOVITE IN PL (USC)
- 3 S7-50a C MUSCOVITE (VPI)
- 4 S7-50a D MUSCOVITE (USC)

MUSCOVITE ANALYSES (H2O CALCULATED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 49.64 | | 53.46 | | 54.80 | | 49.05 | |
| TiO2 | .62 | | .13 | | .36 | | .47 | |
| Al2O3 | 29.03 | | 30.90 | | 26.17 | | 30.57 | |
| FeO | 8.21 | | 5.30 | | 4.57 | | 6.59 | |
| MnO | 1.00 | | .14 | | .01 | | .60 | |
| MgO | 2.19 | | 2.53 | | 3.89 | | 2.09 | |
| CaO | .00 | | .00 | | .03 | | .00 | |
| Na2O | .14 | | .02 | | .03 | | .00 | |
| K2O | 5.92 | | 4.42 | | 8.08 | | 7.49 | |
| H2O | 4.53 | | 4.71 | | 4.66 | | 4.54 | |
| SUM | 101.28 | | 101.61 | | 102.60 | | 101.40 | |
| Si | 6.562 | * | 6.802 | * | 7.040 | * | 6.470 | * |
| Al | 1.438 | 8.000 | 1.198 | 8.000 | .960 | 8.000 | 1.530 | 8.000 |
| Al | 3.083 | * | 3.434 | * | 3.001 | * | 3.222 | * |
| Ti | .062 | * | .012 | * | .035 | * | .047 | * |
| Fe | .908 | * | .564 | * | .491 | * | .727 | * |
| Mn | .112 | * | .015 | * | .001 | * | .067 | * |
| Mg | .431 | 4.596 | .480 | 4.506 | .745 | 4.273 | .411 | 4.474 |
| Ca | .000 | * | .000 | * | .004 | * | .000 | * |
| Na | .036 | * | .005 | * | .007 | * | .000 | * |
| K | .998 | 1.034 | .717 | .722 | 1.324 | 1.335 | 1.260 | 1.260 |
| H | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 62.55 | | 53.26 | | 39.69 | | 60.33 | |
| Mg | 29.74 | | 45.31 | | 60.22 | | 34.10 | |
| Mn | 7.72 | | 1.42 | | .09 | | 5.56 | |
| A | .5463 | | .6491 | | .5151 | | .5921 | |
| Mg/FeMg | .3222 | | .4597 | | .6027 | | .3611 | |
| Mn/FeMn | .1098 | | .0261 | | .0221 | | .0844 | |

1 S7-50a D MUSCOVITE (USC)

2 S7-53 MUSCOVITE INTERGROWN W/ CHLORITE (USC)

3 S7-53 MUSCOVITE INTERGROWN W/ CHLORITE (USC)

4 S7-54 MUSCOVITE (VPI)

MUSCOVITE ANALYSES (H2O CALCULATED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 47.43 | | 49.21 | | 50.53 | | 51.05 | |
| TiO2 | .64 | | .67 | | .62 | | .32 | |
| Al2O3 | 31.02 | | 28.29 | | 29.34 | | 30.82 | |
| FeO | 7.61 | | 8.01 | | 7.27 | | 6.39 | |
| MnO | .83 | | 1.24 | | 1.09 | | .76 | |
| MgO | 1.73 | | 2.09 | | 1.94 | | 1.69 | |
| CaO | .01 | | .00 | | .00 | | .00 | |
| Na2O | .15 | | .30 | | .16 | | .21 | |
| K2O | 7.58 | | 8.69 | | 7.73 | | 7.68 | |
| H2O | 4.50 | | 4.52 | | 4.60 | | 4.65 | |
| SUM | 101.50 | | 103.02 | | 103.28 | | 103.57 | |
| Si | 6.312 | * | 6.516 | * | 6.584 | * | 6.580 | * |
| Al | 1.688 | 8.000 | 1.484 | 8.000 | 1.416 | 8.000 | 1.420 | 8.000 |
| Al | 3.177 | * | 2.930 | * | 3.088 | * | 3.261 | * |
| Ti | .064 | * | .067 | * | .061 | * | .031 | * |
| Fe | .847 | * | .887 | * | .792 | * | .689 | * |
| Mn | .094 | * | .139 | * | .120 | * | .083 | * |
| Mg | .343 | 4.524 | .412 | 4.435 | .377 | 4.438 | .325 | 4.388 |
| Ca | .001 | * | .000 | * | .000 | * | .000 | * |
| Na | .039 | * | .077 | * | .040 | * | .052 | * |
| K | 1.287 | 1.327 | 1.468 | 1.545 | 1.285 | 1.325 | 1.263 | 1.315 |
| H | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 65.98 | | 61.66 | | 61.45 | | 62.82 | |
| Mg | 26.73 | | 28.67 | | 29.22 | | 29.61 | |
| Mn | 7.29 | | 9.67 | | 9.33 | | 7.57 | |
| A | | .5798 | | .4999 | | .5527 | | .6060 |
| Mg/FeMg | | .2883 | | .3174 | | .3223 | | .3204 |
| Mn/FeMn | | .0995 | | .1355 | | .1318 | | .1075 |

1 S7-54 MUSCOVITE (VPI)

2 S7-55 MUSCOVITE (USC)

3 S7-55 MUSCOVITE INTERGROWN W/ CHLORITE (USC)

4 S7-55 MUSCOVITE INTERGROWN WITH CHLORITE (USC)

MUSCOVITE ANALYSES (H2O CALCULATED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|---------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 50.36 | | 50.72 | | 50.49 | | 50.91 | |
| TiO2 | .34 | | .60 | | .52 | | .62 | |
| Al2O3 | 30.06 | | 30.69 | | 30.18 | | 30.33 | |
| FeO | 7.14 | | 6.24 | | 6.24 | | 6.57 | |
| MnO | 1.00 | | .91 | | .84 | | .86 | |
| MgO | 2.18 | | 2.24 | | 2.25 | | 2.16 | |
| CaO | .00 | | .00 | | .00 | | .00 | |
| Na2O | .13 | | .23 | | .26 | | .20 | |
| K2O | 3.97 | | 7.09 | | 7.90 | | 6.93 | |
| H2O | 4.55 | | 4.65 | | 4.62 | | 4.64 | |
| SUM | 99.73 | | 103.37 | | 103.30 | | 103.22 | |
| Si | 6.630 | * | 6.537 | * | 6.545 | * | 6.571 | * |
| Al | 1.370 | 8.000 | 1.463 | 8.000 | 1.455 | 8.000 | 1.429 | 8.000 |
| Al | 3.293 | * | 3.199 | * | 3.156 | * | 3.185 | * |
| Ti | .034 | * | .058 | * | .051 | * | .060 | * |
| Fe | .786 | * | .673 | * | .677 | * | .709 | * |
| Mn | .112 | * | .099 | * | .092 | * | .094 | * |
| Mg | .428 | 4.652 | .430 | 4.459 | .435 | 4.410 | .416 | 4.464 |
| Ca | .000 | * | .000 | * | .000 | * | .000 | * |
| Na | .033 | * | .057 | * | .065 | * | .050 | * |
| K | .667 | .700 | 1.166 | 1.223 | 1.306 | 1.372 | 1.141 | 1.191 |
| H | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 59.31 | | 55.94 | | 56.21 | | 58.19 | |
| Mg | 32.28 | | 35.79 | | 36.12 | | 34.10 | |
| Mn | 8.41 | | 8.26 | | 7.66 | | 7.71 | |
| A | .5996 | | .5889 | | .5742 | | .5845 | |
| Mg/FeMg | .3524 | | .3901 | | .3912 | | .3694 | |
| Mn/FeMn | .1242 | | .1287 | | .1199 | | .1170 | |

1 ED1-834 MUSCOVITE (USC)

2 ED1-872 MUSCOVITE (USC)

3 ED1-872 MUSCOVITE (USC)

4 ED1-872 MUSCOVITE (USC)

MUSCOVITE ANALYSES (H2O CALCULATED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | |
|---------|--------|-------|--------|-------|--------|-------|
| SiO2 | 49.87 | | 50.35 | | 49.42 | |
| TiO2 | .29 | | .43 | | .64 | |
| Al2O3 | 33.61 | | 29.35 | | 29.05 | |
| FeO | 6.46 | | 7.27 | | 7.85 | |
| MnO | .21 | | .91 | | 1.11 | |
| MgO | .04 | | 2.01 | | 2.03 | |
| CaO | .00 | | .00 | | .00 | |
| Na2O | .04 | | .16 | | .20 | |
| K2O | 4.40 | | 7.46 | | 6.83 | |
| H2O | 4.58 | | 4.58 | | 4.53 | |
| SUM | 99.50 | | 102.52 | | 101.66 | |
| Si | 6.527 | * | 6.593 | * | 6.540 | * |
| Al | 1.473 | 8.000 | 1.407 | 8.000 | 1.460 | 8.000 |
| Al | 3.711 | * | 3.122 | * | 3.070 | * |
| Ti | .029 | * | .042 | * | .064 | * |
| Fe | .707 | * | .796 | * | .869 | * |
| Mn | .023 | * | .101 | * | .124 | * |
| Mg | .008 | 4.477 | .392 | 4.454 | .400 | 4.527 |
| Ca | .000 | * | .000 | * | .000 | * |
| Na | .010 | * | .041 | * | .051 | * |
| K | .735 | .745 | 1.246 | 1.287 | 1.153 | 1.204 |
| H | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 | 4.000 |
| O | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 95.79 | | 61.75 | | 62.34 | |
| Mg | 1.06 | | 30.43 | | 28.73 | |
| Mn | 3.15 | | 7.83 | | 8.93 | |
| A | .7567 | | .5575 | | .5445 | |
| Mg/FeMg | .0109 | | .3301 | | .3155 | |
| Mn/FeMn | .0318 | | .1125 | | .1253 | |

1 ED1-872 MUSCOVITE IN PLAGIOCLASE (USC) (2N SESSION)

2 ED1-926 MUSCOVITE W/ CHLORITE pseudomorph after magnetite (USC)

3 ED1-926 MUSCOVITE W/ CHLORITE pseudomorph after magnetite (USC)

MUSCOVITE ANALYSES (H2O INPUTTED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|----------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 47.11 | | 47.27 | | 48.20 | | 45.40 | |
| TiO2 | .10 | | .28 | | .14 | | .57 | |
| Al2O3 | 32.81 | | 27.48 | | 32.42 | | 31.22 | |
| FeO | 4.00 | | 6.03 | | 6.43 | | 7.96 | |
| MnO | .76 | | 1.09 | | .63 | | .98 | |
| MgO | .37 | | 1.72 | | 1.02 | | 1.88 | |
| CaO | .12 | | .14 | | .00 | | .03 | |
| Na2O | .41 | | .43 | | .14 | | .31 | |
| K2O | 9.71 | | 8.74 | | 7.99 | | 7.90 | |
| BaO | .21 | | .19 | | .00 | | .00 | |
| F | .73 | | 1.23 | | 2.37 | | 2.81 | |
| Cl | .03 | | .03 | | .00 | | .00 | |
| H2O | 4.10 | | 3.72 | | 3.42 | | 3.10 | |
| SUM | 100.46 | | 98.35 | | 102.76 | | 102.16 | |
| -O= F+Cl | .31 | | .52 | | 1.00 | | 1.18 | |
| SUM | 100.15 | | 97.83 | | 101.76 | | 100.98 | |
| Si | 6.331 | * | 6.570 | * | 6.365 | * | 6.145 | * |
| Al | 1.669 | 8.000 | 1.430 | 8.000 | 1.635 | 8.000 | 1.855 | 8.000 |
| Al | 3.527 | * | 3.071 | * | 3.409 | * | 3.125 | * |
| Ti | .010 | * | .029 | * | .014 | * | .058 | * |
| Fe | .450 | * | .701 | * | .710 | * | .901 | * |
| Mn | .087 | * | .128 | * | .070 | * | .112 | * |
| Mg | .074 | 4.147 | .356 | 4.285 | .201 | 4.404 | .379 | 4.576 |
| Ca | .017 | * | .021 | * | .000 | * | .004 | * |
| Na | .107 | * | .116 | * | .036 | * | .081 | * |
| K | 1.664 | * | 1.549 | * | 1.346 | * | 1.364 | * |
| Ba | .011 | 1.800 | .010 | 1.696 | .000 | 1.382 | .000 | 1.450 |
| F | .310 | * | .541 | * | .990 | * | 1.203 | * |
| Cl | .007 | * | .007 | * | .000 | * | .000 | * |
| H | 3.676 | 3.993 | 3.449 | 3.997 | 3.013 | 4.002 | 2.799 | 4.002 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 73.68 | | 59.12 | | 72.36 | | 64.70 | |
| Mg | 12.15 | | 30.06 | | 20.46 | | 27.23 | |
| Mn | 14.18 | | 10.82 | | 7.18 | | 8.07 | |
| A | .7357 | | .5415 | | .6516 | | .5597 | |
| Mg/FeMg | .1415 | | .3370 | | .2204 | | .2962 | |
| Mn/FeMn | .1614 | | .1547 | | .0903 | | .1108 | |

1 CB7-15 MUSCOVITE IN PLAGIOCLASE (VPI)

2 CB7-15 B MUSCOVITE (VPI)

3 S7-54 MUSCOVITE (VPI)

4 S7-54 MUSCOVITE (VPI)

MUSCOVITE ANALYSES (H2O INPUTTED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|----------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 45.70 | | 45.84 | | 45.99 | | 45.84 | |
| TiO2 | .01 | | .46 | | .03 | | .17 | |
| Al2O3 | 37.20 | | 33.25 | | 37.12 | | 35.86 | |
| FeO | .36 | | 3.26 | | .87 | | 1.50 | |
| MnO | .59 | | .61 | | .43 | | .54 | |
| MgO | .01 | | .04 | | .03 | | .03 | |
| CaO | .03 | | .03 | | .03 | | .03 | |
| Na2O | .82 | | .12 | | .54 | | .49 | |
| K2O | 10.27 | | 10.47 | | 10.38 | | 10.37 | |
| F | .76 | | .36 | | .49 | | .54 | |
| Cl | .04 | | .00 | | .02 | | .02 | |
| H2O | 4.14 | | 4.22 | | 4.28 | | 4.21 | |
| SUM | 99.93 | | 98.66 | | 100.21 | | 99.60 | |
| -O= F+Cl | .33 | | .15 | | .21 | | .23 | |
| SUM | 99.60 | | 98.51 | | 100.00 | | 99.37 | |
| Si | 6.079 | * | 6.253 | * | 6.097 | * | 6.142 | * |
| Al | 1.921 | 8.000 | 1.747 | 8.000 | 1.903 | 8.000 | 1.858 | 8.000 |
| Al | 3.909 | * | 3.598 | * | 3.895 | * | 3.803 | * |
| Ti | .001 | * | .047 | * | .003 | * | .017 | * |
| Fe | .040 | * | .372 | * | .096 | * | .168 | * |
| Mn | .066 | * | .070 | * | .048 | * | .062 | * |
| Mg | .002 | 4.019 | .008 | 4.095 | .006 | 4.049 | .005 | 4.054 |
| Ca | .004 | * | .004 | * | .004 | * | .004 | * |
| Na | .211 | * | .032 | * | .139 | * | .128 | * |
| K | 1.742 | 1.958 | 1.822 | 1.858 | 1.755 | 1.898 | 1.773 | 1.905 |
| F | .320 | * | .155 | * | .205 | * | .227 | * |
| Cl | .009 | * | .000 | * | .004 | * | .005 | * |
| H | 3.673 | 4.002 | 3.840 | 3.995 | 3.785 | 3.995 | 3.766 | 3.997 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 36.91 | | 82.55 | | 64.02 | | 71.46 | |
| Mg | 1.83 | | 1.81 | | 3.93 | | 2.27 | |
| Mn | 61.26 | | 15.64 | | 32.05 | | 26.27 | |
| A | .9497 | | .7967 | | .9308 | | .8923 | |
| Mg/FeMg | .0472 | | .0214 | | .0579 | | .0344 | |
| Mn/FeMn | .6240 | | .1593 | | .3336 | | .2672 | |

1 S7-53 MUSCOVITE INCLUSION E IN QTZ (VPI)

2 S7-53 MUSCOVITE INCLUSION F IN QTZ (VPI)

3 S7-53 MUSCOVITE INCLUSION G IN QTZ (VPI)

4 AVERAGE

MUSCOVITE ANALYSES (H2O INPUTTED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

1

| | |
|----------|--------|
| SiO2 | 46.50 |
| TiO2 | .59 |
| Al2O3 | 27.11 |
| FeO | 6.76 |
| MnO | .70 |
| MgO | 2.41 |
| CaO | .01 |
| Na2O | .27 |
| K2O | 10.87 |
| F | 1.14 |
| Cl | .02 |
| H2O | 3.79 |
| SUM | 100.17 |
| -O= F+Cl | .48 |
| SUM | 99.69 |

| | | |
|----|-------|-------|
| Si | 6.439 | * |
| Al | 1.561 | 8.000 |

| | | |
|----|-------|-------|
| Al | 2.862 | * |
| Ti | .061 | * |
| Fe | .783 | * |
| Mn | .082 | * |
| Mg | .497 | 4.286 |

| | | |
|----|-------|-------|
| Ca | .001 | * |
| Na | .072 | * |
| K | 1.920 | 1.994 |

| | | |
|----|-------|-------|
| F | .499 | * |
| Cl | .005 | * |
| H | 3.501 | 4.005 |

| | | |
|---|--------|---|
| O | 24.000 | * |
|---|--------|---|

| | |
|----|-------|
| Fe | 57.46 |
| Mg | 36.51 |
| Mn | 6.03 |

| | |
|---------|-------|
| A | .4795 |
| Mg/FeMg | .3885 |
| Mn/FeMn | .0949 |

1 S7-53 MATRIX MUSCOVITE (VPI)

MUSCOVITE ANALYSES (H2O INPUTTED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|----------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 46.21 | | 45.50 | | 46.45 | | 45.10 | |
| TiO2 | .73 | | .78 | | .72 | | .60 | |
| Al2O3 | 26.49 | | 26.10 | | 26.70 | | 26.01 | |
| FeO | 7.55 | | 7.51 | | 7.10 | | 7.25 | |
| MnO | 1.26 | | 1.24 | | 1.00 | | 1.23 | |
| MgO | 2.21 | | 2.17 | | 2.10 | | 2.07 | |
| CaO | .12 | | .12 | | .10 | | .14 | |
| Na2O | .40 | | .45 | | .40 | | .44 | |
| K2O | 8.48 | | 8.93 | | 8.40 | | 9.33 | |
| BaO | .19 | | .17 | | .19 | | .19 | |
| F | 2.04 | | 1.90 | | 1.80 | | 2.08 | |
| Cl | .03 | | .03 | | .04 | | .04 | |
| H2O | 3.31 | | 3.32 | | 3.42 | | 3.20 | |
| SUM | 99.02 | | 98.22 | | 98.42 | | 97.68 | |
| -O= F+Cl | .87 | | .81 | | .77 | | .88 | |
| SUM | 98.15 | | 97.41 | | 97.65 | | 96.80 | |
| Si | 6.473 | * | 6.449 | * | 6.507 | * | 6.447 | * |
| Al | 1.527 | 8.000 | 1.551 | 8.000 | 1.493 | 8.000 | 1.553 | 8.000 |
| Al | 2.846 | * | 2.809 | * | 2.914 | * | 2.829 | * |
| Ti | .077 | * | .083 | * | .076 | * | .065 | * |
| Fe | .884 | * | .890 | * | .832 | * | .867 | * |
| Mn | .150 | * | .149 | * | .119 | * | .149 | * |
| Mg | .461 | 4.418 | .458 | 4.389 | .438 | 4.379 | .441 | 4.350 |
| Ca | .018 | * | .018 | * | .015 | * | .021 | * |
| Na | .109 | * | .124 | * | .109 | * | .122 | * |
| K | 1.515 | * | 1.614 | * | 1.501 | * | 1.701 | * |
| Ba | .010 | 1.652 | .009 | 1.766 | .010 | 1.635 | .011 | 1.855 |
| F | .904 | * | .852 | * | .797 | * | .940 | * |
| Cl | .007 | * | .007 | * | .009 | * | .010 | * |
| H | 3.093 | 4.004 | 3.139 | 3.998 | 3.196 | 4.003 | 3.052 | 4.002 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 59.15 | | 59.45 | | 59.89 | | 59.50 | |
| Mg | 30.86 | | 30.61 | | 31.57 | | 30.28 | |
| Mn | 10.00 | | 9.94 | | 8.54 | | 10.22 | |
| A | .4762 | | .4638 | | .4997 | | .4639 | |
| Mg/FeMg | .3428 | | .3399 | | .3452 | | .3372 | |
| Mn/FeMn | .1446 | | .1433 | | .1248 | | .1466 | |

- 1 S7-55 B MUSCOVITE (VPI)
2 S7-55 B MUSCOVITE (VPI)
3 S7-55 B MUSCOVITE (VPI)
4 S7-55 E MUSCOVITE (VPI)

MUSCOVITE ANALYSES (H2O INPUTTED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|----------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 45.06 | | 46.76 | | 45.98 | | 46.72 | |
| TiO2 | .13 | | .08 | | .07 | | .23 | |
| Al2O3 | 31.87 | | 37.05 | | 35.33 | | 35.54 | |
| FeO | 5.28 | | .94 | | 1.84 | | 1.56 | |
| MnO | .80 | | .44 | | .42 | | .72 | |
| MgO | .03 | | .04 | | .11 | | .04 | |
| CaO | .00 | | .01 | | .00 | | .01 | |
| Na2O | .23 | | .83 | | .50 | | .44 | |
| K2O | 10.46 | | 10.09 | | 10.24 | | 10.59 | |
| F | .23 | | .39 | | .54 | | .52 | |
| Cl | .01 | | .01 | | .01 | | .02 | |
| H2O | 4.21 | | 4.38 | | 4.24 | | 4.26 | |
| SUM | 98.31 | | 101.02 | | 99.28 | | 100.65 | |
| -O= F+Cl | .10 | | .17 | | .23 | | .22 | |
| SUM | 98.21 | | 100.85 | | 99.05 | | 100.43 | |
| Si | 6.247 | * | 6.137 | * | 6.178 | * | 6.200 | * |
| Al | 1.753 | 8.000 | 1.863 | 8.000 | 1.822 | 8.000 | 1.800 | 8.000 |
| Al | 3.453 | * | 3.867 | * | 3.772 | * | 3.758 | * |
| Ti | .014 | * | .008 | * | .007 | * | .023 | * |
| Fe | .612 | * | .103 | * | .207 | * | .173 | * |
| Mn | .094 | * | .049 | * | .048 | * | .081 | * |
| Mg | .006 | 4.179 | .008 | 4.035 | .022 | 4.056 | .008 | 4.043 |
| Ca | .000 | * | .001 | * | .000 | * | .001 | * |
| Na | .062 | * | .211 | * | .130 | * | .113 | * |
| K | 1.850 | 1.911 | 1.689 | 1.902 | 1.755 | 1.885 | 1.793 | 1.907 |
| F | .101 | * | .162 | * | .229 | * | .218 | * |
| Cl | .002 | * | .002 | * | .002 | * | .004 | * |
| H | 3.893 | 3.997 | 3.835 | 3.999 | 3.800 | 4.032 | 3.771 | 3.994 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 85.94 | | 64.52 | | 74.75 | | 66.09 | |
| Mg | .87 | | 4.89 | | 7.96 | | 3.02 | |
| Mn | 13.19 | | 30.59 | | 17.28 | | 30.89 | |
| A | .7025 | | .9268 | | .8743 | | .8781 | |
| Mg/FeMg | .0100 | | .0705 | | .0963 | | .0437 | |
| Mn/FeMn | .1330 | | .3216 | | .18978 | | .3185 | |

1 ED1-834 MUSCOVITE INCLUSION B IN QTZ (VPI)

2 ED1-834 MUSCOVITE INCLUSION D IN QTZ (VPI)

3 ED1-834 MUSCOVITE INCLUSION D IN QTZ (VPI)

4 ED1-834 MUSCOVITE INCLUSION A IN QTZ (VPI)

MUSCOVITE ANALYSES (H2O INPUTTED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 5 | | 6 | | 7 | |
|----------|--------|-------|--------|-------|--------|-------|
| SiO2 | 46.13 | | 46.82 | | 45.44 | |
| TiO2 | .13 | | .19 | | .06 | |
| Al2O3 | 34.95 | | 36.84 | | 33.05 | |
| FeO | 2.40 | | 4.10 | | .71 | |
| MnO | .60 | | .76 | | .43 | |
| MgO | .05 | | .09 | | .02 | |
| CaO | 0.00 | | .01 | | .00 | |
| Na2O | .50 | | .72 | | .28 | |
| K2O | 10.34 | | 10.54 | | 10.15 | |
| F | .42 | | .54 | | .30 | |
| Cl | .01 | | .02 | | .01 | |
| H2O | 4.27 | | 4.34 | | 4.21 | |
| SUM | 99.81 | | 104.96 | | 94.67 | |
| -O= F+Cl | .18 | | .23 | | .13 | |
| SUM | 99.64 | | 104.73 | | 94.54 | |
| Si | 6.190 | * | 6.040 | * | 6.352 | * |
| Al | .000 | 6.190 | .000 | 6.040 | .000 | 6.352 |
| Al | 5.526 | * | 5.601 | * | 5.445 | * |
| Ti | .013 | * | .019 | * | .007 | * |
| Fe | .270 | * | .442 | * | .083 | * |
| Mn | .068 | * | .083 | * | .051 | * |
| Mg | .011 | 5.887 | .017 | 6.161 | .005 | 5.590 |
| Ca | .001 | * | .001 | * | .000 | * |
| Na | .130 | * | .179 | * | .077 | * |
| K | 1.771 | 1.901 | 1.734 | 1.914 | 1.810 | 1.887 |
| F | .178 | * | .222 | * | .131 | * |
| Cl | .003 | * | .004 | * | .002 | * |
| H | 3.824 | 4.005 | 3.732 | 3.958 | 3.924 | 4.057 |
| O | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 77.44 | | 81.54 | | 60.09 | |
| Mg | 3.16 | | 3.09 | | 3.45 | |
| Mn | 19.40 | | 15.37 | | 36.46 | |

5 AVERAGE
6 AVERAGE PLUS SIGMA
7 AVERAGE MINUS SIGMA

MUSCOVITE ANALYSES (H2O INPUTTED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

1

| | |
|----------|-------|
| SiO2 | 45.01 |
| TiO2 | .58 |
| Al2O3 | 27.49 |
| FeO | 7.18 |
| MnO | 1.00 |
| MgO | 1.84 |
| CaO | .08 |
| Na2O | .39 |
| K2O | 9.50 |
| F | 1.18 |
| Cl | .01 |
| H2O | 3.68 |
| SUM | 97.94 |
| -O= F+Cl | .50 |
| SUM | 97.44 |

| | | |
|----|-------|-------|
| Si | 6.363 | * |
| Al | 1.637 | 8.000 |

| | | |
|----|-------|-------|
| Al | 2.942 | * |
| Ti | .062 | * |
| Fe | .849 | * |
| Mn | .120 | * |
| Mg | .388 | 4.360 |

| | | |
|----|-------|-------|
| Ca | .012 | * |
| Na | .107 | * |
| K | 1.713 | 1.832 |

| | | |
|----|-------|-------|
| F | .528 | * |
| Cl | .002 | * |
| H | 3.470 | 4.000 |

| | | |
|---|--------|---|
| O | 24.000 | * |
|---|--------|---|

| | |
|----|-------|
| Fe | 62.59 |
| Mg | 28.59 |
| Mn | 8.83 |

| | |
|---------|-------|
| A | .5144 |
| Mg/FeMg | .3135 |
| Mn/FeMn | .1236 |

1 ED1-834 MATRIX MUSCOVITE (VPI)

MUSCOVITE ANALYSES (H2O INPUTTED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|----------|--------|-------|--------|-------|--------|-------|--------|-------|
| SiO2 | 45.12 | | 47.14 | | 46.84 | | 46.27 | |
| TiO2 | .27 | | .11 | | .65 | | .70 | |
| Al2O3 | 30.64 | | 35.35 | | 28.95 | | 27.87 | |
| FeO | 5.75 | | 2.01 | | 5.67 | | 6.62 | |
| MnO | .44 | | .41 | | .97 | | 1.01 | |
| MgO | .22 | | .17 | | .97 | | 1.33 | |
| CaO | .13 | | .13 | | .14 | | .13 | |
| Na2O | .24 | | .21 | | .34 | | .45 | |
| K2O | 9.12 | | 9.64 | | 9.55 | | 9.27 | |
| BaO | .17 | | .17 | | .18 | | .21 | |
| F | .43 | | .33 | | .82 | | 2.28 | |
| Cl | .04 | | .03 | | .04 | | .04 | |
| H2O | 4.05 | | 4.35 | | 3.94 | | 3.22 | |
| SUM | 96.62 | | 100.05 | | 99.06 | | 99.40 | |
| -O= F+Cl | .19 | | .15 | | .35 | | .97 | |
| SUM | 96.43 | | 99.90 | | 98.71 | | 98.43 | |
| Si | 6.340 | * | 6.256 | * | 6.462 | * | 6.449 | * |
| Al | 1.660 | 8.000 | 1.744 | 8.000 | 1.538 | 8.000 | 1.551 | 8.000 |
| Al | 3.413 | * | 3.784 | * | 3.168 | * | 3.026 | * |
| Ti | .029 | * | .011 | * | .067 | * | .073 | * |
| Fe | .676 | * | .223 | * | .654 | * | .772 | * |
| Mn | .052 | * | .046 | * | .113 | * | .119 | * |
| Mg | .046 | 4.215 | .034 | 4.098 | .199 | 4.202 | .276 | 4.267 |
| Ca | .020 | * | .018 | * | .021 | * | .019 | * |
| Na | .065 | * | .054 | * | .091 | * | .122 | * |
| K | 1.634 | * | 1.632 | * | 1.680 | * | 1.648 | * |
| Ba | .009 | 1.729 | .009 | 1.713 | .010 | 1.802 | .011 | 1.800 |
| F | .191 | * | .139 | * | .358 | * | 1.005 | * |
| Cl | .010 | * | .007 | * | .009 | * | .009 | * |
| H | 3.796 | 3.997 | 3.851 | 3.996 | 3.626 | 3.993 | 2.994 | 4.008 |
| O | 24.000 | * | 24.000 | * | 24.000 | * | 24.000 | * |
| Fe | 87.28 | | 73.67 | | 67.65 | | 66.11 | |
| Mg | 5.95 | | 11.11 | | 20.63 | | 23.67 | |
| Mn | 6.76 | | 15.22 | | 11.72 | | 10.22 | |
| A | .6834 | .8629 | .5999 | .5432 | | | | |
| Mg/FeMg | .0638 | .1309 | .2336 | .2636 | | | | |
| Mn/FeMn | .0719 | .1712 | .1477 | .1338 | | | | |

- 1 ED1-877 B MUSCOVITE (VPI)
- 2 ED1-877 C MUSCOVITE (VPI)
- 3 ED1-877 G MUSCOVITE (VPI)
- 4 ED1-877 MUSCOVITE (VPI)

PYROPHYLLITE ANALYSES (H2O CALCULATED) FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | |
|---------|--------|-------|--------|-------|
| SiO2 | 52.40 | | 49.93 | |
| TiO2 | .02 | | .00 | |
| Al2O3 | 42.60 | | 40.43 | |
| FeO | .59 | | .32 | |
| MnO | .39 | | 1.87 | |
| MgO | .08 | | .01 | |
| CaO | .03 | | .06 | |
| Na2O | .03 | | .02 | |
| K2O | .02 | | .13 | |
| H2O | 6.03 | | 5.77 | |
| SUM | 102.19 | | 98.54 | |
| Si | 5.206 | * | 5.184 | * |
| Al | 2.794 | 8.000 | 2.816 | 8.000 |
| Al | 2.194 | * | 2.130 | * |
| Ti | .001 | * | .000 | * |
| Fe | .049 | * | .028 | * |
| Mn | .033 | * | .164 | * |
| Mg | .012 | * | .002 | * |
| Ca | .003 | * | .007 | * |
| Na | .006 | * | .004 | * |
| K | .003 | 2.300 | .017 | 2.351 |
| H | 4.000 | 4.000 | 4.000 | 4.000 |
| O | 20.000 | * | 20.000 | * |
| A | .9637 | .9269 | | |
| Mg/FeMg | .1946 | .0527 | | |
| Mn/FeMn | .4009 | .8555 | | |

1 ED1-464 UNKNOWN IN OPAQUE VEIN (USC)

2 ED1-464 UNKNOWN IN OPAQUE VEIN (USC)

RHODOCHROSITE ANALYSES FOR THE CUFFYTOWN CREEK PLUTON, S.C.

| | 1 | | 2 | | 3 | | 4 | |
|-----------------|--------|-------|-------|-------|--------|-------|--------|-------|
| MgO | .04 | | .06 | | .05 | | .05 | |
| CaO | 7.49 | | 2.53 | | 7.39 | | 5.80 | |
| MnO | 41.11 | | 40.07 | | 40.41 | | 40.53 | |
| FeO | 13.13 | | 18.01 | | 13.25 | | 14.80 | |
| CO ₂ | 39.48 | | 37.94 | | 39.05 | | 38.82 | |
| SUM | 101.25 | | 98.61 | | 100.15 | | 100.00 | |
| Mg | .001 | * | .002 | * | .001 | * | .001 | * |
| Ca | .149 | * | .052 | * | .149 | * | .117 | * |
| Mn | .646 | * | .655 | * | .642 | * | .648 | * |
| Fe | .204 | 1.000 | .291 | 1.000 | .208 | 1.000 | .233 | 1.000 |
| C | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| O | 3.000 | * | 3.000 | * | 3.000 | * | 3.000 | * |
| Rhodochrosite | 64.62 | | 65.52 | | 64.22 | | 64.78 | |
| Siderite | 20.38 | | 29.08 | | 20.79 | | 23.35 | |
| Calcite | 14.89 | | 5.23 | | 14.85 | | 11.73 | |
| Magnesite | .11 | | .17 | | .14 | | .14 | |
| Mn | .759 | | .691 | | .754 | | | |
| Fe | .240 | | .307 | | .244 | | | |
| Mg | .001 | | .002 | | .002 | | | |

- 1 ED1-872 CARBONATE (USC)
2 ED1-872 CARBONATE (USC)
3 ED1-872 CARBONATE (USC)
4 AVERAGE

RUTILE ANALYSES

| | 1 | | 2 | |
|-------|-------|-------|-------|-------|
| TiO2 | 90.92 | | 92.51 | |
| Al2O3 | .00 | | .00 | |
| FeO | 6.12 | | 3.30 | |
| MnO | .00 | | .00 | |
| MgO | .00 | | .00 | |
| SUM | 97.04 | | 95.81 | |
| Ti | .964 | * | .981 | * |
| Al | .000 | * | .000 | * |
| Fe | .000 | * | .000 | * |
| Mn | .000 | * | .000 | * |
| Mg | .000 | * | .000 | * |
| Fe | .072 | 1.036 | .039 | 1.019 |
| O | 2.000 | * | 2.000 | * |

1 S7-50a RUTILE (USC)
2 ED1-872 RUTILE (USC)

HEMATITE ANALYSES

| | 1 | | 2 | | 3 | |
|-------|-------|-------|--------|------|--------|-------|
| TiO2 | .25 | | .07 | | .08 | |
| Al2O3 | .01 | | .02 | | .01 | |
| Fe2O3 | 98.21 | | 100.70 | | 100.50 | |
| FeO | .23 | | .05 | | .07 | |
| MnO | .00 | | .01 | | .00 | |
| MgO | .00 | | .00 | | .00 | |
| SUM | 98.70 | | 100.85 | | 100.66 | |
| Ti | .005 | * | .001 | * | .002 | * |
| Al | .000 | * | .001 | * | .000 | * |
| Fe3+ | .000 | * | .000 | * | .000 | * |
| Fe | .005 | * | .001 | * | .002 | * |
| Mn | .000 | * | .000 | * | .000 | * |
| Mg | .000 | * | .000 | * | .000 | * |
| Fe3+ | 1.989 | 2.000 | 1.997 | .000 | 1.996 | 2.000 |
| O | 3.000 | * | 3.000 | * | 3.000 | * |

1 S7-50a HEMATITE (USC)
2 ED1-499 HEMATITE (VPI)
3 ED1-499 HEMATITE (VPI)

MAGNETITE ANALYSES

| | 1 | | 2 | | 3 | | 4 | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| TiO2 | .03 | | .19 | | .09 | | .91 | |
| Al2O3 | .00 | | .46 | | .00 | | .00 | |
| Fe2O3 | 68.44 | | 66.69 | | 68.52 | | 66.63 | |
| FeO | 30.80 | | 32.48 | | 30.99 | | 31.55 | |
| MnO | .02 | | .01 | | .01 | | .06 | |
| MgO | .01 | | .00 | | .00 | | .00 | |
| SUM | 99.30 | | 99.83 | | 99.61 | | 99.15 | |
| Ti | .001 | * | .006 | * | .003 | * | .027 | * |
| Al | .000 | * | .021 | * | .000 | * | .000 | * |
| Fe3+ | .000 | * | .000 | * | .000 | * | .000 | * |
| Fe | .999 | * | 1.049 | * | 1.003 | * | 1.025 | * |
| Mn | .001 | * | 0.000 | * | 0.000 | * | .002 | * |
| Mg | .001 | * | .000 | * | .000 | * | .000 | * |
| Fe3+ | 1.998 | 3.000 | 1.939 | 3.015 | 1.995 | 3.000 | 1.947 | 3.000 |
| O | 4.000 | * | 4.000 | * | 4.000 | * | 4.000 | * |

- 1 S7-50a MAGNETITE (USC)
 2 ED1-499 MAGNETITE (VPI)
 3 ED1-499 MAGNETITE (VPI)
 4 ED1-872 MAGNETITE (USC)

| | 5 |
|-------|-------------|
| TiO2 | .09 |
| Al2O3 | .00 |
| Fe2O3 | 68.03 |
| FeO | 30.63 |
| MnO | .14 |
| MgO | .00 |
| SUM | 98.89 |
| Ti | .003 * |
| Al | .000 * |
| Fe3+ | .000 * |
| Fe | .998 * |
| Mn | .005 * |
| Mg | .000 * |
| Fe3+ | 1.995 3.000 |
| O | 4.000 * |

- 5 ED1-872 MAGNETITE (USC)