# Supplementary Information 1

**Table 1.** Compiled geochemical data base of published analyses of the igneous rocks of the Combia Formation.

| | Reference | Sample | Rock type† | Latitude N | Longitude W | $SiO_2$ | $TiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MnO | MgO | CaO | $Na_2O$ | $K_2O$ | $P_2O_5$ | $Cr_2O_3$ | LOI % | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | JJ13 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 53.2 | 1.31 | 14.8 | 12.03 | | 0.19 | 3.56 | 7.68 | 2.95 | 1.89 | 0.48 | | 1.48 | 99.59 |
| 2 | | JJ16 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.68 | 1.3 | 14.7 | 11.77 | | 0.17 | 3.51 | 7.82 | 2.74 | 1.75 | 0.48 | | 2.75 | 99.65 |
| 3 | | JJ19 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.56 | 1.38 | 14.82 | 12.13 | | 0.17 | 3.32 | 7.56 | 2.63 | 1.94 | 0 | | 2.6 | 99.11 |
| 4 | | JJ113 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.62 | 1.39 | 14.71 | 12.82 | | 0.19 | 3.48 | 7.57 | 2.6 | 1.88 | 0.5 | | 2.19 | 99.93 |
| 5 | | JJ117 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.55 | 1.38 | 14.66 | 12.67 | | 0.19 | 3.43 | 7.58 | 2.69 | 1.98 | 0.5 | | 1.77 | 99.41 |
| 6 | | JJ118 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.1 | 1.38 | 14.61 | 12.55 | | 0.18 | 3.32 | 7.47 | 2.7 | 1.84 | 0.51 | | 1.98 | 98.64 |
| 7 | | JJ120 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.49 | 1.38 | 14.59 | 12.93 | | 0.19 | 3.49 | 7.36 | 2.76 | 1.79 | 0.52 | | 1.47 | 98.96 |
| 8 | Bernet et al. (2020) | JJ123 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.64 | 1.38 | 14.87 | 12.75 | | 0.18 | 3.3 | 7.5 | 2.8 | 1.82 | 0.51 | | 1.74 | 99.49 |
| 9 | | JJ32 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.09 | 0.86 | 18.3 | 10.4 | | 0.18 | 2.99 | 9.33 | 2.66 | 1.2 | 0.28 | | 1.12 | 99.41 |
| 10 | | JJ35 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 51.19 | 1.03 | 15.29 | 13.44 | | 0.21 | 3.44 | 8.28 | 2.76 | 1.4 | 0.39 | | 1.63 | 99.07 |
| 11 | | JJ36 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.07 | 1.06 | 15.05 | 13.48 | | 0.21 | 3.5 | 8.35 | 2.89 | 1.25 | 0.39 | | 1.63 | 99.9 |
| 12 | | JJ39 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.22 | 1.06 | 15.22 | 13.63 | | 0.21 | 3.46 | 8.24 | 2.8 | 1.45 | 0.39 | | 1.65 | 100.32 |
| 13 | | JJ42 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 51.78 | 0.96 | 17.49 | 10.49 | | 0.17 | 3.48 | 8.8 | 2.94 | 1.47 | 0.44 | | 2.08 | 100.09 |
| 14 | | JJ43 | | 5° 46' 6.61'' | 75° 34' 46.28'' | 52.34 | 0.99 | 17.66 | 10.23 | | 0.17 | 3.05 | 8.84 | 2.98 | 1.48 | 0.46 | | 2.31 | 100.51 |
| 15 | | JJ2110 | | 6° 8' 36.54'' | 75° 50' 51.37'' | 55.45 | 0.48 | 19.02 | 5.01 | | 0.09 | 1.05 | 4.51 | 3.58 | 5.1 | 0.47 | | 5.18 | 99.92 |
| 16 | | JJ2114 | | 6° 8' 36.54'' | 75° 50' 51.37'' | 55.78 | 0.52 | 18.93 | 5.53 | | 0.09 | 1.12 | 5.28 | 3.73 | 4.6 | 0.49 | | 2.7 | 98.76 |
| 17 | | CBPTB35 | Grt–bearing Granodiorite Porphyry | 4° 55' 12'' | 75° 42' 0'' | 62.96 | 0.36 | 17.45 | 4.22 | | 0.07 | 1.16 | 5.49 | 4.4 | 1.89 | 0.19 | | 1.7 | 99.83 |
| 18 | | CBPTB37 | Grt–bearing Granodiorite Porphyry | 4° 55' 12'' | 75° 42' 0'' | 63.31 | 0.36 | 17.47 | 4.61 | | 0.08 | 1.21 | 5.59 | 4.25 | 1.73 | 0.19 | | 1 | 99.84 |
| 19 | | CBPTB38 | Grt–bearing Granodiorite Porphyry | 4° 55' 12'' | 75° 42' 0'' | 62.17 | 0.4 | 17.52 | 4.74 | | 0.09 | 1.45 | 6 | 4.26 | 1.59 | 0.21 | | 1.4 | 99.83 |
| 20 | | CBPTB29 | Granodiorite Porphyry | 4° 54' 36'' | 75° 42' 36'' | 65.4 | 0.34 | 15.93 | 3.72 | | 0.02 | 1.34 | 4.39 | 4.19 | 1.81 | 0.18 | | 2.5 | 99.82 |
| 21 | | CBPTB30 | Granodiorite Porphyry | 4° 54' 36'' | 75° 42' 36'' | 65.06 | 0.41 | 16.78 | 4.08 | | 0.01 | 1.43 | 4.17 | 4.04 | 2.16 | 0.19 | | 1.4 | 99.76 |
| 22 | Bissig et al. (2017) | CBPTB32 | Granodiorite Porphyry | 4° 54' 36'' | 75° 42' 36'' | 64.57 | 0.37 | 16.81 | 4.14 | | 0.01 | 1.23 | 4.76 | 4.55 | 1.3 | 0.17 | | 1.9 | 99.83 |
| 23 | | CBPTB33 | Granodiorite Porphyry | 4° 54' 36'' | 75° 42' 36'' | 62.25 | 0.34 | 16.86 | 3.62 | | 0.13 | 1.03 | 4.99 | 3.73 | 2.05 | 0.16 | | 4.7 | 99.82 |
| 24 | | CBMAG25 | Grt–bearing Granodiorite Porphyry | 5° 17' 24'' | 75° 41' 24'' | 64.5 | 0.4 | 17.4 | 5.13 | | 0.05 | 1.4 | 4.82 | 4.53 | 0.79 | 0.21 | | 1.26 | 100.81 |
| 25 | | CBTSHL03 | Grt–bearing Granodiorite Porphyry | 5° 17' 24'' | 75° 41' 24'' | 63.7 | 0.38 | 17.05 | 4.98 | | 0.05 | 1.52 | 4.59 | 4.3 | 1 | 0.21 | | 2.66 | 100.96 |
| 26 | | CBTSCU04 | Grt–bearing Granodiorite Porphyry | 5° 41' 24'' | 75° 41' 24'' | 62.5 | 0.53 | 17.69 | 6.08 | | 0.06 | 1.77 | 4.52 | 3.65 | 2.19 | 0.26 | | 1.18 | 100.86 |
| 27 | | CBTSHL02 | Diorite Porphyry | 5° 41' 24'' | 75° 41' 24'' | 62.2 | 0.45 | 16.99 | 5.79 | | 0.04 | 1.9 | 4.44 | 4.14 | 1.97 | 0.24 | | 2.35 | 100.91 |
| 28 | | TB4 | | 5° 28' 38.04'' | 75° 35' 10.62'' | 61.69 | 0.56 | 16.52 | 5.31 | | 0.12 | 1.74 | 5.28 | 3.86 | 1.98 | 0.28 | | 2.4 | 99.7 |
| 29 | | TB6 | | 5° 24' 57'' | 75° 38' 48.72'' | 61.17 | 0.56 | 16.65 | 5.71 | | 0.13 | 1.89 | 5.58 | 3.79 | 2.07 | 0.29 | | 1.8 | 99.68 |
| 30 | | TB9 | | 5° 41' 45.66'' | 75° 36' 1.26'' | 60.08 | 0.65 | 17.32 | 5.98 | | 0.08 | 2.11 | 6.17 | 4.34 | 1.64 | 0.21 | | 1.1 | 99.65 |
| 31 | | TB10 | | 5° 34' 49.32'' | 75° 38' 1.26'' | 50.6 | 0.94 | 18.7 | 9.93 | | 0.13 | 3.53 | 10.3 | 2.61 | 0.25 | 0.31 | | 2.4 | 99.76 |
| 32 | | TB14A | | 5° 29' 14.16'' | 75° 38' 4.68'' | 61.33 | 0.56 | 16.69 | 5.91 | | 0.17 | 1.74 | 5.18 | 3.99 | 1.28 | 0.3 | | 2.6 | 99.74 |
| 33 | Borrero & Toro–Toro (2016) | TB17 | | 5° 20' 37.74'' | 75° 44' 4.56'' | 61.04 | 0.62 | 16.13 | 6.54 | | 0.12 | 2.12 | 6.06 | 3.5 | 1.73 | 0.27 | | 1.6 | 99.76 |
| 34 | | TB20 | | 5° 25' 17.58'' | 75° 42' 32.4'' | 59.66 | 0.62 | 16.92 | 6.81 | | 0.16 | 2.28 | 6.11 | 3.83 | 1.8 | 0.26 | | 1.3 | 99.72 |
| 35 | | TB21 | | 5° 23' 34.8'' | 75° 41' 9.9'' | 59.84 | 0.63 | 16.9 | 5.94 | | 0.13 | 2.42 | 6.16 | 3.86 | 1.96 | 0.27 | | 1.6 | 99.67 |
| 36 | | TB22 | | 5° 21' 50.64'' | 75° 42' 1.98'' | 59.95 | 0.65 | 16.06 | 6.71 | | 0.14 | 2.63 | 6.08 | 3.66 | 2.06 | 0.28 | | 1.4 | 99.67 |
| 37 | | TB26 | | 5° 0' 37.32'' | 75° 36' 55.62'' | 62.86 | 0.49 | 16.78 | 5.13 | | 0.13 | 1.82 | 5.14 | 3.29 | 2 | 0.21 | | 2 | 99.79 |
| 38 | | TB30 | | 5° 17' 41.22'' | 75° 43' 8.7'' | 60.45 | 0.56 | 17.01 | 5.01 | | 0.2 | 2.32 | 4.36 | 2.42 | 4.04 | 0.25 | | 2.8 | 99.39 |
| 39 | | TB31 | | 5° 18' 17.1'' | 75° 43' 29.4'' | 59.04 | 0.58 | 18.01 | 6.78 | | 0.13 | 1.66 | 4.43 | 3.32 | 1.88 | 0.18 | | 3.7 | 99.7 |

| | Ni ppm | Cr ppm | V ppm | Ga ppm | Cu ppm | Zn ppm | La ppm | Ce ppm | Pr ppm | Nd ppm | Sm ppm | Eu ppm | Gd ppm | Tb ppm | Dy ppm | Ho ppm | Er ppm | Tm ppm | Yb ppm | Lu ppm | Ba ppm | Th ppm | Nb ppm | Y ppm | Hf ppm | Ta ppm | U ppm | Pb ppm | Rb ppm | Cs ppm | Sr ppm | Sc ppm | Zr ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14.9 | 12.7 | 343 | NA | 224.00 | 107 | 10.50 | 22.70 | 3.21 | 14.70 | 3.87 | 1.21 | 4.53 | 0.71 | 4.50 | 0.93 | 2.75 | NA | 2.53 | 0.38 | 967 | 1.98 | 5.97 | 26.00 | 2.99 | 0.37 | 1.08 | 9.64 | 43.90 | 1.51 | 475 | 31.00 | 110 |
| 2 | 13 | 11.6 | 340 | NA | 203.00 | 136 | 10.50 | 22.60 | 3.21 | 14.60 | 3.94 | 1.23 | 4.46 | 0.72 | 4.55 | 0.93 | 2.65 | NA | 2.55 | 0.37 | 948 | 1.97 | 5.83 | 26.00 | 2.92 | 0.37 | 1.08 | 9.70 | 42.30 | 1.73 | 478 | 30.70 | 108 |
| 3 | 16 | 13.5 | 367 | NA | 227.00 | 116 | 11.20 | 23.90 | 3.42 | 15.50 | 4.24 | 1.27 | 4.74 | 0.75 | 4.65 | 1.00 | 2.84 | NA | 2.64 | 0.40 | 1030 | 2.07 | 6.18 | 28.00 | 3.17 | 0.39 | 1.18 | 10.20 | 49.90 | 1.86 | 470 | 30.20 | 116 |
| 4 | 16.5 | 13.1 | 369 | NA | 220.00 | 120 | 11.20 | 24.30 | 3.46 | 15.80 | 4.29 | 1.27 | 4.71 | 0.76 | 4.77 | 1.01 | 2.89 | NA | 2.71 | 0.40 | 990 | 2.11 | 6.25 | 27.50 | 3.18 | 0.39 | 1.11 | 10.50 | 51.40 | 1.97 | 457 | 30.50 | 115 |
| 5 | 17.1 | 13.2 | 361 | NA | 223.00 | 114 | 11.10 | 23.80 | 3.36 | 15.50 | 4.16 | 1.26 | 4.73 | 0.75 | 4.68 | 0.98 | 2.84 | NA | 2.64 | 0.39 | 1030 | 2.06 | 6.11 | 27.20 | 3.15 | 0.39 | 1.12 | 10.10 | 49.20 | 1.76 | 459 | 30.10 | 114 |
| 6 | 17.3 | 13.5 | 365 | NA | 240.00 | 116 | 11.30 | 24.00 | 3.42 | 15.70 | 4.20 | 1.28 | 4.67 | 0.75 | 4.85 | 0.99 | 2.89 | NA | 2.69 | 0.40 | 1010 | 2.10 | 6.26 | 27.60 | 3.15 | 0.39 | 1.11 | 10.20 | 51.50 | 1.96 | 461 | 29.50 | 116 |
| 7 | 16.6 | 13.5 | 366 | NA | 226.00 | 115 | 11.20 | 23.90 | 3.41 | 15.40 | 4.25 | 1.28 | 4.66 | 0.76 | 4.78 | 0.98 | 2.86 | NA | 2.65 | 0.39 | 1000 | 2.08 | 6.19 | 27.30 | 3.10 | 0.39 | 1.10 | 10.20 | 49.30 | 1.84 | 453 | 30.10 | 114 |
| 8 | 18 | 13.3 | 367 | NA | 238.00 | 116 | 11.20 | 23.90 | 3.41 | 15.40 | 4.18 | 1.24 | 4.73 | 0.75 | 4.78 | 0.98 | 2.87 | NA | 2.67 | 0.40 | 1010 | 2.09 | 6.16 | 27.40 | 3.12 | 0.38 | 1.11 | 10.10 | 50.10 | 2.00 | 457 | 30.40 | 115 |
| 9 | 7.18 | 10.9 | 296 | NA | 127.00 | 87 | 5.70 | 12.40 | 1.83 | 8.64 | 2.48 | 0.86 | 2.96 | 0.48 | 3.19 | 0.67 | 1.99 | NA | 1.87 | 0.27 | 607 | 1.03 | 2.63 | 18.90 | 1.61 | 0.17 | 0.52 | 6.00 | 25.80 | 0.88 | 558 | 27.40 | 56 |
| 10 | 9.99 | 15.7 | 331 | NA | 184.00 | 111 | 7.46 | 16.20 | 2.39 | 11.30 | 3.24 | 1.09 | 3.87 | 0.62 | 4.08 | 0.84 | 2.48 | NA | 2.32 | 0.33 | 842 | 1.39 | 3.03 | 23.30 | 2.18 | 0.19 | 0.85 | 9.58 | 32.90 | 1.12 | 497 | 33.00 | 75 |
| 11 | 9.79 | 16.5 | 338 | NA | 169.00 | 112 | 7.54 | 16.40 | 2.41 | 11.50 | 3.33 | 1.07 | 3.92 | 0.65 | 4.18 | 0.87 | 2.53 | NA | 2.36 | 0.35 | 823 | 1.40 | 3.07 | 23.50 | 2.25 | 0.19 | 0.86 | 9.90 | 34.70 | 1.23 | 457 | 32.80 | 76 |
| 12 | 10.3 | 17.2 | 337 | NA | 179.00 | 114 | 7.62 | 16.50 | 2.42 | 11.70 | 3.37 | 1.10 | 3.96 | 0.66 | 4.23 | 0.87 | 2.57 | NA | 2.40 | 0.35 | 847 | 1.41 | 3.06 | 24.00 | 2.27 | 0.19 | 0.84 | 9.67 | 34.00 | 1.19 | 473 | 33.10 | 77 |
| 13 | 20.2 | 31.4 | 268 | NA | 191.00 | 100 | 7.14 | 15.40 | 2.22 | 10.30 | 2.81 | 0.98 | 3.34 | 0.54 | 3.58 | 0.75 | 2.23 | NA | 2.13 | 0.31 | 717 | 1.19 | 3.05 | 21.00 | 1.81 | 0.19 | 0.53 | 4.63 | 37.20 | 1.35 | 483 | 24.00 | 66 |
| 14 | 17.7 | 32.6 | 278 | NA | 187.00 | 97 | 7.39 | 15.70 | 2.29 | 10.70 | 2.92 | 1.04 | 3.52 | 0.58 | 3.77 | 0.79 | 2.32 | NA | 2.18 | 0.33 | 742 | 1.23 | 3.16 | 22.20 | 1.87 | 0.19 | 0.53 | 4.74 | 38.30 | 1.59 | 489 | 24.80 | 69 |
| 15 | 2.35 | 1.4 | 96.9 | NA | 117.00 | 70 | 19.70 | 36.50 | 4.69 | 18.40 | 3.74 | 1.20 | 3.30 | 0.46 | 2.54 | 0.50 | 1.44 | NA | 1.39 | 0.21 | 1350 | 4.46 | 4.86 | 15.50 | 2.55 | 0.28 | 1.22 | 10.90 | 169.00 | 3.00 | 1870 | 8.00 | 106 |
| 16 | 2.63 | 1.02 | 100 | NA | 143.00 | 74 | 21.40 | 39.90 | 5.13 | 20.20 | 4.13 | 1.29 | 3.59 | 0.49 | 2.84 | 0.55 | 1.62 | NA | 1.59 | 0.24 | 1250 | 4.95 | 5.54 | 17.00 | 2.81 | 0.30 | 2.19 | 12.10 | 130.00 | 1.11 | 1170 | 8.75 | 118 |
| 17 | 2.1 | NA | 64 | 17.5 | 84.30 | 19 | 11.00 | 21.20 | 2.98 | 14.10 | 2.77 | 0.92 | 2.84 | 0.42 | 2.49 | 0.48 | 1.56 | 0.20 | 1.62 | 0.21 | 563 | 2.10 | 4.00 | 15.20 | 2.40 | 0.40 | 0.70 | 0.50 | 25.00 | 0.80 | 654 | 7.00 | 86 |
| 18 | 2.3 | NA | 59 | 17.9 | 12.70 | 27 | 14.00 | 23.00 | 2.89 | 13.10 | 2.37 | 0.81 | 2.78 | 0.36 | 2.66 | 0.46 | 1.35 | 0.18 | 1.34 | 0.18 | 584 | 1.70 | 4.80 | 13.20 | 2.60 | 0.20 | 0.90 | 0.40 | 28.10 | 0.60 | 657 | 8.00 | 79 |
| 19 | 2.8 | NA | 71 | 16.1 | 5.20 | 26 | 10.80 | 20.20 | 2.74 | 11.60 | 3.02 | 0.90 | 2.72 | 0.45 | 2.47 | 0.51 | 1.41 | 0.21 | 1.45 | 0.23 | 525 | 1.80 | 4.00 | 15.80 | 2.20 | 0.30 | 0.80 | 0.60 | 23.00 | 0.80 | 648 | 10.00 | 79 |
| 20 | 4 | NA | 66 | 16.4 | 223.00 | 95 | 8.00 | 15.20 | 2.03 | 10.10 | 2.05 | 0.67 | 2.04 | 0.28 | 1.70 | 0.36 | 0.88 | 0.13 | 0.85 | 0.16 | 531 | 1.60 | 3.30 | 9.50 | 2.30 | 0.20 | 0.90 | 5.40 | 29.20 | 0.40 | 581 | 8.00 | 76 |
| 21 | 4.4 | NA | 72 | 18.7 | 739.00 | 35 | 8.20 | 15.90 | 2.31 | 11.90 | 2.43 | 0.73 | 2.13 | 0.26 | 1.24 | 0.21 | 0.67 | 0.06 | 0.49 | 0.06 | 564 | 1.60 | 3.70 | 6.00 | 2.30 | 0.30 | 0.60 | 0.50 | 36.70 | 0.50 | 555 | 6.00 | 80 |
| 22 | 3.6 | NA | 64 | 19.1 | 82.00 | 32 | 7.00 | 13.90 | 2.09 | 9.90 | 2.26 | 0.62 | 1.97 | 0.22 | 1.07 | 0.16 | 0.47 | 0.05 | 0.48 | 0.06 | 513 | 1.40 | 4.90 | 5.10 | 2.60 | 0.20 | 0.60 | 0.90 | 25.80 | 0.50 | 617 | 5.00 | 77 |
| 23 | 1.2 | NA | 51 | 17.8 | 8.20 | 47 | 18.00 | 34.10 | 4.29 | 14.30 | 3.51 | 0.93 | 3.17 | 0.50 | 2.77 | 0.60 | 1.86 | 0.23 | 2.10 | 0.31 | 641 | 4.90 | 5.40 | 18.20 | 3.50 | 0.40 | 1.60 | 6.60 | 65.40 | 2.00 | 612 | 6.00 | 111 |
| 24 | 2.2 | NA | 75 | 16.1 | 353.00 | 28 | 7.90 | 16.70 | 2.25 | 13.50 | 2.29 | 0.66 | 2.71 | 0.39 | 2.44 | 0.50 | 1.46 | 0.23 | 2.12 | 0.26 | 744 | 1.70 | 5.30 | 14.60 | 2.10 | 0.10 | 1.10 | 4.60 | 12.20 | 0.20 | 884 | 0.00 | 91 |
| 25 | 1.8 | NA | 67 | 16.6 | 26.80 | 25 | 10.50 | 17.80 | 2.48 | 10.00 | 2.51 | 0.80 | 2.57 | 0.41 | 2.45 | 0.53 | 1.55 | 0.21 | 1.72 | 0.23 | 910 | 1.40 | 5.70 | 14.20 | 2.30 | 0.30 | 1.00 | 5.40 | 21.00 | 1.00 | 718 | 0.00 | 78 |
| 26 | 1.3 | NA | 107 | 16.7 | 293.00 | 40 | 12.70 | 23.10 | 3.01 | 13.00 | 2.89 | 0.89 | 3.16 | 0.47 | 2.69 | 0.57 | 1.64 | 0.26 | 1.91 | 0.30 | 1548 | 2.70 | 3.90 | 16.00 | 2.40 | 0.20 | 1.20 | 2.70 | 21.90 | 0.30 | 886 | 0.00 | 77 |
| 27 | 3.1 | NA | 101 | 17.1 | 157.00 | 31 | 11.20 | 17.90 | 2.43 | 9.80 | 2.24 | 0.77 | 2.41 | 0.35 | 1.84 | 0.41 | 1.14 | 0.17 | 1.02 | 0.19 | 1389 | 1.80 | 5.20 | 10.90 | 1.80 | 0.40 | 1.20 | 7.00 | 31.20 | 0.20 | 899 | 0.00 | 74 |
| 28 | 2.6 | NA | NA | NA | 8.30 | 85 | 21.70 | 38.10 | 4.86 | 20.50 | 3.88 | 1.13 | 3.50 | 0.45 | 2.33 | 0.46 | 1.29 | 0.21 | 1.36 | 0.19 | 1092 | 3.50 | 5.90 | 13.80 | | 0.40 | 1.50 | 2.50 | 37.50 | 0.10 | 934 | NA | NA |
| 29 | 3.7 | NA | NA | NA | 22.40 | 86 | 17.80 | 33.30 | 4.27 | 17.00 | 3.67 | 1.08 | 3.12 | 0.43 | 2.47 | 0.47 | 1.38 | 0.18 | 1.28 | 0.20 | 1170 | 3.00 | 5.20 | 13.80 | | 0.30 | 1.30 | 1.60 | 46.10 | 1.20 | 943 | NA | NA |
| 30 | 6.4 | NA | NA | NA | 57.40 | 55 | 11.90 | 21.00 | 2.71 | 11.80 | 2.52 | 0.77 | 1.98 | 0.22 | 1.14 | 0.20 | 0.49 | 0.08 | 0.51 | 0.08 | 1304 | 1.60 | 2.30 | 5.80 | | 0.10 | 0.80 | 1.50 | 23.90 | 0.50 | 1079 | NA | NA |
| 31 | 12.8 | NA | NA | NA | 54.10 | 85 | 5.30 | 8.30 | 1.53 | 8.50 | 2.54 | 1.79 | 2.99 | 0.47 | 2.81 | 0.63 | 1.93 | 0.28 | 1.66 | 0.26 | 258 | 0.90 | 2.10 | 18.40 | | 0.10 | 0.40 | 7.00 | 5.50 | 0.40 | 701 | NA | NA |
| 32 | 4.9 | NA | NA | NA | 12.60 | 117 | 28.10 | 37.40 | 4.80 | 21.00 | 3.84 | 1.20 | 3.48 | 0.46 | 2.62 | 0.48 | 1.30 | 0.21 | 1.24 | 0.21 | 720 | 3.10 | 5.80 | 14.90 | | 0.40 | 1.50 | 8.90 | 41.00 | 0.30 | 927 | NA | NA |
| 33 | 4.1 | NA | NA | NA | 13.10 | 87 | 13.60 | 25.90 | 3.37 | 14.50 | 3.12 | 1.00 | 2.85 | 0.36 | 1.88 | 0.36 | 0.87 | 0.11 | 0.69 | 0.11 | 799 | 2.20 | 4.10 | 9.70 | | 0.30 | 1.00 | 1.20 | 32.10 | 0.50 | 731 | NA | NA |
| 34 | 4.6 | NA | NA | NA | 14.90 | 73 | 13.30 | 24.70 | 3.27 | 14.60 | 3.23 | 0.99 | 3.06 | 0.44 | 2.57 | 0.53 | 1.45 | 0.22 | 1.44 | 0.24 | 992 | 2.10 | 5.00 | 16.60 | | 0.30 | 1.00 | 2.70 | 33.90 | 0.50 | 775 | NA | NA |
| 35 | 5.1 | NA | NA | NA | 36.00 | 118 | 16.40 | 32.20 | 4.09 | 17.60 | 3.65 | 1.07 | 3.01 | 0.40 | 2.38 | 0.42 | 1.17 | 0.19 | 1.27 | 0.20 | 1047 | 2.70 | 6.00 | 13.10 | | 0.40 | 1.20 | 1.40 | 48.50 | 0.90 | 1065 | NA | NA |
| 36 | 5.4 | NA | NA | NA | 43.10 | 85 | 18.10 | 34.10 | 4.39 | 18.00 | 3.83 | 1.17 | 3.44 | 0.45 | 2.68 | 0.48 | 1.38 | 0.21 | 1.39 | 0.20 | 1118 | 3.10 | 6.40 | 15.10 | | 0.40 | 1.70 | 1.70 | 52.20 | 0.50 | 926 | NA | NA |
| 37 | 1.1 | NA | NA | NA | 3.80 | 80 | 18.10 | 29.60 | 3.75 | 15.70 | 3.45 | 0.97 | 3.30 | 0.47 | 2.89 | 0.56 | 1.50 | 0.23 | 1.48 | 0.23 | 673 | 4.00 | 5.70 | 17.10 | | 0.40 | 1.20 | 1.60 | 57.60 | 1.50 | 598 | NA | NA |
| 38 | 5.8 | NA | NA | NA | 17.00 | 114 | 18.10 | 27.90 | 3.45 | 14.20 | 3.37 | 1.39 | 3.23 | 0.47 | 3.02 | 0.58 | 1.78 | 0.26 | 1.77 | 0.26 | 3706 | 3.10 | 3.40 | 17.00 | | 0.20 | 1.30 | 20.80 | 42.20 | 0.40 | 996 | NA | NA |
| 39 | 0.8 | NA | NA | NA | 3.50 | 96 | 9.40 | 16.70 | 2.09 | 8.70 | 1.90 | 0.71 | 1.96 | 0.29 | 1.85 | 0.40 | 1.04 | 0.17 | 1.24 | 0.18 | 1306 | 2.10 | 3.10 | 10.50 | | 0.20 | 0.90 | 8.00 | 45.40 | 1.40 | 715 | NA | NA |

**Table 1.** Compiled geochemical data base of published analyses of the igneous rocks of the Combia Formation (*continued*).

| | Reference | Sample | Rock type† | Latitude N | Longitude W | $SiO_2$ | $TiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MnO | MgO | CaO | $Na_2O$ | $K_2O$ | $P_2O_5$ | $Cr_2O_3$ | LOI % | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | | AP1505R | | 5° 58' 16.93'' | 75° 49' 29.71'' | 50.65 | 1.18 | 16.22 | 11.83 | | 0.17 | 3.96 | 7.42 | 03.02 | 1.57 | 0.35 | | 3.3 | 99.67 |
| 41 | | AP1518R | Pophyritic Dacite (Plg,Hbl) | 5° 56' 4.45'' | 75° 45' 19.19'' | 69.05 | 0.12 | 16.08 | 2.12 | | 0.05 | 0.2 | 2.83 | 3.1 | 3.44 | 0.05 | | 2.4 | 99.44 |
| 42 | | AP1533R | Pophyritic Andesite (Cpx) | 5° 58' 15.78'' | 75° 47' 44.92'' | 52.69 | 0.73 | 16.79 | 9.25 | | 0.16 | 3.87 | 7.29 | 2.7 | 1.75 | 0.39 | | 4.00 | 99.62 |
| 43 | | AP1534R | Andesite (Hbl) | 5° 58' 12.76'' | 75° 46' 11.93'' | 63.44 | 0.3 | 16.86 | 4.78 | | 0.16 | 0.65 | 4.44 | 3.69 | 2.9 | 0.11 | | 1.9 | 99.23 |
| 44 | | AP1539R | Andesite (Hbl) | 5° 58' 0.62'' | 75° 46' 54.88'' | 58.25 | 0.46 | 16.05 | 05.07 | | 0.13 | 1.32 | 6.68 | 2.94 | 2.58 | 0.2 | | 6.00 | 99.68 |
| 45 | | AP1553R | Microporphyritic Andesite (Cpx) | 5° 52' 42.1'' | 75° 41' 48.37'' | 65.43 | 0.21 | 16.66 | 2.76 | | 0.11 | 0.94 | 3.53 | 3.38 | 3.25 | 0.1 | | 3.00 | 99.37 |
| 46 | | AP1567R | Pophyritic Dacite | 5° 50' 58.6'' | 75° 43' 15.89'' | 65.93 | 0.25 | 16.82 | 3.19 | | 0.07 | 0.63 | 3.86 | 3.61 | 3.25 | 0.14 | | 1.8 | 99.55 |
| 47 | | AP1622R | Microporphyritic Basaltic Andesite | 5° 19' 30.11'' | 75° 42' 44.93'' | 54.97 | 0.65 | 17.54 | 7.13 | | 0.2 | 2.57 | 7.6 | 03.09 | 2.87 | 0.39 | | 2.6 | 99.61 |
| 48 | | AP1630R | Pophyritic Andesite (Hbl, Bt) | 5° 21' 6.8'' | 75° 37' 2.86'' | 62.23 | 0.57 | 16.37 | 5.46 | | 0.14 | 1.89 | 5.00 | 04.06 | 2.58 | 0.31 | | 1.1 | 99.71 |
| 49 | | CM378R | Qtz–Bearing Diorite | 5° 35' 20.15'' | 75° 56' 57.73'' | 56.5 | 0.57 | 17.98 | 8.24 | | 0.13 | 2.92 | 7.87 | 2.83 | 1.84 | 0.22 | | 0.7 | 99.8 |
| 50 | | CR634R | Basalt | 5° 43' 27.7'' | 75° 48' 46.48'' | 58.03 | 0.73 | 16.36 | 8.35 | | 0.19 | 1.47 | 5.42 | 3.42 | 2.88 | 0.46 | | 2.5 | 99.81 |
| 51 | | CR649R | Glomeropophyritic Basalt (Cpx) | 5° 43' 50.63'' | 75° 49' 15.49'' | 58.79 | 0.72 | 15.77 | 08.06 | | 0.2 | 1.47 | 4.85 | 3.47 | 2.99 | 0.45 | | 2.9 | 99.67 |
| 52 | | CR650R | Porphyritic Basalt (Opx, Cpx) | 5° 45' 15.23'' | 75° 49' 58.69'' | 52.55 | 0.9 | 17.57 | 10.22 | | 0.2 | 3.27 | 8.26 | 2.73 | 1.22 | 0.23 | | 2.7 | 99.85 |
| 53 | | CR665R | Basalt (Cpx) | 5° 35' 11.9'' | 75° 48' 39.78'' | 51.07 | 1.00 | 16.52 | 12.12 | | 0.17 | 3.9 | 8.75 | 2.87 | 1.17 | 0.37 | | 1.9 | 99.84 |
| 54 | | CR681R | Porphyritic Phenoandesite | 5° 53' 26.23'' | 75° 45' 52.99'' | 62.55 | 0.52 | 17.08 | 5.39 | | 0.07 | 1.65 | 4.53 | 3.78 | 2.64 | 0.24 | | 1.3 | 99.75 |
| 55 | | CR686R | Glomeropophyritic Basalt (Cpx) | 5° 48' 48.74'' | 75° 47' 1.43'' | 50.77 | 0.83 | 18.85 | 10.81 | | 0.17 | 3.31 | 9.77 | 2.75 | 1.17 | 0.25 | | 1.2 | 99.88 |
| 56 | | CR695R | Basalt | 5° 48' 53.42'' | 75° 50' 0.92'' | 57.64 | 0.68 | 17.06 | 7.22 | | 0.13 | 3.65 | 6.8 | 2.94 | 1.85 | 0.25 | | 1.6 | 99.82 |
| 57 | | CR698R | Microporphyritic Basalt (Opx, Cpx) | 5° 47' 53.27'' | 75° 49' 26.8'' | 51.94 | 0.96 | 19.06 | 11.13 | | 0.18 | 3.37 | 8.22 | 2.58 | 0.94 | 0.29 | | 1.2 | 99.87 |
| 58 | | CR699R | Amygdaloidal basalt | 5° 47' 44.74'' | 75° 49' 25.82'' | 50.32 | 1.00 | 16.81 | 10.84 | | 0.22 | 3.27 | 10.06 | 2.27 | 1.28 | 0.27 | | 3.5 | 99.84 |
| 59 | Dunia (2005) | HM1812R1 | Dacitic Porphyry | NA | NA | 65.06 | 0.44 | 16.75 | 04.02 | | 0.08 | 1.23 | 3.75 | 4.24 | 2.33 | 0.22 | | 1.6 | 99.72 |
| 60 | | HM1812R2 | Pophyritic Dacite (Bt) | NA | NA | 65.35 | 0.44 | 16.47 | 4.23 | | 0.09 | 1.18 | 3.69 | 4.22 | 2.32 | 0.24 | | 1.5 | 99.73 |
| 61 | | JN1001RR | Monzodiorite | 5° 41' 5.35'' | 75° 42' 41.58'' | 62.19 | 0.57 | 16.26 | 5.38 | | 0.1 | 1.75 | 5.21 | 3.66 | 2.71 | 0.22 | | 1.7 | 99.75 |
| 62 | | JN1004R | Basalt (Cpx)/or Agglomerate or Tuff | 5° 38' 1.75'' | 75° 38' 31.2'' | 54.6 | 0.99 | 15.5 | 10.11 | | 0.23 | 2.49 | 6.19 | 03.05 | 2.48 | 0.66 | | 3.5 | 99.8 |
| 63 | | JN1006R | Andesitic Basalt/Micorporphyritic Basalt (Cpx) | 5° 46' 54.73'' | 75° 41' 6.04'' | 55.04 | 0.77 | 17.95 | 8.8 | | 0.16 | 3.48 | 7.74 | 3.17 | 1.39 | 0.31 | | 1.00 | 99.81 |
| 64 | | JN1043R3 | Porphyry, lithic fragment in Tuff | 5° 45' 16.99'' | 75° 55' 17.33'' | 58.66 | 0.31 | 15.2 | 7.62 | | 0.14 | 5.72 | 5.75 | 2.15 | 0.62 | 0.09 | | 3.6 | 99.86 |
| 65 | | JN906R | fine–grained Diorite/ Andesite? | 5° 47' 23.14'' | 75° 44' 30.44'' | 61.54 | 0.6 | 16.43 | 6.3 | | 0.14 | 1.93 | 5.36 | 3.39 | 2.81 | 0.24 | | 1.00 | 99.74 |
| 66 | | JN936R | Leucocratic pyroxene Quartzdiorite | 5° 41' 19.03'' | 75° 43' 28.02'' | 62.41 | 0.56 | 16.01 | 5.29 | | 0.1 | 1.74 | 5.19 | 3.38 | 2.77 | 0.22 | | 2.1 | 99.77 |
| 67 | | JN983R1 | Microglomeroporphyritic Basalt (dyke) | 5° 45' 32.54'' | 75° 50' 27.89'' | 56.45 | 0.94 | 17.87 | 8.45 | | 0.13 | 3.25 | 8.00 | 2.71 | 1.21 | 0.21 | | 0.6 | 99.82 |
| 68 | | JN983R2 | Porphyritic Basalt (ol) | 5° 45' 32.54'' | 75° 50' 27.89'' | 52.95 | 0.76 | 18.09 | 9.24 | | 0.18 | 2.91 | 8.2 | 03.07 | 02.05 | 0.38 | | 2.00 | 99.83 |
| 69 | | MA086R2 | Garnet–bearing Basalt (Cpx) | 6° 17' 52.3'' | 75° 37' 15.67'' | 55.25 | 0.79 | 15.98 | 8.9 | | 0.13 | 3.36 | 7.44 | 2.82 | 01.03 | 0.22 | | 4.00 | 99.92 |
| 70 | | MA096R | Andesitic Basalt/Micorporphyritic Basalt (Cpx) | 5° 27' 8.96'' | 75° 40' 44.69'' | 50.4 | 0.85 | 16.77 | 12.15 | | 0.19 | 4.31 | 9.4 | 2.7 | 0.8 | 0.3 | | 2.00 | 99.87 |
| 71 | | MA107R | Andesitic Porphyry (Hbl, Bt) | 6° 3' 41.9'' | 75° 36' 0.5'' | 61.62 | 0.62 | 16.04 | 5.63 | | 0.13 | 1.81 | 5.2 | 3.99 | 2.54 | 0.33 | | 1.8 | 99.71 |
| 72 | | MA125RR | Porphyritic Andesite | 5° 19' 46.31'' | 75° 45' 30.06'' | 62.6 | 0.35 | 17.73 | 4.69 | | 0.12 | 1.42 | 5.86 | 3.86 | 1.76 | 0.17 | | 1.3 | 99.86 |
| 73 | | MM1203R | Microporphyritic Andesite | 5° 55' 20.42'' | 75° 46' 6.38'' | 57.22 | 0.55 | 17.97 | 5.17 | | 0.16 | 1.38 | 6.58 | 3.44 | 2.65 | 0.26 | | 4.4 | 99.78 |
| 74 | | MM1225R | Mircoporphyritic Basaltic Andesite | 6° 0' 45.04'' | 75° 49' 57.29'' | 57.84 | 0.62 | 17.33 | 6.73 | | 0.14 | 1.64 | 6.98 | 2.93 | 2.33 | 0.3 | | 2.8 | 99.64 |
| 75 | | MM1236R | Porphyritic Andesite | 5° 57' 12.28'' | 75° 41' 33.4'' | 61.37 | 0.42 | 18.5 | 4.44 | | 0.15 | 0.94 | 4.81 | 4.41 | 3.15 | 0.22 | | 1.2 | 99.61 |
| 76 | | MM1301RR | Quartzmozodiorite | 5° 39' 1.66'' | 75° 58' 20.35'' | 63.74 | 0.37 | 17.03 | 4.86 | | 0.12 | 1.4 | 4.9 | 3.75 | 2.82 | 0.23 | | 0.5 | 99.72 |
| 77 | | MM1336R | Porphyritic Quartzdiorite | 5° 34' 33.38'' | 75° 41' 13.34'' | 61.68 | 0.58 | 17.01 | 5.82 | | 0.07 | 1.95 | 5.26 | 3.88 | 2.42 | 0.3 | | 0.8 | 99.77 |

| | Ni ppm | Cr ppm | V ppm | Ga ppm | Cu ppm | Zn ppm | La ppm | Ce ppm | Pr ppm | Nd ppm | Sm ppm | Eu ppm | Gd ppm | Tb ppm | Dy ppm | Ho ppm | Er ppm | Tm ppm | Yb ppm | Lu ppm | Ba ppm | Th ppm | Nb ppm | Y ppm | Hf ppm | Ta ppm | U ppm | Pb ppm | Rb ppm | Cs ppm | Sr ppm | Sc ppm | Zr ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 16 | | 309 | 19.6 | 140.6 | 89.00 | 8.9 | 18.4 | 2.7 | 11.7 | 3.4 | 1.17 | 04.06 | 0.74 | 4.2 | 0.86 | 2.5 | 0.4 | 2.35 | 0.38 | 921.7 | 1.6 | 4.1 | 25.4 | 2.2 | 0.3 | 0.7 | 2.8 | 35.6 | 0.8 | 404.1 | NA | 68.5 |
| 41 | 5 | | 7 | 16.7 | 6.1 | 68.00 | 10.6 | 16.8 | 02.04 | 7.3 | 1.4 | 0.64 | 01.03 | 0.16 | 0.73 | 0.12 | 0.32 | 0.05 | 0.35 | 0.06 | 2569.8 | 1.9 | 7.2 | 4.3 | 2.5 | 0.6 | 1.6 | 1.4 | 88.00 | 1.9 | 614.6 | NA | 69.5 |
| 42 | 6 | | 179 | 19.00 | 22.9 | 105.00 | 14.1 | 26.2 | 3.7 | 15.00 | 3.7 | 1.31 | 3.91 | 0.65 | 3.76 | 0.75 | 2.25 | 0.35 | 2.39 | 0.37 | 1311.3 | 2.3 | 4.1 | 23.2 | 2.3 | 0.3 | 0.8 | 6.2 | 36.6 | 0.5 | 736.00 | NA | 79.2 |
| 43 | 40 | | 26 | 19.3 | 24.00 | 107.00 | 27.8 | 38.5 | 5.19 | 18.6 | 3.7 | 1.12 | 3.56 | 0.61 | 3.59 | 0.73 | 2.35 | 0.39 | 2.59 | 0.46 | 4057.00 | 4.3 | 7.8 | 24.8 | 3.6 | 0.7 | 2.3 | 3.4 | 73.5 | 1.4 | 838.2 | NA | 127.2 |
| 44 | 29 | | 84 | 17.6 | 10.3 | 53.00 | 16.8 | 30.3 | 3.8 | 15.2 | 3.4 | 01.04 | 3.1 | 0.53 | 3.12 | 0.61 | 1.88 | 0.3 | 1.82 | 0.3 | 1098.9 | 3.8 | 5.00 | 19.4 | 3.1 | 0.4 | 1.5 | 2.3 | 67.4 | 2.00 | 593.00 | NA | 100.4 |
| 45 | 15 | | 17 | 17.1 | 9.1 | 76.00 | 20.2 | 30.3 | 3.74 | 12.4 | 2.3 | 0.39 | 1.78 | 0.32 | 1.9 | 0.38 | 1.17 | 0.2 | 1.29 | 0.25 | 3022.2 | 4.6 | 7.4 | 13.00 | 3.1 | 0.6 | 2.2 | 1.4 | 84.7 | 1.6 | 694.6 | NA | 98.5 |
| 46 | 5 | | 25 | 18.5 | 11.1 | 53.00 | 20.9 | 31.2 | 3.9 | 13.00 | 2.5 | 0.68 | 1.93 | 0.36 | 2.15 | 0.42 | 1.31 | 0.22 | 1.58 | 0.27 | 2769.2 | 4.00 | 7.5 | 14.5 | 3.00 | 0.6 | 2.1 | 2.1 | 95.9 | 1.4 | 939.00 | NA | 104.1 |
| 47 | 5 | | 145 | 19.2 | 28.9 | 90.00 | 20.3 | 39.1 | 5.00 | 20.4 | 4.5 | 1.65 | 4.53 | 0.7 | 4.16 | 0.79 | 2.43 | 0.37 | 2.41 | 0.4 | 2056.1 | 3.8 | 4.4 | 24.7 | 2.6 | 0.3 | 1.9 | 7.1 | 53.00 | 0.9 | 1199.6 | NA | 80.7 |
| 48 | 5 | | 102 | 20.9 | 18.5 | 63.00 | 32.7 | 60.5 | 7.31 | 26.9 | 5.1 | 1.63 | 4.71 | 0.71 | 3.75 | 0.68 | 02.06 | 0.31 | 2.21 | 0.3 | 1413.9 | 7.9 | 8.3 | 21.3 | 4.6 | 0.6 | 2.5 | 3.9 | 74.00 | 1.6 | 1031.6 | 0.5 | 136.5 |
| 49 | 12 | | 152 | 19.00 | 51.9 | 50.00 | 14.00 | 25.4 | 3.38 | 13.7 | 3.1 | 0.88 | 3.18 | 0.53 | 2.99 | 0.63 | 1.86 | 0.31 | 02.01 | 0.29 | 1116.4 | 2.4 | 3.3 | 19.3 | 2.3 | 0.2 | 1.00 | 1.4 | 50.6 | 3.00 | 503.00 | 0.5 | 68.3 |
| 50 | 5 | | 74 | 18.1 | 61.9 | 52.00 | 11.7 | 24.6 | 3.43 | 15.3 | 4.1 | 1.37 | 5.13 | 0.86 | 05.04 | 01.03 | 3.12 | 0.44 | 2.85 | 0.45 | 1127.4 | 2.4 | 4.9 | 29.8 | 3.1 | 0.4 | 1.2 | 0.7 | 60.00 | 2.2 | 510.1 | 0.5 | 89.9 |
| 51 | 5 | | 57 | 17.9 | 68.4 | 57.00 | 12.5 | 25.4 | 3.61 | 15.7 | 4.4 | 1.39 | 5.33 | 0.93 | 5.56 | 01.06 | 3.26 | 0.48 | 2.95 | 0.48 | 1178.1 | 2.2 | 5.1 | 31.9 | 3.00 | 0.4 | 1.3 | 1.2 | 64.6 | 2.5 | 480.5 | NA | 96.5 |
| 52 | 20 | | 256 | 18.8 | 54.6 | 46.00 | 6.1 | 13.5 | 1.99 | 9.2 | 2.7 | 01.04 | 3.44 | 0.62 | 3.67 | 0.77 | 2.23 | 0.34 | 1.97 | 0.34 | 781.8 | 0.9 | 3.5 | 21.00 | 2.00 | 0.2 | 0.8 | 1.6 | 25.8 | 0.8 | 555.6 | NA | 56.4 |
| 53 | 19 | | 301 | 19.4 | 184.4 | 76.00 | 7.4 | 15.7 | 2.34 | 10.1 | 2.9 | 1.16 | 3.73 | 0.64 | 3.77 | 0.75 | 2.32 | 0.35 | 02.01 | 0.32 | 770.3 | 1.2 | 2.9 | 22.2 | 1.9 | 0.2 | 0.6 | 1.2 | 30.4 | 2.7 | 497.8 | NA | 55.7 |
| 54 | 5 | | 97 | 20.9 | 29.4 | 75.00 | 18.4 | 33.1 | 4.23 | 16.1 | 3.4 | 0.93 | 2.58 | 0.38 | 02.05 | 0.35 | 0.99 | 0.15 | 01.02 | 0.17 | 1337.7 | 3.9 | 5.6 | 11.6 | 3.2 | 0.5 | 2.1 | 2.00 | 69.2 | 1.8 | 831.00 | NA | 103.8 |
| 55 | 13 | | 290 | 19.9 | 126.8 | 67.00 | 5.4 | 11.7 | 1.73 | 8.2 | 2.5 | 0.85 | 2.99 | 0.53 | 3.31 | 0.65 | 1.93 | 0.3 | 1.73 | 0.26 | 558.7 | 0.8 | 2.00 | 19.1 | 1.6 | 0.1 | 0.4 | 1.1 | 23.4 | 1.00 | 532.4 | NA | 43.1 |
| 56 | 19 | | 189 | 17.9 | 17.3 | 50.00 | 9.1 | 17.00 | 2.36 | 9.5 | 2.4 | 0.68 | 2.52 | 0.47 | 2.79 | 0.53 | 1.68 | 0.25 | 1.59 | 0.27 | 904.9 | 1.6 | 3.5 | 17.1 | 1.9 | 0.3 | 0.9 | 1.7 | 37.6 | 1.3 | 581.2 | NA | 62.3 |
| 57 | 5 | | 242 | 20.7 | 30.4 | 67.00 | 7.1 | 14.9 | 2.38 | 10.3 | 3.1 | 0.95 | 3.57 | 0.68 | 3.86 | 0.78 | 2.36 | 0.35 | 2.25 | 0.35 | 678.5 | 0.7 | 3.8 | 22.8 | 1.9 | 0.2 | 0.5 | 1.5 | 17.9 | 0.5 | 453.9 | NA | 54.8 |
| 58 | 17 | | 317 | 17.8 | 70.00 | 65.00 | 6.8 | 14.00 | 2.12 | 9.3 | 2.8 | 0.92 | 3.36 | 0.63 | 3.75 | 0.71 | 2.14 | 0.32 | 1.94 | 0.29 | 775.8 | 0.9 | 3.1 | 21.5 | 1.8 | 0.2 | 0.6 | 1.2 | 25.7 | 1.00 | 485.7 | NA | 53.9 |
| 59 | 10 | | 60 | 19.5 | 16.5 | 81.00 | 16.4 | 30.4 | 3.93 | 15.4 | 3.2 | 0.93 | 2.18 | 0.34 | 1.78 | 0.32 | 0.91 | 0.16 | 0.9 | 0.14 | 1347.5 | 3.4 | 6.7 | 11.2 | 2.9 | 0.5 | 1.6 | 2.1 | 50.7 | 0.7 | 1010.6 | NA | 102.4 |
| 60 | 20 | | 60 | 20.1 | 7.8 | 77.00 | 25.8 | 45.7 | 5.58 | 20.8 | 3.6 | 0.98 | 2.31 | 0.4 | 1.94 | 0.35 | 0.89 | 0.14 | 0.92 | 0.14 | 1414.3 | 5.1 | 7.1 | 11.1 | 3.7 | 0.5 | 1.8 | 2.3 | 51.1 | 0.6 | 1051.7 | NA | 113.9 |
| 61 | 12 | | 103 | 20.8 | 35.00 | 45.00 | 19.2 | 35.3 | 4.47 | 17.6 | 3.7 | 01.05 | 3.16 | 0.5 | 2.51 | 0.5 | 1.3 | 0.19 | 1.33 | 0.18 | 1239.3 | 4.9 | 6.3 | 14.6 | 4.00 | 0.5 | 2.3 | 3.4 | 78.4 | 3.9 | 824.6 | NA | 125.00 |
| 62 | 7 | | 139 | 19.00 | 142.7 | 100.00 | 15.2 | 31.4 | 4.44 | 19.2 | 5.3 | 1.48 | 5.73 | 01.02 | 5.82 | 1.2 | 3.25 | 0.54 | 3.39 | 0.5 | 1092.8 | 3.00 | 6.2 | 34.6 | 3.7 | 0.5 | 1.4 | 3.5 | 53.8 | 1.00 | 499.7 | NA | 116.2 |
| 63 | 34 | | 185 | 19.9 | 16.9 | 43.00 | 10.4 | 19.9 | 2.87 | 11.8 | 3.3 | 1.00 | 3.4 | 0.63 | 3.56 | 0.78 | 2.2 | 0.36 | 2.3 | 0.35 | 1014.3 | 2.2 | 3.9 | 22.5 | 2.00 | 0.3 | 1.00 | 0.9 | 65.9 | 3.00 | 655.2 | NA | 65.00 |
| 64 | 39 | | 178 | 14.3 | 24.1 | 47.00 | 6.5 | 12.7 | 1.72 | 7.2 | 1.7 | 0.69 | 1.58 | 0.23 | 1.46 | 0.29 | 0.82 | 0.13 | 0.86 | 0.14 | 789.7 | 2.00 | 1.2 | 7.9 | 1.3 | NA | 0.7 | 3.7 | 8.1 | 0.3 | 427.1 | NA | 36.8 |
| 65 | 5 | | 113 | 19.5 | 35.3 | 85.00 | 20.9 | 38.00 | 4.91 | 19.1 | 4.1 | 01.02 | 3.34 | 0.57 | 3.25 | 0.61 | 1.9 | 0.3 | 1.91 | 0.28 | 1487.2 | 4.8 | 6.9 | 20.3 | 3.6 | 0.6 | 2.1 | 12.00 | 78.6 | 1.4 | 727.9 | NA | 122.4 |
| 66 | 12 | | 100 | 18.9 | 35.8 | 52.00 | 18.5 | 34.2 | 4.29 | 16.8 | 3.6 | 0.87 | 2.65 | 0.45 | 2.4 | 0.49 | 1.25 | 0.22 | 1.24 | 0.19 | 1213.4 | 3.8 | 6.4 | 14.00 | 3.5 | 0.5 | 2.4 | 2.5 | 78.7 | 2.3 | 782.7 | NA | 113.8 |
| 67 | 76 | | 166 | 20.1 | 30.1 | 52.00 | 9.1 | 18.1 | 2.6 | 11.3 | 3.1 | 0.9 | 3.36 | 0.62 | 3.82 | 0.78 | 2.27 | 0.34 | 02.07 | 0.32 | 1051.5 | 2.00 | 4.4 | 22.2 | 2.4 | 0.3 | 0.8 | 1.1 | 31.2 | 1.1 | 376.6 | NA | 70.3 |
| 68 | 6 | | 195 | 19.1 | 51.2 | 66.00 | 8.6 | 17.5 | 2.54 | 11.5 | 2.9 | 0.88 | 3.00 | 0.56 | 3.41 | 0.68 | 02.04 | 0.32 | 2.1 | 0.31 | 933.4 | 1.00 | 3.3 | 20.8 | 1.7 | 0.2 | 0.6 | 0.8 | 42.7 | 1.1 | 637.4 | NA | 55.4 |
| 69 | 8 | | 200 | 19.6 | 20.6 | 80.00 | 9.3 | 19.4 | 2.57 | 11.5 | 3.2 | 01.01 | 3.25 | 0.58 | 3.56 | 0.73 | 02.06 | 0.3 | 1.93 | 0.27 | 529.5 | 2.00 | 4.2 | 21.4 | 2.5 | 0.3 | 0.8 | 0.9 | 26.1 | 0.8 | 330.1 | NA | 82.5 |
| 70 | 25 | | 312 | 18.4 | 112.9 | 70.00 | 5.6 | 12.00 | 1.75 | 8.5 | 2.5 | 0.92 | 03.06 | 0.59 | 3.38 | 0.69 | 1.99 | 0.31 | 2.14 | 0.29 | 584.00 | 0.8 | 1.9 | 20.2 | 1.5 | 0.1 | 0.5 | 1.4 | 20.7 | 1.1 | 501.6 | NA | 43.7 |
| 71 | 12 | | 117 | 20.7 | 14.9 | 60.00 | 31.1 | 58.00 | 6.98 | 27.4 | 5.5 | 1.4 | 4.52 | 0.68 | 3.8 | 0.74 | 02.06 | 0.34 | 2.15 | 0.33 | 1286.5 | 7.5 | 8.3 | 22.1 | 4.5 | 0.6 | 2.7 | 1.8 | 72.8 | 1.9 | 1019.00 | NA | 152.2 |
| 72 | 5 | | 76 | 17.6 | 9.7 | 49.00 | 5.3 | 11.3 | 1.54 | 7.7 | 1.7 | 0.57 | 1.85 | 0.31 | 1.83 | 0.4 | 1.23 | 0.21 | 1.15 | 0.2 | 710.2 | 0.9 | 4.1 | 12.2 | 2.1 | 0.3 | 0.6 | 1.3 | 40.8 | 1.4 | 600.8 | NA | 62.6 |
| 73 | 5 | | 72 | 18.5 | 5.5 | 81.00 | 13.5 | 30.5 | 04.04 | 19.4 | 4.1 | 1.28 | 4.19 | 0.64 | 3.94 | 0.77 | 2.52 | 0.39 | 2.44 | 0.39 | 1054.9 | 2.5 | 4.7 | 23.4 | 3.00 | 0.3 | 1.4 | 1.7 | 56.1 | 1.8 | 709.00 | NA | 96.7 |
| 74 | 5 | | 104 | 19.5 | 16.00 | 89.00 | 14.00 | 26.1 | 3.67 | 16.6 | 3.5 | 01.09 | 3.5 | 0.57 | 3.44 | 0.65 | 1.94 | 0.32 | 2.1 | 0.31 | 1997.1 | 3.1 | 5.2 | 19.9 | 2.5 | 0.4 | 1.5 | 1.3 | 51.5 | 1.00 | 785.7 | NA | 91.4 |
| 75 | 5 | | 77 | 18.6 | 16.8 | 84.00 | 19.7 | 39.2 | 4.72 | 20.4 | 3.9 | 1.12 | 3.24 | 0.55 | 2.99 | 0.61 | 1.94 | 0.28 | 02.01 | 0.3 | 968.6 | 4.3 | 5.5 | 19.7 | 3.2 | 0.4 | 1.9 | 3.1 | 77.2 | 0.6 | 966.7 | NA | 122.1 |
| 76 | 7 | | 87 | 18.5 | 19.7 | 50.00 | 13.5 | 27.2 | 3.32 | 14.9 | 2.8 | 0.85 | 2.26 | 0.37 | 2.00 | 0.41 | 1.22 | 0.19 | 1.26 | 0.21 | 1317.8 | 4.5 | 4.00 | 12.4 | 2.00 | 0.4 | 2.8 | 0.9 | 64.8 | 2.2 | 982.9 | NA | 58.2 |
| 77 | 5 | | 119 | 20.1 | 89.6 | 28.00 | 17.00 | 34.00 | 4.13 | 18.2 | 3.7 | 01.02 | 2.92 | 0.48 | 2.51 | 0.48 | 1.48 | 0.23 | 1.49 | 0.24 | 1089.3 | 4.3 | 5.3 | 14.6 | 2.9 | 0.3 | 2.2 | 3.3 | 45.5 | 0.7 | 861.00 | NA | 100.6 |

**Table 1.** Compiled geochemical data base of published analyses of the igneous rocks of the Combia Formation (*continued*).

| | Reference | Sample | Rock type† | Latitude N | Longitude W | $SiO_2$ | $TiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MnO | MgO | CaO | $Na_2O$ | $K_2O$ | $P_2O_5$ | $Cr_2O_3$ | LOI % | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | | BCA03 | Basalt | 6° 2' 18.96'' | 75° 51' 36.18'' | 49.86 | 1.00 | 14.07 | | 9.58 | 0.16 | 8.44 | 12.38 | 1.71 | 0.09 | 0.08 | | 1.98 | 97.36 |
| 79 | | BCA05 | Andesite | 6° 1' 24.84'' | 75° 50' 50.22'' | 63.32 | 0.37 | 16.27 | | 4.48 | 0.07 | 1.92 | 5.35 | 3.25 | 2.32 | 0.13 | | 1.94 | 97.47 |
| 80 | | BCS01 | Basalt | 5° 58' 58.32'' | 75° 49' 27.12'' | 50.43 | 0.94 | 16.77 | | 11.08 | 0.18 | 3.97 | 8.78 | 2.67 | 1.24 | 0.29 | | 3.09 | 96.36 |
| 81 | | BCS06 | Basalt | 5° 59' 25.26'' | 75° 49' 17.1'' | 48.29 | 0.80 | 17.95 | | 10.10 | 0.17 | 4.35 | 8.90 | 2.93 | 1.04 | 0.23 | | 4.47 | 94.75 |
| 82 | | BQG02 | Basalt | 5° 58' 2.88'' | 75° 49' 59.7'' | 50.30 | 0.68 | 12.89 | | 10.39 | 0.31 | 6.98 | 12.24 | 1.74 | 0.66 | 0.17 | | 2.89 | 96.37 |
| 83 | | BQP03 | Basalt | 5° 58' 16.86'' | 75° 49' 36.06'' | 50.59 | 1.28 | 16.40 | | 10.98 | 0.17 | 4.12 | 7.94 | 2.96 | 1.39 | 0.34 | | 3.36 | 96.18 |
| 84 | | BQP07 | Tonalite | 5° 58' 16.98'' | 75° 49' 26.22'' | 58.75 | 1.42 | 14.30 | | 9.69 | 0.17 | 1.76 | 5.46 | 3.50 | 2.46 | 0.66 | | 1.26 | 98.18 |
| 85 | | BQP10 | Basalt | 5° 58' 12.6'' | 75° 49' 13.86'' | 48.23 | 0.65 | 13.39 | | 9.69 | 0.16 | 8.75 | 10.85 | 1.72 | 0.88 | 0.20 | | 4.87 | 94.53 |
| 86 | | CAB03 | Andesitic Porphyry | 6° 12' 29.95'' | 75° 50' 45.6'' | 54.62 | 0.52 | 18.25 | | 5.59 | 0.15 | 1.49 | 3.99 | 4.34 | 6.08 | 0.40 | | 3.98 | 95.44 |
| 87 | | CAB08 | Basalt | 6° 10' 24.02'' | 75° 50' 37.68'' | 50.53 | 0.76 | 16.48 | | 9.60 | 0.17 | 4.18 | 8.94 | 2.69 | 2.70 | 0.52 | | 2.65 | 96.58 |
| 88 | | CAB09 | Porphyritic Basalt | 6° 8' 31.34'' | 75° 50' 50.06'' | 53.78 | 0.50 | 20.07 | | 5.41 | 0.12 | 1.71 | 5.59 | 4.48 | 4.33 | 0.44 | | 2.78 | 96.42 |
| 89 | Jaramillo et al. (2019) | CAB10B | Vitrophyre | 6° 6' 18.36'' | 75° 51' 21.92'' | 61.61 | 0.73 | 15.95 | | 5.77 | 0.10 | 0.82 | 4.51 | 3.52 | 3.64 | 0.43 | | 2.24 | 97.09 |
| 90 | | CAB11 | Andesitic Porphyry | 6° 1' 23.95'' | 75° 45' 43.02'' | 60.51 | 0.56 | 16.50 | | 5.57 | 0.13 | 2.17 | 5.83 | 3.42 | 2.41 | 0.24 | | 2.03 | 97.33 |
| 91 | | CQM28B | Garnet bearing Tuff | 5° 53' 56.11'' | 75° 41' 22.7'' | 57.67 | 0.69 | 14.96 | | 8.45 | 0.17 | 4.02 | 5.73 | 2.22 | 1.42 | 0.24 | | 3.79 | 95.57 |
| 92 | | FCB05 | Tuff | 5° 55' 46.32'' | 75° 42' 10.02'' | 46.96 | 0.83 | 15.31 | | 9.52 | 0.37 | 1.93 | 7.79 | 1.29 | 1.23 | 0.27 | | 14.00 | 85.50 |
| 93 | | FCC03 | Basalt | 5° 55' 33.3'' | 75° 40' 29.46'' | 60.20 | 0.72 | 15.57 | | 6.98 | 0.13 | 4.09 | 7.00 | 2.29 | 1.49 | 0.21 | | 0.82 | 98.69 |
| 94 | | FLM06 | Basalt | 5° 54' 46.32'' | 75° 42' 52.14'' | 50.57 | 0.77 | 18.10 | | 9.48 | 0.18 | 3.02 | 9.69 | 2.17 | 0.96 | 0.29 | | 4.32 | 95.22 |
| 95 | | FMA01 | Porphyritic Andesite | 5° 53' 12.78'' | 75° 41' 52.56'' | 66.70 | 0.22 | 16.72 | | 2.24 | 0.09 | 0.16 | 3.67 | 3.16 | 2.96 | 0.09 | | 3.40 | 96.02 |
| 96 | | FQC04 | Tuff | 5° 54' 50.58'' | 75° 41' 19.26'' | 56.03 | 0.69 | 15.84 | | 7.11 | 0.16 | 4.23 | 6.03 | 2.27 | 1.66 | 0.22 | | 5.02 | 94.24 |
| 97 | | FQM01 | Aglomerate | 5° 53' 36'' | 75° 41' 42.36'' | 55.19 | 0.91 | 17.51 | | 8.88 | 0.25 | 3.27 | 7.85 | 2.54 | 1.21 | 0.26 | | 1.66 | 97.87 |
| 98 | | FQM03 | Andesite | 5° 53' 43.38'' | 75° 41' 35.34'' | 56.16 | 0.68 | 16.00 | | 7.17 | 0.11 | 3.48 | 6.51 | 1.87 | 1.47 | 0.22 | | 5.85 | 93.67 |
| 99 | | FQM05 | Andesite | 5° 53' 52.14'' | 75° 41' 27.18'' | 56.49 | 0.79 | 16.87 | | 7.84 | 0.11 | 2.68 | 6.44 | 2.08 | 1.79 | 0.20 | | 3.93 | 95.30 |
| 100 | | PCF01 | Dacitic Phorphyry | 5° 43' 15.06'' | 75° 36' 36'' | 66.13 | 0.41 | 16.33 | | 2.97 | 0.05 | 0.98 | 4.32 | 3.71 | 2.21 | 0.15 | | 1.82 | 97.27 |
| 101 | | VCT01 | Porphyritic Andesite | 5° 58' 12.9'' | 75° 46' 11.94'' | 65.15 | 0.23 | 16.90 | | 3.68 | 0.13 | 0.31 | 4.13 | 3.64 | 2.83 | 0.09 | | 2.03 | 97.09 |
| 102 | | PIJ1 | | 5° 48' 31.21'' | 75° 42' 24.56'' | 52.51 | 0.95 | 17.20 | 9.65 | NA | 3.68 | 6.81 | NA | 2.27 | NA | | | 3.92 | 96.99 |
| 103 | | PIJ2 | | 5° 47' 53.54'' | 75° 42' 42.48'' | 55.63 | 0.93 | 18.57 | 8.39 | NA | 2.66 | 8.86 | NA | 0.50 | NA | | | NA | 95.54 |
| 104 | | PIJ3 | | 5° 48' 15.6'' | 75° 42' 45.4'' | 55.47 | 0.94 | 18.34 | 8.84 | NA | 2.61 | 8.68 | NA | 0.25 | NA | | | NA | 95.13 |
| 105 | | PIJ4 | | 5° 48' 7.48'' | 75° 43' 14.79'' | 49.78 | 1.05 | 15.54 | 14.55 | NA | 3.73 | 9.19 | NA | 0.93 | NA | | | NA | 94.77 |
| 106 | | PIJ5 | | 5° 47' 57.73'' | 75° 43' 35.83'' | 55.65 | 0.76 | 16.60 | 8.93 | NA | 4.23 | 7.69 | NA | 1.58 | NA | | | NA | 95.44 |
| 107 | | PIJ6 | | 5° 47' 47.4'' | 75° 44' 0.62'' | 61.70 | 0.57 | 16.05 | 6.22 | NA | 2.58 | 5.41 | NA | 2.78 | NA | | | 3.40 | 98.71 |
| 108 | | PIJ7 | | 5° 47' 39.8'' | 75° 44' 26.03'' | 54.42 | 0.87 | 16.17 | 11.52 | NA | 4.23 | 8.21 | NA | 1.28 | NA | | | NA | 96.70 |
| 109 | | PIJ8 | | 5° 47' 19.07'' | 75° 43' 53.4'' | 57.97 | 0.83 | 15.60 | 9.85 | NA | 2.18 | 5.33 | NA | 3.02 | NA | | | 2.07 | 96.85 |
| 110 | | PIJ9 | | 5° 47' 0.11'' | 75° 44' 45.52'' | 51.98 | 0.82 | 14.85 | 11.89 | NA | 6.40 | 10.98 | NA | 0.11 | NA | | | 0.16 | 97.19 |
| 111 | | C1 | | 5° 55' 53.86'' | 75° 39' 59.54'' | 59.99 | 0.74 | 15.97 | 8.53 | NA | 3.72 | 7.41 | NA | 1.47 | NA | | | 0.39 | 98.22 |
| 112 | | CA1 | | 5° 46' 49.94'' | 75° 34' 52.91'' | 53.12 | 0.82 | 18.07 | 11.01 | NA | 3.60 | 9.81 | NA | 1.15 | NA | | | NA | 97.58 |
| 113 | | CA2 | | 5° 46' 5.79'' | 75° 35' 4.07'' | 51.70 | 1.03 | 16.27 | 11.70 | NA | 4.20 | 9.10 | NA | 1.30 | NA | | | NA | 95.30 |
| 114 | Jaramillo (1976) | BB2 | | 5° 57' 56.85'' | 75° 49' 59.61'' | 51.54 | 0.93 | 16.76 | 11.24 | NA | 4.62 | 9.66 | NA | 1.67 | NA | | | 2.92 | 99.34 |
| 115 | | BB3 | | 5° 58' 21.61'' | 75° 49' 42.48'' | 50.89 | 0.78 | 14.70 | 11.38 | NA | 6.31 | 11.99 | NA | 0.68 | NA | | | NA | 96.73 |
| 116 | | BA1 | | 5° 58' 47.98'' | 75° 49' 15.7'' | 55.00 | 0.83 | 16.48 | 10.89 | NA | 4.18 | 8.93 | NA | 1.82 | NA | | | NA | 98.13 |
| 117 | | SR1 | | NA | NA | 51.35 | 0.96 | 17.63 | 11.09 | NA | 4.24 | 9.68 | NA | 1.00 | NA | | | 0.64 | 96.59 |
| 118 | | JR2 | | NA | NA | 56.25 | 0.95 | 17.19 | 9.21 | NA | 3.20 | 7.41 | NA | 1.71 | NA | | | NA | 95.92 |
| 119 | | TSP1 | | 5° 37' 57.61'' | 75° 42' 4.85'' | 52.02 | 0.88 | 14.46 | 11.33 | NA | 6.34 | 8.85 | NA | 0.91 | NA | | | NA | 94.79 |
| 120 | | DP1 | | 5° 47' 35.08'' | 75° 37' 34.38'' | 53.28 | 1.09 | 15.98 | 11.59 | NA | 3.90 | 8.13 | NA | 2.17 | NA | | | 0.54 | 98.67 |
| 121 | | DP2 | | 5° 47' 11.08'' | 75° 37' 47.31'' | 52.51 | 1.08 | 16.57 | 11.30 | NA | 0.40 | 8.83 | NA | 1.90 | NA | | | NA | 97.91 |
| 122 | | DP3 | | 5° 46' 50.13'' | 75° 37' 53.16'' | 53.16 | 0.70 | 15.24 | 10.98 | NA | 6.19 | 9.63 | NA | 1.09 | NA | | | NA | 99.21 |
| 123 | | DP4 | | 5° 46' 25.5'' | 75° 37' 56.88'' | 52.37 | 1.45 | 16.68 | 11.70 | NA | 4.12 | 8.70 | NA | 1.68 | NA | | | NA | 98.58 |
| 124 | | DP5 | | 5° 46' 2.41'' | 75° 37' 50.94'' | 54.50 | 1.41 | 14.19 | 13.20 | NA | 4.43 | 7.17 | NA | 2.20 | NA | | | NA | 98.94 |
| 125 | | DP6 | | 5° 45' 47.96'' | 75° 37' 42.62'' | 53.41 | 1.00 | 14.54 | 13.10 | NA | 4.36 | 7.82 | NA | 1.71 | NA | | | NA | 97.86 |
| 126 | | DP7 | | 5° 45' 24.76'' | 75° 37' 48.13'' | 51.22 | 0.61 | 18.34 | 10.07 | NA | 4.34 | 10.77 | NA | 0.96 | NA | | | 3.05 | 101.59 |
| 127 | | DP8 | | 5° 45' 3.33'' | 75° 37' 44.85'' | 52.64 | 0.79 | 17.29 | 10.12 | NA | 4.06 | 9.36 | NA | 1.15 | NA | | | NA | 97.65 |

| | Ni ppm | Cr ppm | V ppm | Ga ppm | Cu ppm | Zn ppm | La ppm | Ce ppm | Pr ppm | Nd ppm | Sm ppm | Eu ppm | Gd ppm | Tb ppm | Dy ppm | Ho ppm | Er ppm | Tm ppm | Yb ppm | Lu ppm | Ba ppm | Th ppm | Nb ppm | Y ppm | Hf ppm | Ta ppm | U ppm | Pb ppm | Rb ppm | Cs ppm | Sr ppm | Sc ppm | Zr ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | 134 | 413 | 283 | 14.36 | 109.59 | 69.99 | 4.84 | 11.42 | 1.65 | 7.76 | 2.35 | 0.85 | 3.04 | 0.56 | 3.63 | 0.78 | 2.12 | 0.31 | 1.87 | 0.31 | 33.25 | 0.63 | 5.02 | 19.31 | 1.53 | 0.34 | 0.15 | 0.64 | 1.68 | 0.12 | 114.70 | 49.11 | 54.46 |
| 79 | 4 | 32 | 92 | 18.62 | 9.55 | 118.79 | 12.62 | 20.41 | 2.90 | 11.27 | 2.38 | 0.84 | 1.90 | 0.27 | 1.54 | 0.30 | 0.78 | 0.11 | 0.68 | 0.11 | 2658.93 | 2.53 | 5.99 | 7.78 | 2.65 | 0.44 | 1.56 | 9.78 | 64.25 | 1.33 | 790.62 | 12.16 | 92.24 |
| 80 | 17 | 25 | 332 | 17.21 | 143.68 | 99.10 | 6.13 | 12.87 | 1.95 | 9.22 | 2.69 | 0.98 | 3.37 | 0.61 | 3.77 | 0.81 | 2.20 | 0.32 | 2.04 | 0.32 | 632.29 | 1.04 | 2.12 | 20.10 | 1.58 | 0.17 | 0.47 | 3.83 | 25.69 | 0.57 | 450.74 | 34.12 | 52.82 |
| 81 | 22 | 34 | 322 | 16.53 | 135.14 | 83.75 | 4.60 | 9.63 | 1.45 | 6.96 | 2.11 | 0.86 | 2.62 | 0.48 | 3.02 | 0.62 | 1.67 | 0.24 | 1.55 | 0.24 | 581.57 | 0.74 | 1.58 | 15.45 | 1.14 | 0.12 | 0.35 | 2.98 | 20.13 | 0.63 | 435.10 | 31.07 | 38.66 |
| 82 | 66 | 354 | 249 | 13.17 | 112.66 | 80.09 | 4.53 | 9.70 | 1.44 | 6.54 | 2.02 | 0.72 | 2.42 | 0.42 | 2.81 | 0.59 | 1.66 | 0.24 | 1.45 | 0.23 | 455.45 | 0.80 | 2.33 | 15.00 | 1.19 | 0.18 | 0.34 | 2.19 | 12.26 | 0.40 | 285.66 | 44.83 | 42.04 |
| 83 | 17 | 26 | 300 | 18.81 | 150.05 | 108.75 | 7.75 | 16.59 | 2.50 | 11.87 | 3.48 | 1.17 | 4.06 | 0.70 | 4.41 | 0.93 | 2.57 | 0.36 | 2.23 | 0.34 | 868.86 | 1.50 | 3.77 | 23.05 | 2.10 | 0.26 | 0.73 | 5.74 | 31.63 | 0.74 | 408.80 | 34.55 | 71.28 |
| 84 | 2 | 1 | 96 | 18.52 | 222.61 | 121.55 | 14.76 | 31.41 | 4.82 | 22.16 | 6.36 | 1.79 | 7.34 | 1.26 | 7.97 | 1.66 | 4.50 | 0.63 | 4.03 | 0.62 | 1392.97 | 2.74 | 7.12 | 41.68 | 3.89 | 0.48 | 1.41 | 8.84 | 59.24 | 1.02 | 366.72 | 31.16 | 132.22 |
| 85 | 53 | 253 | 262 | 13.46 | 147.81 | 72.86 | 4.22 | 8.91 | 1.33 | 6.33 | 1.81 | 0.69 | 2.19 | 0.37 | 2.44 | 0.51 | 1.39 | 0.20 | 1.23 | 0.20 | 531.00 | 0.80 | 1.42 | 12.70 | 1.04 | 0.12 | 0.37 | 2.43 | 17.45 | 0.36 | 363.14 | 39.69 | 34.13 |
| 86 | 3 | 1 | 89 | 17.61 | 85.67 | 85.67 | 23.28 | 43.79 | 5.57 | 22.17 | 4.97 | 1.53 | 4.33 | 0.65 | 3.75 | 0.75 | 2.05 | 0.31 | 2.02 | 0.32 | 1128.62 | 6.09 | 6.23 | 19.29 | 3.74 | 0.42 | 2.59 | 13.63 | 177.67 | 5.06 | 733.30 | 7.92 | 142.70 |
| 87 | 11 | 9 | 258 | 17.31 | 49.75 | 99.70 | 16.85 | 32.88 | 4.58 | 19.56 | 4.74 | 1.48 | 4.42 | 0.66 | 3.73 | 0.73 | 1.94 | 0.27 | 1.76 | 0.27 | 825.72 | 2.82 | 2.86 | 19.12 | 2.01 | 0.21 | 1.27 | 6.39 | 64.13 | 0.48 | 964.69 | 25.56 | 71.43 |
| 88 | 4 | 2 | 99 | 18.62 | 145.88 | 70.03 | 21.19 | 39.20 | 5.04 | 19.70 | 4.21 | 1.40 | 3.55 | 0.54 | 3.02 | 0.59 | 1.58 | 0.23 | 1.52 | 0.24 | 1130.19 | 4.99 | 4.92 | 15.49 | 2.78 | 0.33 | 2.18 | 11.49 | 101.63 | 6.20 | 1474.26 | 8.35 | 109.46 |
| 89 | 4 | 2 | 62 | 15.68 | 62.72 | 92.71 | 13.67 | 27.16 | 3.65 | 15.61 | 4.14 | 1.21 | 4.49 | 0.78 | 4.96 | 1.04 | 2.87 | 0.44 | 2.85 | 0.47 | 1169.17 | 4.53 | 6.85 | 27.30 | 4.30 | 0.53 | 2.20 | 10.39 | 104.65 | 3.38 | 373.63 | 14.72 | 154.21 |
| 90 | 7 | 32 | 109 | 19.01 | 12.51 | 83.63 | 17.34 | 30.61 | 3.99 | 16.20 | 3.44 | 1.13 | 3.28 | 0.51 | 3.11 | 0.63 | 1.74 | 0.26 | 1.67 | 0.27 | 1413.07 | 4.16 | 5.38 | 16.72 | 2.84 | 0.41 | 1.96 | 7.64 | 59.46 | 1.27 | 796.19 | 13.12 | 104.89 |
| 91 | 8 | 60 | 238 | 16.72 | 11.64 | 132.53 | 10.97 | 19.97 | 2.88 | 12.13 | 2.99 | 0.94 | 3.10 | 0.51 | 3.18 | 0.66 | 1.81 | 0.27 | 1.68 | 0.26 | 1391.60 | 2.14 | 4.03 | 16.87 | 2.18 | 0.30 | 3.98 | 6.46 | 34.43 | 0.95 | 519.00 | 23.42 | 80.30 |
| 92 | 6 | 20 | 242 | 16.22 | 20.00 | 295.12 | 7.25 | 14.26 | 2.10 | 9.66 | 2.65 | 0.93 | 3.15 | 0.53 | 3.43 | 0.73 | 2.05 | 0.29 | 1.87 | 0.30 | 707.23 | 1.04 | 3.03 | 19.55 | 1.52 | 0.21 | 0.60 | 17.27 | 46.16 | 15.23 | 249.63 | 26.40 | 51.60 |
| 93 | 10 | 145 | 143 | 16.63 | 16.63 | 107.91 | 12.01 | 19.88 | 3.09 | 12.92 | 3.16 | 1.01 | 3.47 | 0.59 | 3.74 | 0.77 | 2.10 | 0.30 | 1.93 | 0.30 | 1929.30 | 2.85 | 4.31 | 19.92 | 2.32 | 0.33 | 1.09 | 6.12 | 38.00 | 1.21 | 418.78 | 26.89 | 84.50 |
| 94 | 17 | 31 | 266 | 17.71 | 139.20 | 86.07 | 5.56 | 11.38 | 1.68 | 7.88 | 2.34 | 0.88 | 2.80 | 0.48 | 3.21 | 0.65 | 1.82 | 0.27 | 1.65 | 0.27 | 627.89 | 0.98 | 1.72 | 16.48 | 1.35 | 0.13 | 0.40 | 3.56 | 16.04 | 0.35 | 513.92 | 27.40 | 45.52 |
| 95 | 4 | 2 | 18 | 16.20 | 5.10 | 55.80 | 19.45 | 28.88 | 3.62 | 12.60 | 2.23 | 0.78 | 1.96 | 0.31 | 1.87 | 0.40 | 1.21 | 0.19 | 1.33 | 0.24 | 2774.85 | 4.02 | 7.19 | 11.95 | 2.95 | 0.57 | 1.97 | 12.47 | 81.48 | 1.66 | 635.14 | 1.56 | 112.24 |
| 96 | 10 | 86 | 118 | 16.72 | 10.35 | 103.48 | 13.76 | 20.40 | 3.46 | 14.46 | 3.47 | 1.09 | 3.86 | 0.64 | 3.98 | 0.83 | 2.29 | 0.33 | 2.01 | 0.31 | 1921.44 | 2.50 | 4.30 | 22.83 | 2.05 | 0.32 | 0.92 | 5.83 | 41.61 | 0.64 | 441.06 | 22.09 | 76.63 |
| 97 | 6 | 27 | 192 | 18.41 | 21.29 | 111.97 | 7.88 | 16.26 | 2.45 | 11.18 | 3.14 | 1.07 | 3.72 | 0.64 | 4.18 | 0.89 | 2.47 | 0.36 | 2.31 | 0.38 | 958.69 | 1.43 | 3.92 | 22.47 | 2.05 | 0.29 | 0.71 | 4.35 | 23.63 | 0.94 | 372.04 | 29.13 | 69.62 |
| 98 | 10 | 81 | 115 | 16.62 | 11.74 | 98.70 | 12.48 | 20.16 | 3.08 | 12.79 | 3.03 | 0.97 | 3.25 | 0.55 | 3.40 | 0.71 | 1.93 | 0.29 | 1.82 | 0.29 | 1514.96 | 2.59 | 4.25 | 19.03 | 2.12 | 0.32 | 0.90 | 5.51 | 40.05 | 1.23 | 480.67 | 21.55 | 77.25 |
| 99 | 5 | 14 | 177 | 17.81 | 13.33 | 92.04 | 7.19 | 14.17 | 2.13 | 9.69 | 2.68 | 0.92 | 3.15 | 0.54 | 3.38 | 0.71 | 1.97 | 0.28 | 1.83 | 0.28 | 993.69 | 1.31 | 3.71 | 17.76 | 1.91 | 0.28 | 0.53 | 4.31 | 31.15 | 0.46 | 376.05 | 23.98 | 66.75 |
| 100 | 4 | 5 | 40 | 21.09 | 4.26 | 98.60 | 13.50 | 23.36 | 3.10 | 12.23 | 2.55 | 0.78 | 1.95 | 0.25 | 1.23 | 0.20 | 0.48 | 0.07 | 0.39 | 0.06 | 2387.37 | 3.33 | 4.72 | 5.58 | 3.18 | 0.30 | 1.74 | 11.07 | 55.66 | 2.39 | 842.97 | 4.70 | 114.81 |
| 101 | 2 | 3 | 7 | 17.73 | 3.84 | 116.03 | 30.04 | 36.93 | 5.91 | 21.44 | 4.06 | 1.21 | 3.65 | 0.61 | 3.79 | 0.83 | 2.45 | 0.39 | 2.65 | 0.45 | 4427.35 | 4.80 | 8.01 | 24.05 | 3.58 | 0.61 | 2.33 | 9.74 | 75.05 | 1.60 | 866.64 | 1.07 | 146.55 |
| 102 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 103 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 104 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 105 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 106 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 107 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 108 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 109 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 110 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 111 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 112 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 113 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 114 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 115 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 116 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 117 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 118 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 119 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 120 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 121 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 122 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 123 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 124 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 125 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 126 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 127 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Table 1.** Compiled geochemical data base of published analyses of the igneous rocks of the Combia Formation (*continued*).

| | Reference | Sample | Rock type† | Latitude N | Longitude W | $SiO_2$ | $TiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MnO | MgO | CaO | $Na_2O$ | $K_2O$ | $P_2O_5$ | $Cr_2O_3$ | LOI % | Total | Ni ppm | Cr ppm | V ppm | Ga ppm | Cu ppm | Zn ppm | La ppm | Ce ppm | Pr ppm | Nd ppm | Sm ppm | Eu ppm | Gd ppm | Tb ppm | Dy ppm | Ho ppm | Er ppm | Tm ppm | Yb ppm | Lu ppm | Ba ppm | Th ppm | Nb ppm | Y ppm | Hf ppm | Ta ppm | U ppm | Pb ppm | Rb ppm | Cs ppm | Sr ppm | Sc ppm | Zr ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 128 | | BA3 | | 5° 59' 5.44" | 75° 48' 59.82" | 54.17 | 1.09 | 14.86 | 12.33 | | NA | 3.48 | 6.80 | NA | 1.83 | NA | | 2.44 | 97.00 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 129 | | BA.4 | | 5° 59' 20.24" | 75° 48' 39.54" | 52.47 | 1.19 | 15.27 | 12.37 | | NA | 4.18 | 7.26 | NA | 1.68 | NA | | NA | 94.42 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 130 | | QP1 | | NA | NA | 52.21 | 1.14 | 14.46 | 11.91 | | NA | 4.66 | 6.67 | NA | 1.78 | NA | | NA | 94.83 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 131 | | QP2 | | 5° 57' 32.06" | 75° 48' 24.8" | 51.14 | 1.20 | 13.67 | 12.40 | | NA | 5.31 | 7.21 | NA | 1.60 | NA | | NA | 92.53 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 132 | | C3 | | 5° 55' 0.45" | 75° 40' 16.2" | 47.45 | 0.96 | 12.43 | 13.18 | | NA | 9.33 | 9.65 | NA | 3.67 | NA | | NA | 97.81 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 133 | | T6 | | 6° 3' 28.13" | 75° 45' 11.08" | 61.40 | 0.55 | 16.23 | 6.38 | | NA | 2.81 | 6.03 | NA | 2.59 | NA | | 1.62 | 97.61 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 134 | | CT1 | | 5° 58' 17.75" | 75° 47' 23.82" | 64.74 | 0.26 | 16.05 | 4.93 | | NA | 0.44 | 3.99 | NA | 2.93 | NA | | 0.22 | 93.56 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 135 | | CB1 | | 5° 56' 8.35" | 75° 42' 29.01" | 62.80 | 0.35 | 16.99 | 5.54 | | NA | 1.70 | 4.95 | NA | 2.87 | NA | | 3.23 | 98.43 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 136 | | CB2 | | 5° 55' 8.31" | 75° 42' 1.71" | 64.94 | 0.34 | 17.07 | 4.69 | | NA | 0.73 | 4.26 | NA | 2.92 | NA | | NA | 94.95 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 137 | Jaramillo (1976) | FP1 | | 5° 44' 21.95" | 75° 37' 1.51" | 66.61 | 0.43 | 15.79 | 3.44 | | NA | 1.20 | 4.53 | NA | 2.38 | NA | | 3.55 | 97.93 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 138 | | FP2 | | 5° 43' 56.91" | 75° 36' 5.24" | 63.73 | 0.43 | 16.95 | 3.35 | | NA | 1.21 | 5.39 | NA | 2.13 | NA | | NA | 93.19 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 139 | | AD1 | | NA | NA | 53.40 | 0.86 | 15.01 | 10.05 | | NA | 6.41 | 7.98 | NA | 1.78 | NA | | NA | 95.49 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 140 | | AD2 | | 5° 57' 53.43" | 75° 45' 6.1" | 54.43 | 0.75 | 16.30 | 10.30 | | NA | 3.07 | 7.13 | NA | 1.92 | NA | | NA | 93.90 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 141 | | AD3 | | 5° 58' 28.91" | 75° 45' 3.93" | 55.41 | 0.79 | 14.79 | 9.82 | | NA | 4.86 | 7.61 | NA | 1.60 | NA | | 1.16 | 96.04 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 142 | | QCP1 | | 5° 59' 37.95" | 75° 45' 36.06" | 50.03 | 0.86 | 14.80 | 10.03 | | NA | 5.08 | 9.08 | NA | 1.50 | NA | | NA | 91.38 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 143 | | QCP2 | | 5° 59' 0.21" | 75° 45' 38.57" | 54.02 | 0.82 | 15.30 | 10.41 | | NA | 3.66 | 8.12 | NA | 1.49 | NA | | NA | 93.82 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 144 | | MP1 | | 5° 50' 24.15" | 75° 43' 37.34" | 66.14 | 0.26 | 16.93 | 3.34 | | NA | 0.63 | 3.43 | NA | 2.90 | NA | | 1.00 | 94.63 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 145 | | QLM1 | | 5° 54' 21.96" | 75° 43' 46.54" | 52.19 | 1.16 | 15.90 | 9.05 | | NA | 5.76 | 8.48 | NA | 2.01 | NA | | NA | 94.55 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 146 | | BA5 | | 6° 1' 8.23" | 75° 45' 18.6" | 60.60 | 0.55 | 15.84 | 6.99 | | NA | 2.62 | 5.92 | NA | 2.49 | NA | | NA | 95.01 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 147 | | VA1 | | 5° 55' 37.45" | 75° 46' 5.06" | 58.43 | 0.63 | 15.41 | 6.91 | | NA | 3.22 | 6.38 | NA | 2.52 | NA | | 2.26 | 95.76 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 148 | | DM2 | | | | 56.2 | 0.96 | 16.8 | 1.14 | 7.61 | 0.2 | 3.51 | 7.45 | 3.05 | 1.02 | 0.22 | | | 98.16 | 6 | 12 | 213 | | | | 8.45 | 19.01 | | 12.3 | 3.23 | 1.05 | 3.88 | 0.68 | | | | 0.46 | 2.84 | 0.46 | 567 | 2.41 | 5 | 27 | 2.61 | 0.3 | | | 26 | | 283 | | 88 |
| 149 | Marriner & Millward (1984) | DM5 | | | | 54.4 | 1.27 | 17.4 | 1.29 | 8.62 | 0.18 | 2.98 | 8.16 | 3.08 | 1.64 | 0.4 | | | 99.42 | 13 | 12 | 300 | | | | 8.15 | 19.4 | | 13.54 | 3.59 | 1.12 | 0 | 0.7 | | | | 0.35 | 1.98 | 0.36 | 1091 | 1.68 | 5 | 23 | 2.27 | 0.25 | | | 32 | | 471 | | 69 |
| 150 | | DM9A | | | | 52.4 | 1.19 | 18.5 | 1.2 | 7.98 | 0.16 | 3.11 | 9.38 | 2.84 | 1.09 | 0.33 | | | 98.18 | 9 | 10 | 295 | | | | 7.36 | 15.65 | | 10 | 3.32 | 1.15 | 4 | 0.77 | | | | 0.46 | 2.26 | 0.35 | 1026 | 1.23 | 4 | 22 | 1.91 | 0.22 | | | 20 | | 534 | | 54 |
| 151 | | DM13 | | | | 52.00 | 1.15 | 16.80 | 1.45 | 9.67 | 0.20000 | 4.09 | 8.42 | 2.87 | 1.32 | 0.37 | | | 98.34 | 21 | 26 | 336 | | | | 8.07 | 18.11 | | 11.18 | 3.49 | 1.16 | 4.16 | 0.63 | | | | 0.33 | 2.25 | 0.36 | 857 | 1.36 | 4 | 24 | 1.99 | 0.24 | | | 50 | | 455 | | 63 |
| 152 | | 7103 | | NA | NA | 51.10 | 0.67 | 15.90 | 9.97 | | 0.15 | 5.12 | 10.60 | 2.49 | 1.03 | 0.25 | | 2.16 | 100.00 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 153 | | 7106 | | NA | NA | 55.60 | 0.65 | 18.20 | 7.29 | | 0.10 | 2.80 | 6.71 | 3.56 | 1.75 | 0.25 | | 3.17 | 101.00 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 154 | | 700001 | | NA | NA | 47.10 | 0.62 | 11.80 | 11.40 | | 0.18 | 10.20 | 11.50 | 1.59 | 1.85 | 0.42 | | 3.76 | 98.80 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 155 | | 706401 | | NA | NA | 50.00 | 0.62 | 16.80 | 8.89 | | 0.18 | 4.13 | 7.01 | 3.34 | 4.48 | 0.68 | | 3.87 | 100.00 | < 20 | NA | 236 | 15.00 | NA | NA | 17.60 | 29.50 | 3.60 | 14.70 | 3.40 | 1.21 | 2.97 | 0.48 | 2.67 | 0.53 | 1.52 | 0.23 | 1.52 | 0.22 | 1105.00 | 2.10 | 2.80 | 15.80 | 1.80 | 0.20 | 1.20 | 6.00 | 84.00 | 1.60 | 1116.00 | NA | 70.00 |
| 156 | | 706402 | | NA | NA | 53.00 | 0.53 | 18.30 | 6.25 | | 0.13 | 2.43 | 3.98 | 4.44 | 5.66 | 0.64 | | 4.32 | 99.60 | < 20 | NA | 173 | 15.00 | NA | NA | 24.60 | 36.80 | 4.10 | 14.90 | 2.90 | 1.00 | 2.27 | 0.37 | 2.17 | 0.42 | 1.25 | 0.19 | 1.24 | 0.19 | 1824.00 | 3.70 | 5.20 | 12.80 | 2.00 | 0.30 | 1.70 | 9.00 | 98.00 | 1.90 | 1415.00 | NA | 90.00 |
| 157 | | 706403 | | NA | NA | 48.70 | 0.48 | 20.00 | 6.85 | | 0.18 | 2.24 | 7.13 | 4.25 | 2.80 | 0.56 | | 5.15 | 100.00 | < 20 | NA | 141 | 18.00 | NA | NA | 15.40 | 29.10 | 3.88 | 14.50 | 3.20 | 1.18 | 3.65 | 0.54 | 2.99 | 0.56 | 1.62 | 0.25 | 1.56 | 0.24 | 686.00 | 1.90 | 2.60 | 16.20 | 1.70 | 0.10 | 0.90 | 5.00 | 56.00 | 1.40 | 1361.00 | NA | 58.00 |
| 158 | Rodríguez & Zapata (2014) | 706404 | | NA | NA | 48.50 | 1.09 | 17.20 | 9.26 | | 0.24 | 4.75 | 7.90 | 4.31 | 2.20 | 1.04 | | 3.75 | 100.00 | < 20 | NA | 402 | 19.00 | NA | NA | 33.20 | 65.20 | 8.80 | 33.40 | 7.20 | 2.27 | 7.03 | 1.00 | 5.06 | 0.84 | 2.27 | 0.32 | 1.87 | 0.28 | 1431.00 | 3.50 | 6.40 | 24.40 | 2.90 | 0.40 | 1.40 | 7.00 | 21.00 | 7.50 | 1572.00 | NA | 98.00 |
| 159 | | 706405 | | NA | NA | 50.20 | 0.86 | 16.30 | 10.90 | | 0.23 | 4.63 | 9.04 | 3.26 | 2.82 | 0.50 | | 1.88 | 99.70 | < 20 | NA | 296 | 17.00 | NA | NA | 13.00 | 26.20 | 3.51 | 14.50 | 3.80 | 1.34 | 4.51 | 0.76 | 4.29 | 0.81 | 2.36 | 0.34 | 2.16 | 0.34 | 427.00 | 1.30 | 3.50 | 23.00 | 2.10 | 0.20 | 0.80 | < 5 | 75.00 | 0.90 | 904.00 | NA | 70.00 |
| 160 | | 706406 | | NA | NA | 51.00 | 0.85 | 16.00 | 9.18 | | 0.20 | 3.09 | 8.93 | 2.48 | 3.09 | 0.46 | | 3.57 | 98.40 | < 20 | NA | 250 | 16.00 | NA | NA | 12.10 | 24.60 | 3.31 | 13.50 | 3.40 | 1.19 | 4.10 | 0.72 | 4.00 | 0.77 | 2.21 | 0.33 | 2.13 | 0.33 | 692.00 | 1.40 | 4.10 | 21.80 | 2.10 | 0.30 | 0.70 | < 5 | 74.00 | 0.60 | 843.00 | NA | 72.00 |
| 161 | | 706407 | | NA | NA | 50.00 | 0.98 | 14.00 | 11.70 | | 0.17 | 5.42 | 9.31 | 3.79 | 1.74 | 0.57 | | 2.47 | 101.00 | < 20 | NA | 361 | 15.00 | NA | NA | 12.20 | 25.20 | 3.53 | 14.80 | 3.90 | 1.30 | 4.27 | 0.73 | 4.13 | 0.76 | 2.18 | 0.31 | 1.97 | 0.31 | 494.00 | 1.20 | 3.10 | 21.90 | 2.00 | 0.20 | 0.50 | < 5 | 33.00 | 0.20 | 914.00 | NA | 69.00 |
| 162 | | 706408 | | NA | NA | 51.90 | 0.92 | 16.20 | 10.10 | | 0.15 | 3.69 | 7.79 | 2.90 | 4.30 | 0.66 | | 1.03 | 99.90 | < 20 | NA | 288 | 19.00 | NA | NA | 15.70 | 30.60 | 4.32 | 17.70 | 4.30 | 1.46 | 5.21 | 0.85 | 4.58 | 0.84 | 2.46 | 0.36 | 2.25 | 0.34 | 1303.00 | 1.40 | 4.60 | 24.90 | 2.40 | 0.30 | 0.80 | 5.00 | 92.00 | 0.40 | 1153.00 | NA | 81.00 |
| 163 | | 706413 | | NA | NA | 46.90 | 1.06 | 16.10 | 12.20 | | 0.18 | 6.76 | 9.46 | 1.91 | 1.30 | 0.22 | | 3.82 | 99.90 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| 164 | | 706466 | | NA | NA | 48.30 | 0.88 | 14.70 | 10.50 | | 0.19 | 5.44 | 9.66 | 5.38 | 0.78 | 0.81 | | 3.33 | 100.00 | < 20 | NA | 419 | 17.00 | NA | NA | 20.60 | 39.20 | 5.11 | 19.20 | 4.40 | 1.38 | 4.04 | 0.64 | 3.35 | 0.59 | 1.65 | 0.24 | 1.49 | 0.22 | 823.00 | 3.20 | 4.90 | 18.10 | 2.10 | 0.30 | 1.50 | 7.00 | 29.00 | 11.00 | 1422.00 | NA | 76.00 |
| 165 | | ER135R* | Basaltic Andesite | NA | NA | 54.30 | 0.51 | 20.00 | 5.95 | | 0.11 | 1.94 | 5.89 | 3.69 | 4.36 | 0.46 | 0.00 | 2.40 | 99.60 | 2.5 | | 122.00 | 19.10 | | | 22.50 | 41.50 | 5.20 | 20.80 | 4.1 | 1.26 | 3.44 | 0.53 | 2.83 | 0.53 | 1.68 | 0.29 | 1.76 | 0.26 | 1201.00 | 4.00 | 4.90 | 16.80 | 3.00 | 0.30 | 2.30 | 1.2 | 98.90 | 3.70 | 1309.00 | | 99.20 |
| 166 | | ER334R* | Basalt (Cpx, Opx) | NA | NA | 50.70 | 0.71 | 16.60 | 9.17 | | 0.16 | 4.02 | 7.44 | 3.22 | 3.88 | 0.60 | 0.01 | 3.30 | 99.80 | 9.4 | | 228.00 | 19.20 | | | 21.50 | 40.50 | 5.48 | 22.60 | 4.8 | 1.51 | 4.36 | 0.67 | 3.42 | 0.6 | 1.74 | 0.32 | 1.87 | 0.29 | 976.00 | 3.70 | 4.00 | 19.50 | 2.70 | 0.20 | 2.00 | 1.9 | 105.00 | 2.30 | 968.00 | | 81.90 |
| 167 | Zapata & Rodríguez (2011) | LM113R* | Basalt | NA | NA | 52.10 | 0.66 | 18.40 | 8.42 | | 0.15 | 3.12 | 6.72 | 3.36 | 4.46 | 0.58 | 0.00 | 1.70 | 99.60 | 2.6 | | 176.00 | 17.40 | | | 20.20 | 40.70 | 5.21 | 21.60 | 5 | 1.42 | 4.32 | 0.64 | 3.56 | 0.65 | 2.08 | 0.29 | 1.78 | 0.25 | 995.00 | 4.80 | 4.20 | 18.90 | 3.10 | 0.30 | 2.20 | 0.7 | 83.30 | 0.60 | 1011.00 | | 93.40 |
| 168 | | LM305R* | Basalt (Cpx) | NA | NA | 53.60 | 0.52 | 20.20 | 6.19 | | 0.13 | 1.82 | 6.14 | 3.90 | 4.75 | 0.45 | 0.00 | 1.90 | 99.60 | 3.9 | | 102.00 | 19.10 | | | 21.50 | 42.40 | 4.99 | 20.30 | 4.2 | 1.32 | 3.61 | 0.48 | 3.06 | 0.54 | 1.68 | 0.25 | 1.64 | 0.26 | 1099.00 | 3.90 | 4.70 | 17.40 | 3.30 | 0.30 | 2.30 | 3.6 | 125.00 | 3.30 | 1238.00 | | 99.60 |
| 169 | | MR124R* | Andesite (Cpx) | NA | NA | 53.80 | 0.68 | 18.80 | 7.50 | | 0.15 | 1.93 | 6.24 | 3.88 | 4.47 | 0.56 | 0.00 | 1.70 | 99.60 | 3.6 | | 143.00 | 19.40 | | | 24.00 | 48.60 | 5.73 | 25.40 | 5.2 | 1.55 | 4.44 | 0.66 | 3.84 | 0.75 | 2.19 | 0.33 | 1.98 | 0.33 | 1231.00 | 5.00 | 4.20 | 20.90 | 2.80 | 0.30 | 2.00 | 1.5 | 101.00 | 1.20 | 1092.00 | | 92.60 |
| 170 | | MR125R* | Basalt (Cpx) | NA | NA | 50.00 | 0.75 | 17.90 | 9.56 | | 0.20 | 4.17 | 8.00 | 3.06 | 3.60 | 0.68 | 0.00 | 1.80 | 99.60 | 6.5 | | 232 | 18.30 | | | 19.90 | 43.40 | 5.30 | 24.70 | 5.70 | 1.60 | 4.80 | 0.67 | 3.54 | 0.69 | 1.94 | 0.27 | 1.91 | 0.26 | 875.00 | 4.10 | 2.90 | 19.50 | 2.50 | 0.20 | 1.50 | 3.50 | 77.50 | 0.80 | 1106.00 | | 73.00 |

**Table 1.** Compiled geochemical data base of published analyses of the igneous rocks of the Combia Formation (*continued*).

| | Reference | Sample | Rock type† | Latitude N | Longitude W | $SiO_2$ | $TiO_2$ | $Al_2O_3$ | $Fe_2O_3$ | FeO | MnO | MgO | CaO | $Na_2O$ | $K_2O$ | $P_2O_5$ | $Cr_2O_3$ | LOI % | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 171 | | MJG–64 | Porphyritic Basalt | 5° 47' 44.69'' | 75° 47' 27.99'' | 58.5 | 0.826 | 16.06 | 9.06 | | 0.186 | 1.94 | 5.61 | 3.45 | 2.71 | 0.55 | | 1.514 | 100.4 |
| 172 | | MJG–57 | Porphyritic Basalt | 5° 48' 56.94'' | 75° 47' 12.69'' | 51.27 | 0.891 | 18.47 | 11.16 | | 0.182 | 3.4 | 10.09 | 2.77 | 1.09 | 0.28 | | 0.9887 | 100.6 |
| 173 | | MJG–55 | Basalt | 5° 44' 19.87'' | 75° 46' 56.65'' | 51.47 | 0.787 | 16.85 | 11.33 | | 0.199 | 4.78 | 9.21 | 2.42 | 1.53 | 0.24 | | 1.776 | 100.6 |
| 174 | | MJG–53 | Porphyritic Basalt | 5° 44' 12.87'' | 75° 49' 6.31'' | 61.53 | 0.733 | 15.88 | 7.14 | | 0.158 | 1.43 | 4.48 | 4.11 | 2.72 | 0.46 | | 1.885 | 100.5 |
| 175 | | MJG–51 | Dike | 5° 47' 57.29'' | 75° 49' 41.04'' | 52.5 | 1.062 | 17.44 | 10.16 | | 0.189 | 3.83 | 9.29 | 2.31 | 1.28 | 0.3 | | 2.22 | 100.6 |
| 176 | | MJG–46.1 | Basalt | 5° 48' 36.02'' | 75° 46' 36.05'' | 53.82 | 0.899 | 18.87 | 9.43 | | 0.156 | 3.2 | 9.25 | 2.75 | 1.17 | 0.24 | | 0.8268 | 100.6 |
| 177 | | MJG–44.3 | Porphyritic Basalt | 5° 47' 54.99'' | 75° 47' 34.99'' | 51.77 | 0.817 | 19.49 | 9.62 | | 0.17 | 2.53 | 9.76 | 2.71 | 1.34 | 0.25 | | 2.204 | 100.6 |
| 178 | | MJG–35 | Basalt | 5° 47' 40.04'' | 75° 44' 29.35'' | 56.94 | 0.788 | 16.11 | 8.12 | | 0.142 | 4.04 | 7.09 | 2.24 | 1.59 | 0.24 | | 1.565 | 98.86 |
| 179 | | MJG–22.2 | Basalt | 5° 47' 32.93'' | 75° 44' 49.09'' | 55.45 | 0.806 | 16.08 | 10.56 | | 0.175 | 4.53 | 7.73 | 3.08 | 1.17 | 0.22 | | 0.4687 | 100.3 |
| 180 | | MJG–117B | Dyke | 5° 49' 56.42'' | 75° 46' 54.52'' | 50.6 | 0.896 | 17.44 | 9.73 | | 0.139 | 3.78 | 9.11 | 2.48 | 1.13 | 0.32 | | 2.884 | 98.51 |
| 181 | | MJG–111 | Basalt | 5° 46' 2.07'' | 75° 46' 3.59'' | 53.78 | 0.661 | 16.68 | 8.29 | | 0.126 | 2.71 | 7.26 | 2.3 | 1.56 | 0.25 | | 5.117 | 98.74 |
| 182 | | MJG–11 | Basalt | 5° 48' 26.26'' | 75° 43' 50.87'' | 56.32 | 0.894 | 17.91 | 8.02 | | 0.147 | 2.8 | 8.09 | 2.95 | 0.59 | 0.32 | | 1.343 | 99.39 |
| 183 | | MJG–1 | Porphyritic Basalt | 5° 47' 35.84'' | 75° 48' 28.56'' | 51.38 | 0.812 | 19.05 | 9.83 | | 0.166 | 2.93 | 10.12 | 2.49 | 1.47 | 0.26 | | 1.857 | 100.4 |
| 184 | Unpublished data from Tejada et al. (2007) and Project "Caracterización Estratigráfica, Petrogenética y Geocronológica de la Formación Combia, Acuerdo Específico No 009–2004". | HJ–90 | Porphyritic Basalt | 5° 35' 1.8'' | 75° 46' 37.2'' | 50.81 | 1.06 | 17.58 | 11.48 | | 0.197 | 4.12 | 9.17 | 2.54 | 1.42 | 0.32 | | 1.273 | 99.97 |
| 185 | | HJ–9 | Porphyritic Basalt | 5° 31' 16'' | 75° 48' 15.1'' | 55.73 | 0.959 | 17.56 | 9.02 | | 0.16 | 2.55 | 7.41 | 2.98 | 1.58 | 0.4 | | 1.424 | 99.77 |
| 186 | | HJ–66 | Porphyritic Basalt | | | 51.23 | 1.083 | 16.12 | 11.87 | | 0.165 | 3.82 | 8.49 | 2.77 | 1.37 | 0.41 | | 2.178 | 99.51 |
| 187 | | HJ–55–1 | Basalt | 5° 35' 56.5'' | 75° 51' 36.3'' | 46.41 | 0.873 | 13.59 | 9.93 | | 0.183 | 8.72 | 14.32 | 0.92 | 0.38 | 0.08 | | 3.961 | 99.37 |
| 188 | | HJ–31–3 | Porphyritic Basalt | 5° 36' 12'' | 75° 50' 1.4'' | 46.3 | 1.074 | 18.46 | 11.38 | | 0.41 | 3.66 | 11.12 | 2.66 | 0.59 | 0.36 | | 3.268 | 99.28 |
| 189 | | HJ–209–2 | Porphyritic Basalt | | | 51.28 | 0.845 | 18.07 | 10.23 | | 0.167 | 3.2 | 9.29 | 3 | 0.87 | 0.31 | | 1.656 | 98.94 |
| 190 | | HJ–165 | Porphyritic Basalt | | | 51.61 | 1.093 | 16.27 | 11.97 | | 0.199 | 4.15 | 8.32 | 2.85 | 1.59 | 0.4 | | 1.035 | 99.49 |
| 191 | | HJ–138 | Porphyritic Basalt | | | 52.56 | 1.111 | 16.66 | 10.62 | | 0.175 | 3.78 | 8.47 | 2.51 | 1.11 | 0.31 | | 3.033 | 100.3 |
| 192 | | HJ–11 | Porphyritic Basalt | | | 52.04 | 0.903 | 17.22 | 10.31 | | 0.164 | 3.23 | 8.43 | 3.06 | 1.49 | 0.35 | | 1.771 | 98.96 |
| 193 | | AN–1819 | Andesite | 5° 41' 36.98'' | 75° 36' 20.19'' | 57.84 | 0.59 | 16.05 | 5.2 | | 0.072 | 1.99 | 6.09 | 4.15 | 1.07 | 0.24 | | 5.268 | 98.57 |
| 194 | | AN–1818 | Andesite | 5° 42' 1.38'' | 75° 36' 16.88'' | 59.15 | 0.644 | 16.4 | 5.64 | | 0.076 | 2.17 | 6.48 | 4.03 | 1.51 | 0.25 | | 3.952 | 100.3 |
| 195 | | MJG–60 | Andesite | 5° 49' 1.11'' | 75° 47' 18.01'' | 59.07 | 0.588 | 16.43 | 6.67 | | 0.112 | 2.79 | 4.82 | 2.55 | 2.08 | 0.24 | | 3.481 | 98.85 |
| 196 | | MJG–59 | Andesite | 5° 49' 0.29'' | 75° 47' 14.24'' | 60.08 | 0.586 | 16.63 | 6.18 | | 0.08 | 2.32 | 6.15 | 2.73 | 2.03 | 0.24 | | 2.597 | 99.62 |
| 197 | | MJG–47 | Andesite | | | 60.48 | 0.591 | 16.7 | 6.17 | | 0.096 | 2.28 | 6 | 2.8 | 2.07 | 0.25 | | 2.722 | 100.2 |
| 198 | | MJG–24B | Andesite | 5° 47' 33.76'' | 75° 44' 42.2'' | 61.4 | 0.62 | 16.46 | 6.35 | | 0.15 | 2 | 5.69 | 3.45 | 2.57 | 0.27 | | 1.313 | 100.3 |
| 199 | | MJG–134 | Andesite | 5° 50' 32.79'' | 75° 48' 27.74'' | 60.57 | 0.603 | 16.06 | 7.06 | | 0.125 | 3.34 | 6 | 2.57 | 1.76 | 0.23 | | 2.13 | 100.5 |
| 200 | | MJG–132 | Andesite | 5° 50' 15.18'' | 75° 48' 18.25'' | 60.51 | 0.621 | 16.23 | 7.26 | | 0.128 | 3.18 | 6.16 | 2.98 | 1.78 | 0.23 | | 1.273 | 100.4 |
| 201 | | HJ–180 | Andesite | | | 54.6 | 0.997 | 17.21 | 9.61 | | 0.186 | 4.04 | 8.26 | 2.51 | 1.56 | 0.44 | | 0.1401 | 99.56 |
| 202 | | HJ–112–3 | Andesite | 5° 30' 31.4'' | 75° 47' 42.8'' | 59.33 | 0.61 | 16.81 | 6.78 | | 0.161 | 2.33 | 6.27 | 2.91 | 1.75 | 0.22 | | 2.777 | 99.96 |

| | Ni ppm | Cr ppm | V ppm | Ga ppm | Cu ppm | Zn ppm | La ppm | Ce ppm | Pr ppm | Nd ppm | Sm ppm | Eu ppm | Gd ppm | Tb ppm | Dy ppm | Ho ppm | Er ppm | Tm ppm | Yb ppm | Lu ppm | Ba ppm | Th ppm | Nb ppm | Y ppm | Hf ppm | Ta ppm | U ppm | Pb ppm | Rb ppm | Cs ppm | Sr ppm | Sc ppm | Zr ppm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 171 | | | | | | | 12.4 | 25.3 | 3.75 | 15.7 | 4.21 | 1.32 | 4.42 | 0.82 | 5.16 | 1.04 | 3.14 | | 3.1 | 0.468 | 1195 | 2.46 | 4.6 | 29.4 | 3 | 0.36 | 1.08 | 8 | 60 | 2.6 | 474 | | 105 |
| 172 | | | | | | | 5.14 | 11.2 | 1.78 | 7.95 | 2.29 | 0.925 | 2.66 | 0.53 | 3.35 | 0.68 | 2.01 | | 1.96 | 0.286 | 574 | 0.77 | 1.6 | 19.5 | 1.4 | 0.13 | 0.32 | < 5 | 23 | 1 | 512 | | 42 |
| 173 | | | | | | | 5.82 | 12 | 1.85 | 8.3 | 2.3 | 0.847 | 2.6 | 0.49 | 3.11 | 0.63 | 1.89 | | 1.83 | 0.274 | 723 | 1.02 | 1.9 | 17.4 | 1.4 | 0.15 | 0.45 | < 5 | 26 | 0.8 | 517 | | 48 |
| 174 | | | | | | | 12.3 | 25.6 | 3.8 | 16 | 4.25 | 1.33 | 4.59 | 0.85 | 5.4 | 1.11 | 3.31 | | 3.28 | 0.482 | 1245 | 2.41 | 4.3 | 31.9 | 3 | 0.37 | 1.05 | 8 | 55 | 1 | 427 | | 109 |
| 175 | | | | | | | 6.66 | 14 | 2.25 | 9.97 | 2.8 | 1.01 | 3.13 | 0.58 | 3.68 | 0.75 | 2.24 | | 2.1 | 0.308 | 688 | 1.17 | 2.7 | 22.2 | 1.9 | 0.2 | 0.52 | 5 | 26 | 0 | 451 | | 56 |
| 176 | | | | | | | 5.38 | 11.7 | 1.77 | 7.91 | 2.33 | 0.903 | 2.76 | 0.53 | 3.41 | 0.67 | 2.01 | | 1.96 | 0.297 | 713 | 0.89 | 3 | 20.7 | 1.6 | 0.21 | 0.54 | 8 | 25 | 0.8 | 490 | | 56 |
| 177 | | | | | | | 5.84 | 12.3 | 1.78 | 7.96 | 2.31 | 0.932 | 2.59 | 0.49 | 3.09 | 0.59 | 1.77 | | 1.72 | 0.264 | 665 | 1 | 2 | 16.4 | 1.4 | 0.15 | 0.45 | < 5 | 25 | 0.9 | 610 | | 47 |
| 178 | | | | | | | 10.9 | 19.6 | 2.97 | 12.5 | 3.11 | 0.919 | 3.1 | 0.58 | 3.66 | 0.75 | 2.29 | | 2.26 | 0.348 | 1365 | 2.94 | 4.4 | 23.3 | 2.2 | 0.35 | 1.08 | 7 | 47 | 2.9 | 383 | | 79 |
| 179 | | | | | | | 5.91 | 12.6 | 1.81 | 7.73 | 2.17 | 0.813 | 2.49 | 0.47 | 2.95 | 0.58 | 1.74 | | 1.68 | 0.255 | 897 | 1.38 | 2.7 | 15.9 | 1.7 | 0.18 | 0.78 | 11 | 26 | 0.4 | 602 | | 56 |
| 180 | | | | | | | 5.98 | 12.7 | 1.93 | 8.91 | 2.47 | 0.899 | 2.51 | 0.49 | 3.09 | 0.62 | 1.87 | | 1.86 | 0.286 | 656 | 1.17 | 2.4 | 19.1 | 1.6 | 0.18 | 0.44 | < 5 | 26 | 0.4 | 475 | | 53 |
| 181 | | | | | | | 9.97 | 18.6 | 2.67 | 10.9 | 2.72 | 0.945 | 2.73 | 0.48 | 2.98 | 0.61 | 1.84 | | 1.82 | 0.258 | 1165 | 2.19 | 3.3 | 18.8 | 2.2 | 0.27 | 0.89 | 10 | 39 | 3.6 | 548 | | 73 |
| 182 | | | | | | | 13 | 23.3 | 3.51 | 14.2 | 3.58 | 1.17 | 3.8 | 0.7 | 4.54 | 0.93 | 2.83 | | 2.96 | 0.45 | 1669 | 2.83 | 4.6 | 26.4 | 2.4 | 0.39 | 0.98 | 6 | 64 | 11.3 | 517 | | 87 |
| 183 | | | | | | | 6.34 | 13 | 1.88 | 8.25 | 2.38 | 0.993 | 2.58 | 0.5 | 3.16 | 0.62 | 1.86 | | 1.8 | 0.266 | 641 | 0.96 | 1.8 | 15.6 | 1.3 | 0.15 | 0.45 | < 5 | 25 | 0.8 | 601 | | 46 |
| 184 | | | | | | | 8.9 | 18.4 | 2.8 | 12.3 | 3.35 | 1.19 | 3.71 | 0.72 | 4.72 | 0.98 | 3 | | 2.97 | 0.451 | 720 | 1.84 | 3 | 27.1 | 1.6 | 0.17 | 0.69 | < 5 | 27 | 1.1 | 549 | | 54 |
| 185 | | | | | | | 15.2 | 27.9 | 4.14 | 17.5 | 3.99 | 1.36 | 3.96 | 0.65 | 3.4 | 0.59 | 1.56 | | 1.32 | 0.192 | 1137 | 2.69 | 6.2 | 19.8 | 2.4 | 0.42 | 0.93 | < 5 | 42 | 1.7 | 664 | | 90 |
| 186 | | | | | | | 7.86 | 16.6 | 2.47 | 11 | 3.02 | 1.17 | 3.43 | 0.64 | 4.06 | 0.81 | 2.44 | | 2.29 | 0.357 | 876 | 1.4 | 3.3 | 23.2 | 2 | 0.22 | 1.54 | 6 | 37 | 7.5 | 468 | | 65 |
| 187 | | | | | | | 3.31 | 8.33 | 1.23 | 5.94 | 1.83 | 0.767 | 2.24 | 0.46 | 3.06 | 0.61 | 1.86 | | 1.82 | 0.279 | 81 | 0.31 | 3.8 | 17.4 | 1.3 | 0.26 | 0.07 | 7 | 10 | 1.7 | 54 | | 42 |
| 188 | | | | | | | 6.41 | 15.2 | 2.51 | 11.6 | 3.32 | 1.22 | 3.83 | 0.73 | 4.6 | 0.92 | 2.8 | | 2.79 | 0.426 | 658 | 0.82 | 3.9 | 28.5 | 1.8 | 0.23 | 0.35 | < 5 | 7 | 0.8 | 451 | | 54 |
| 189 | | | | | | | 5.86 | 12.4 | 1.86 | 8.28 | 2.32 | 1.01 | 2.65 | 0.51 | 3.27 | 0.66 | 1.95 | | 1.98 | 0.307 | 716 | 1.04 | 2.1 | 18.3 | 1.5 | 0.13 | 0.53 | < 5 | 22 | 0.8 | 525 | | 47 |
| 190 | | | | | | | 7.41 | 15.8 | 2.36 | 10.5 | 2.85 | 1.11 | 3.35 | 0.61 | 3.87 | 0.77 | 2.31 | | 2.28 | 0.344 | 846 | 1.32 | 3.2 | 22.3 | 1.9 | 0.21 | 0.61 | 11 | 37 | 1.3 | 457 | | 62 |
| 191 | | | | | | | 7.25 | 15.9 | 2.53 | 11.2 | 3.02 | 1.06 | 3.37 | 0.63 | 4.08 | 0.81 | 2.43 | | 2.36 | 0.352 | 740 | 1.15 | 3.5 | 23.2 | 2 | 0.29 | 0.64 | 5 | 37 | 3.2 | 433 | | 64 |
| 192 | | | | | | | 6.86 | 14.3 | 2.09 | 9.32 | 2.6 | 1.04 | 2.89 | 0.55 | 3.54 | 0.72 | 2.18 | | 2.09 | 0.309 | 794 | 1.12 | 2.3 | 21.6 | 1.6 | 0.14 | 0.53 | 5 | 32 | 2.7 | 496 | | 52 |
| 193 | | | | | | | 11.9 | 22.5 | 3 | 12.1 | 2.47 | 0.895 | 1.87 | 0.25 | 1.18 | 0.21 | 0.56 | | 0.51 | 0.077 | 1521 | 1.92 | 2.3 | 6.5 | 1.8 | 0.18 | 0.69 | 7 | 18 | 0.9 | 970 | | 67 |
| 194 | | | | | | | 12.4 | 23.8 | 3.23 | 12.9 | 2.68 | 0.946 | 2.04 | 0.29 | 1.36 | 0.24 | 0.64 | | 0.59 | 0.091 | 1551 | 1.9 | 2.6 | 7.4 | 2 | 0.2 | 0.79 | 6 | 26 | 0.8 | 1033 | | 70 |
| 195 | | | | | | | 12.7 | 22.3 | 3.15 | 12 | 2.62 | 0.88 | 2.39 | 0.42 | 2.49 | 0.5 | 1.52 | | 1.56 | 0.251 | 1596 | 3.06 | 3.7 | 13.5 | 2.1 | 0.33 | 1.17 | 8 | 55 | 2.2 | 447 | | 79 |
| 196 | | | | | | | 12.9 | 22.3 | 3.19 | 11.9 | 2.56 | 0.86 | 2.3 | 0.38 | 2.11 | 0.38 | 1.08 | | 0.97 | 0.14 | 1636 | 3.17 | 4 | 10.9 | 2.2 | 0.34 | 1.23 | 8 | 56 | 2.1 | 557 | | 80 |
| 197 | | | | | | | 13.4 | 23.6 | 3.31 | 12.9 | 2.8 | 0.926 | 2.49 | 0.4 | 2.27 | 0.43 | 1.22 | | 1.11 | 0.17 | 1600 | 3.42 | 4.2 | 13.8 | 2.3 | 0.36 | 1.29 | 10 | 58 | 2.1 | 550 | | 85 |
| 198 | | | | | | | 20 | 35.8 | 4.73 | 17.8 | 3.86 | 1.28 | 3.6 | 0.59 | 3.33 | 0.68 | 2.02 | | 1.98 | 0.298 | 1452 | 4.8 | 5.6 | 18.4 | 3.2 | 0.5 | 1.9 | 21 | 76 | 1.1 | 713 | | 122 |
| 199 | | | | | | | 12.1 | 19.7 | 2.94 | 11.4 | 2.8 | 0.877 | 2.59 | 0.46 | 2.79 | 0.57 | 1.72 | | 1.71 | 0.256 | 1692 | 2.86 | 3.4 | 17.6 | 2.1 | 0.32 | 1.09 | 8 | 48 | 1.7 | 524 | | 76 |
| 200 | | | | | | | 12.9 | 20.6 | 3.23 | 12.1 | 2.86 | 0.997 | 2.89 | 0.49 | 3 | 0.61 | 1.83 | | 1.84 | 0.279 | 1824 | 2.77 | 3.6 | 17.5 | 2 | 0.3 | 1.1 | 7 | 51 | 1.9 | 552 | | 73 |
| 201 | | | | | | | 13 | 24.8 | 3.81 | 15.9 | 3.8 | 1.28 | 3.91 | 0.69 | 4.27 | 0.83 | 2.48 | | 2.42 | 0.374 | 944 | 2.58 | 4.2 | 23.5 | 2.1 | 0.42 | 1.16 | 5 | 33 | 1.1 | 539 | | 74 |
| 202 | | | | | | | 12.4 | 23.2 | 3.16 | 12.8 | 2.95 | 1.13 | 3.01 | 0.52 | 3.03 | 0.59 | 1.78 | | 1.75 | 0.267 | 1302 | 3.09 | 4.3 | 17.1 | 2.3 | 0.35 | 1.31 | < 5 | 42 | 1 | 572 | | 81 |

†The rock type is given as is stated in The reference.

**Table 2.** Compiled isotopic data base of published analyses of the igneous rocks of the Combia Formation.

| Reference | Sample number | Rock | Sm ppm | Nd ppm | $^{147}Sm/^{144}Nd$ | $^{143}Nd/^{144}Nd$ | e(0) | $^{87}Sr/^{86}Sr$ | Rb ppm | Sr ppm | $^{87}Rb/^{86}Sr$ | $^{87}Sr/^{86}Sr$ | $^{206}Pb/^{204}Pb$ | $^{208}Pb/^{204}Pb$ | $^{207}Pb/^{204}Pb$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Borrero & Toro–Toro (2016) | TB9 WRB1 | Andesitc porphyry | 2.550 | 13.100 | 0.118 | 0.513 | 4.974 | 0.704 | | | | | | | |
| | TB6 WRB1 | Andesitc porphyry | 3.730 | 17.300 | 0.130 | 0.513 | 4.116 | 0.704 | | | | | | | |
| | TB22 WRB1 | Andesitc porphyry | 4.010 | 18.900 | 0.128 | 0.513 | 4.565 | 0.704 | | | | | | | |
| | TB17 WRB1 | Andesitc porphyry | 3.770 | 16.500 | 0.138 | 0.513 | 5.247 | 0.704 | | | | | | | |
| Leal–Mejía (2011) | WR–95 | Basalt to basaltic andesite | 4.340 | 24.100 | 0.109 | 0.513 | –0.936 | 0.704 | 29.870 | 617.170 | 0.139 | 0.704 | 19.2100 | 38.8500 | 15.6700 |
| | WR–178 | Basalt to basaltic andesite | 2.510 | 8.630 | 0.176 | 0.513 | 5.501 | 0.704 | 21.040 | 697.180 | 0.087 | 0.704 | 18.9500 | 38.6300 | 15.6000 |
| | WR–19 | Micro–diorite | 2.990 | 12.590 | 0.144 | 0.513 | 8.817 | 0.704 | 41.570 | 724.160 | 0.165 | 0.704 | 19.2200 | 38.8400 | 15.6700 |
| | WR–30 | Andesite | 3.730 | 15.800 | 0.143 | 0.513 | 11.548 | 0.704 | 43.400 | 923.330 | 0.135 | 0.704 | 18.9100 | 38.5900 | 15.6100 |
| | WR–21 | Granodiorite Porphyry | 1.770 | 7.050 | 0.152 | 0.513 | 2.965 | 0.704 | 38.290 | 636.240 | 0.173 | 0.704 | 19.0600 | 38.9200 | 15.6500 |
| | WR–69 | Diorite Porphyry | 3.210 | 14.440 | 0.134 | 0.513 | 4.721 | 0.704 | 52.860 | 909.770 | 0.167 | 0.704 | 18.8000 | 38.7000 | 15.6400 |
| | MIN–01 | Diorite Porphyry | | | | | | | | | | | 18.8100 | 15.6300 | 38.6800 |
| | WR–40 | Diorite | | | | | | | | | | | 19.2100 | 15.6800 | 38.9300 |
| | WR–151 | | | | | | | | | | | | 19.2100 | 15.6500 | 38.8900 |
| Tassinari et al. (2008) | CJ 01 | Dacite porphyry | 2.961 | 14.345 | 0.125 | 0.513 | 3.199 | 0.705 | 39.000 | 1172.100 | | 0.705 | 18.964 | 38.640 | 15.564 |
| | CJ 66 | Dacite porphyry | 2.978 | 14.948 | 0.120 | 0.513 | 2.965 | 0.704 | 50.200 | 1064.400 | | 0.704 | 18.971 | 38.673 | 15.570 |
| | IGM 69 | Dacite porphyry | 3.545 | 17.787 | 0.121 | 0.513 | 2.224 | 0.704 | 54.600 | 964.000 | | 0.704 | 18.982 | 38.688 | 15.569 |
| | FHD 6 | Graphitic Schist | 2.082 | 9.294 | 0.135 | 0.512 | –11.255 | 0.735 | | | | 0.735 | | | |
| | IGM11 | Basalt | 2.948 | 9.794 | 0.182 | 0.513 | 4.682 | 0.704 | 37.900 | 502.000 | | 0.704 | | | |
| | CJ–04 | Mafic metavolcanic | 2.957 | 7.961 | 0.225 | 0.513 | 10.612 | 0.704 | | | | | | | |
| | CJ–08 | Mafic metavolcanic | 5.068 | 19.402 | 0.158 | 0.513 | 0.312 | 0.706 | | | | | | | |
| Ordoñez–Carmona (2001) | AA–1 | Andesite | 3.290 | 14.890 | 0.133 | 0.513 | 4.565 | 0.704 | | | | | | | |
| | AA–2 | Andesite | 3.500 | 16.860 | 0.125 | 0.513 | 2.809 | 0.704 | | | | | | | |
| | AA–4 | Andesite | 3.410 | 16.180 | 0.128 | 0.513 | 3.706 | 0.704 | | | | | | | |
| | FP–1 | Andesite | 4.270 | 20.740 | 0.124 | 0.513 | 3.667 | 0.704 | | | | | | | |
| | ARP–1 | | 3.700 | 17.800 | 0.126 | 0.513 | 2.633 | 0.704 | | | | | | | |
| | PCH–2 | | 5.120 | 24.210 | 0.128 | 0.513 | 1.365 | 0.705 | | | | | | | |
| | FC–1 | | 1.750 | 6.730 | 0.158 | 0.513 | 2.029 | 0.706 | | | | | | | |
| | FC–5 | | 3.020 | 13.430 | 0.136 | 0.513 | –0.741 | 0.705 | | | | | | | |
| Jaramillo et al. (2019) | BQP–03 | Basalt | 3.424 | 12.228 | 0.169 | 0.513 | 4.550 | 0.704 | 31.630 | 408.800 | | | | | |
| | BQP–07 | Gabbro | 5.937 | 21.649 | 0.166 | 0.513 | 4.530 | 0.704 | 59.240 | 366.720 | | | | | |
| | CAB–11 | Andesitic Porphyry | 3.116 | 15.025 | 0.125 | 0.513 | 4.340 | 0.704 | 59.460 | 796.190 | | | | | |
| | FCC–03 | Andesite | 3.007 | 12.684 | 0.143 | 0.513 | –0.36 | 0.705 | 38.000 | 418.780 | | | | | |
| | FQM–03 | Andesite | 2.812 | 12.256 | 0.139 | 0.513 | 0.510 | 0.705 | 40.050 | 480.670 | | | | | |

**Table 2.** Compiled isotopic data base of published analyses of the igneous rocks of the Combia Formation (*continued*).

| Reference | Sample number | Rock | Sm ppm | Nd ppm | $^{147}Sm/^{144}Nd$ | $^{143}Nd/^{144}Nd$ | e(0) | $^{87}Sr/^{86}Sr$ | Rb ppm | Sr ppm | $^{87}Rb/^{86}Sr$ | $^{87}Sr/^{86}Sr$ | $^{206}Pb/^{204}Pb$ | $^{208}Pb/^{204}Pb$ | $^{207}Pb/^{204}Pb$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bernet et al. (2020) | JJ1–3 | | 3.870 | 14.700 | | 0.513 | 5.959 | 0.704 | 43.900 | 475.000 | | | 18.967 | 38.724 | 15.620 |
| | JJ1–9 | | 4.240 | 15.500 | | 0.513 | 5.930 | 0.704 | 49.900 | 470.000 | | | 18.973 | 38.739 | 15.625 |
| | JJ1–17 | | 4.160 | 15.500 | | 0.513 | 5.684 | 0.704 | 49.200 | 459.000 | | | 18.973 | 38.736 | 15.624 |
| | JJ1–23 | | 4.180 | 15.400 | | 0.513 | 6.223 | 0.704 | 50.100 | 457.000 | | | 18.973 | 38.737 | 15.624 |
| | JJ3–2 | | 2.480 | 8.640 | | 0.513 | 5.846 | 0.704 | 25.800 | 558.000 | | | 18.936 | 38.680 | 15.624 |
| | JJ3–5 | | 3.240 | 11.300 | | 0.513 | 6.420 | 0.704 | 32.900 | 497.000 | | | 18.910 | 38.683 | 15.620 |
| | JJ3–9 | | 3.370 | 11.700 | | 0.513 | 5.905 | 0.704 | 34.000 | 473.000 | | | 18.911 | 38.683 | 15.621 |
| | JJ4–2 | | 2.810 | 10.300 | | 0.513 | 6.882 | 0.704 | 37.200 | 483.000 | | | 19.065 | 38.797 | 15.613 |
| | JJ2–1–10 | | 3.740 | 18.400 | | 0.513 | 5.255 | 0.704 | 169.000 | 1870.000 | | | 19.008 | 38.744 | 15.603 |
| | JJ2–1–14 | | 4.130 | 20.200 | | 0.513 | 5.191 | 0.704 | 130.000 | 1170.000 | | | 19.018 | 38.759 | 15.610 |
| Project "Caracterización Estratigráfica, Petrogenética y Geocronológica de la Formación Combia, Acuerdo Específico No 009–2004 con la Universidad Nacional de Colombia". | AN–1818 | Andesitc porphyry | 2.550 | 12.389 | 0.124 | 0.513 | 4.217 | 0.704 | 22.402 | 1055.473 | 0.061 | 0.704 | | | |
| | AN–1819 | Andesitc porphyry | 2.492 | 12.175 | 0.124 | 0.513 | 4.750 | 0.704 | 16.333 | 975.885 | 0.048 | 0.704 | | | |
| | HJ–112–3 | Andesitc hornblende porphyry | 2.928 | 12.955 | 0.137 | 0.513 | 2.832 | 0.704 | 36.127 | 557.756 | 0.187 | 0.704 | | | |
| | HJ–209–2 | Basalt | 2.369 | 8.582 | 0.142 | 0.513 | 5.625 | 0.704 | 19.361 | 524.222 | 0.107 | 0.704 | | | |
| | MJG–117B | Basalt Dyke | 2.364 | 8.712 | 0.164 | 0.513 | 4.740 | 0.704 | 21.837 | 477.196 | 0.132 | 0.704 | | | |
| | MJG–132 | Andesitc hornblende garnet porphyry | 2.746 | 12.445 | 0.133 | 0.513 | –0.157 | 0.705 | 19.010 | 528.545 | 0.104 | 0.705 | | | |
| | MJG–134 | Andesitc porphyry | 2.700 | 12.197 | 0.134 | 0.513 | 0.481 | 0.705 | 47.781 | 502.141 | 0.275 | 0.705 | | | |
| | MJG–22.2 | Augite Basalt | 2.102 | 7.755 | 0.139 | 0.513 | 5.215 | 0.704 | 24.491 | 576.325 | 0.123 | 0.704 | | | |
| | MJG–24B | Andesitc porphyry | 3.737 | 18.514 | 0.122 | 0.513 | 2.675 | 0.704 | 74.526 | 678.594 | 0.318 | 0.704 | | | |
| | MJG–35 | Hyperstene Basalt | 2.983 | 12.401 | 0.145 | 0.513 | 0.307 | 0.705 | 42.871 | 371.625 | 0.334 | 0.705 | | | |
| | MJG–44.3 | Feldspar Basalt | 2.156 | 7.836 | 0.141 | 0.513 | 5.223 | 0.704 | 24.636 | 576.640 | 0.124 | 0.704 | | | |
| | MJG–59 | Andesitchornblende garnet porphyry | 2.693 | 12.864 | 0.127 | 0.513 | 1.685 | 0.705 | 55.420 | 536.189 | 0.299 | 0.705 | | | |
| | HJ–9 D09 | Basalt | 4.182 | 18.241 | 0.139 | 0.513 | 1.788 | 0.704 | 36.142 | 648.911 | 0.161 | 0.704 | | | |