CIPWFULL

SIO2 TIO2 al2o3 FE2O3 FEO mno mgo CAO NA2O k2o P2O5 CO2 F s BAO

BARK1 P 0 1 42.80 3.57 10.15 2.71 9.90 0.17 13.10 12.27 2.16 0.36 0.62 0.11 0.0 0.0 0.0 0.0 0.0 0. 0. 0.

BARK2 P 0 1 75.20 0.35 12.27 0.63 1.89 0.06 0.27 0.81 3.05 5.00 0.06 0.10 0.25 0.01 0.04 0. 0. 0. 0.

HORNBLND P 0 14 48.40 1.08 7.27 2.44 9.53 0.10 15.86 11.25 1.90 0.17 0.00 0.00 0.00 0.00 0.00 0.00

MC-14 V 0 2 50.22 2.08 15.14 3.64 8.27 0.17 7.18 10.07 1.93 0.33 0.25 0.00 0.00 0.0 0.0 0.0 0. 0.

MC-15 V 0 2 50.80 1.93 15.25 2.91 7.23 0.16 8.27 9.83 2.15 0.28 0.25 0.00 0.00 0.0 0.0 0.0 0.0 0.0 0.

MC-16 V 0 2 49.50 2.10 15.38 4.51 6.99 0.17 7.23 10.44 2.10 0.39 0.28 0.00 0.00 0.0 0.0 0.0 0.

MC-17 V 0 2 49.70 2.48 14.83 4.47 7.52 0.17 6.17 10.34 2.13 0.25 0.27 0.00 0.00 0.0 0.0 0.0 0.

MC-18 V 0 2 49.90 2.31 14.65 5.69 6.88 0.16 6.57 10.25 2.15 0.26 0.26 0.00 0.00 0.0 0.0 0.0 0.

MC-65 V 0 2 43.49 3.38 16.66 3.69 11.05 0.18 6.74 8.93 2.35 0.25 0.33 0.00 0.00 0.0 0.0 0.0

MC-66 V 0 2 48.72 2.19 15.11 1.79 9.50 0.17 8.70 10.69 1.85 0.28 0.23 0.00 0.00 0.0 0.0 0.0 0.0

MC-70 V 0 2 47.48 2.63 17.42 3.59 8.10 0.18 6.74 8.54 3.12 1.20 0.36 0.00 0.00 0.0 0.0 0.0

MC-69 V 0 2 45.54 2.85 17.61 3.56 8.25 0.17 6.42 10.82 2.74 0.70 0.34 0.00 0.00 0.0 0.0 0.0

MC-72 V 0 2 47.99 2.62 19.36 5.83 5.17 0.21 4.39 6.54 4.58 1.82 0.63 0.00 0.00 0.0 0.0 0.0

MC-73 V 0 2 50.25 2.12 19.03 4.53 5.50 0.22 3.11 5.98 5.30 2.20 1.14 0.00 0.00 0.0 0.0 0.0

MC-79 V 0 2 49.79 2.51 18.37 6.03 4.82 0.22 4.01 6.68 4.58 2.08 0.56 0.00 0.00 0.00 0.00 0.00 0.00

PICRBSLT V 0 3 46.80 1.90 8.20 1.20 9.80 0.00 19.80 9.50 1.60 1.20 0.00 0.00 0.00 0.00 0.00 0.00 0.00

OLIVBSLT V 0 3 47.70 3.20 15.20 2.30 8.70 0.00 9.70 8.90 2.70 1.60 0.00 0.00 0.00 0.00 0.00 0.00 0.00

TRACBSLT V 0 3 51.10 2.80 17.60 2.80 6.80 0.00 4.80 6.90 4.00 3.20 0.00 0.00 0.00 0.00 0.00 0.00 0.00

TRACANDS V 0 3 56.30 1.80 17.80 2.90 4.70 0.00 2.30 4.70 4.80 4.70 0.00 0.00 0.00 0.00 0.00 0.00 0.00

TRACHYTE V 0 3 59.50 0.90 19.40 1.70 3.60 0.00 1.00 2.00 5.20 6.70 0.00 0.00 0.00 0.00 0.00 0.00 0.00

AEGAUGTR V 0 3 61.50 0.30 18.30 2.60 2.80 0.00 0.20 1.50 7.00 5.80 0.00 0.00 0.00 0.00 0.00 0.00 0.00

NEPHSYNT P 0 12 54.99 0.60 20.96 2.25 2.05 0.15 0.77 2.31 8.23 5.58 0.13 0.20 0.00 0.00 0.00 0.00 0.00

PHONOLIT V 0 12 56.19 0.62 19.04 2.79 2.03 0.17 1.07 2.72 7.79 5.24 0.18 0.08 0.00 0.00 0.00 0.00 0.00

SYENITE P 0 12 58.58 0.84 16.64 3.04 3.13 0.13 1.87 3.53 5.24 4.95 0.29 0.28 0.00 0.00 0.00 0.00 0.00

TRACHTY V 0 12 61.21 0.70 16.96 2.99 2.29 0.15 0.93 2.34 5.47 4.98 0.21 0.09 0.00 0.00 0.00 0.00 0.00

GRANITE P 0 12 71.30 0.31 14.32 1.21 1.64 0.05 0.71 1.84 3.68 4.07 0.12 0.05 0.00 0.00 0.00 0.00 0.00

RHYOLITE V 0 12 72.82 0.28 13.27 1.48 1.11 0.06 0.39 1.14 3.55 4.30 0.07 0.08 0.00 0.00 0.00 0.00 0.00

ADAMETLE P 0 12 68.65 0.54 14.55 1.23 2.70 0.08 1.14 2.68 3.47 4.00 0.19 0.09 0.00 0.00 0.00 0.00 0.00

GRANODIO P 0 12 66.09 0.54 15.73 1.38 2.73 0.08 1.74 3.83 3.75 2.73 0.18 0.08 0.00 0.00 0.00 0.00 0.00

RHYODACI V 0 12 65.55 0.60 15.04 2.13 2.03 0.09 2.09 3.62 3.67 3.00 0.25 0.21 0.00 0.00 0.00 0.00 0.00

DACITE V 0 12 65.01 0.58 15.91 2.43 2.30 0.09 1.78 4.32 3.79 2.17 0.15 0.06 0.00 0.00 0.00 0.00 0.00

TONALITE P 0 12 61.52 0.73 16.48 1.83 3.82 0.08 2.80 5.42 3.63 2.07 0.25 0.14 0.00 0.00 0.00 0.00 0.00

DIORITE P 0 12 57.48 0.95 16.67 2.50 4.92 0.12 3.71 6.58 3.54 1.76 0.29 0.10 0.00 0.00 0.00 0.00 0.00

ANDESITE V 0 12 57.94 0.87 17.02 3.27 4.04 0.14 3.33 6.79 3.48 1.62 0.21 0.05 0. 0. 0. 0. 0.

MONZONIT P 0 12 62.60 0.78 15.65 1.92 3.08 0.10 2.02 4.17 3.73 4.06 0.25 0.08 0.00 0.00 0.00 0.00 0.00

LATITE V 0 12 61.25 0.81 16.01 3.28 2.07 0.09 2.22 4.34 3.71 3.87 0.33 0.19 0.00 0.00 0.00 0.00 0.00

TRNSANDS V 0 12 58.15 1.08 16.70 3.26 3.21 0.16 2.57 4.96 4.35 3.21 0.41 0.08 0.00 0.00 0.00 0.00 0.00

MUGEARIT V 0 12 50.52 2.09 16.71 4.88 5.86 0.26 3.20 6.14 4.73 2.46 0.75 0.15 0.00 0.00 0.00 0.00 0.00

TRNSBASL V 0 12 49.21 2.40 16.63 3.69 6.18 0.16 5.17 7.90 3.96 2.55 0.59 0.10 0.00 0.00 0.00 0.00 0.00

HAWAIITE V 0 12 47.48 3.23 15.74 4.94 7.36 0.19 5.58 7.91 3.97 1.53 0.74 0.04 0.00 0.00 0.00 0.00 0.00

GABBRO P 0 12 50.14 1.12 15.48 3.01 7.62 0.12 7.59 9.58 2.39 0.93 0.24 0.07 0.00 0.00 0.00 0.00 0.00

NORITE P 0 12 50.44 1.00 16.28 2.21 7.39 0.14 8.73 9.41 2.26 0.70 0.15 0.18 0.00 0.00 0.00 0.00 0.00

DOLERITE P 0 12 50.18 1.14 15.26 2.86 8.05 0.19 6.78 9.24 2.56 1.04 0.27 0.18 0.00 0.00 0.00 0.00 0.00

BASALT V 0 12 49.20 1.84 15.74 3.79 7.13 0.20 6.73 9.47 2.91 1.10 0.35 0.11 0.00 0.00 0.00 0.00 0.00

BASANITE V 0 12 44.30 2.51 14.70 3.94 7.50 0.16 8.54 10.19 3.55 1.96 0.74 0.18 0.00 0.00 0.00 0.00 0.00

NEPHELIN V 0 12 40.60 2.66 14.33 5.48 6.17 0.26 6.39 11.89 4.79 3.46 1.07 0.60 0.00 0.00 0.00 0.00 0.00

TEPHRITE V 0 12 47.80 1.76 17.00 4.12 5.22 0.15 4.70 9.18 3.69 4.49 0.63 0.02 0.00 0.00 0.00 0.00 0.00

ANORTHOS P 0 12 50.28 0.64 25.86 0.96 2.07 0.05 2.12 12.48 3.15 0.65 0.09 0.14 0.00 0.00 0.00 0.00 0.00

PYROXENI P 0 12 46.27 1.47 7.16 4.27 7.18 0.16 16.04 14.08 0.92 0.64 0.38 0.13 0.00 0.00 0.00 0.00 0.00

PERIDOTI P 0 12 42.26 0.63 4.23 3.61 6.58 0.41 31.24 5.05 0.49 0.34 0.10 0.30 0.00 0.00 0.00 0.00 0.00

DUNITE P 0 12 38.29 0.09 1.82 3.59 9.38 0.71 37.94 1.01 0.20 0.08 0.20 0.43 0.00 0.00 0.00 0.00 0.00

HARZB P 0 1 39.93 0.26 2.35 5.48 6.47 0.15 33.18 2.90 0.31 0.14 4.00 0.24 0.13 0.09 0. 0. 0. 0. 0.

BOSTONT V 0 3 61.15 0.21 22.07 1.05 1.02 0.00 0.40 0.75 5.86 7.01 0.00 0.00 0.00 0.00 0.00 0.00 0.00

PLAGIOG P 0 7 68.00 0.70 14.10 0.00 6.60 0.10 1.60 4.70 3.50 0.30 0.10 0.00 0.00 0.00 0.00 0.00 0.00

ASCEN P 0 7 71.60 0.20 11.70 0.00 4.00 0.10 0.20 0.10 5.50 4.70 0.00 0.00 0.00 0.00 0.00 0.00 0.00

NIGERIA P 0 7 75.6 0.1 13.00 1.30 0.00 0.10 0.50 3.90 4.70 0.00 0.00 0.00 0.00 0.00 0.00 0.0 0.0

MTYPE P 0 7 67.20 0.50 15.20 0.00 4.10 0.10 1.70 4.30 4.00 1.30 0.10 0.00 0.00 0.00 0.00 0.00 0.00

ITYPE P 0 7 69.50 0.40 14.20 0.00 3.10 0.10 1.40 3.10 3.20 3.50 0.10 0.00 0.00 0.00 0.00 0.00 0.00

STYPE P 0 7 70.90 0.40 14.00 0.00 3.00 0.10 1.20 1.90 2.50 4.10 0.20 0.00 0.00 0.00 0.00 0.00 0.00

ATYPE P 0 7 73.80 0.30 12.40 0.00 2.70 0.10 0.20 0.80 4.10 4.70 0.00 0.00 0.00 0.00 0.00 0.00 0.00

ARCHEAN P 0 7 69.80 0.30 15.60 0.00 2.80 0.10 1.20 3.20 4.90 1.80 0.10 0.00 0.00 0.00 0.00 0.00 0.00

MODERN P 0 7 68.10 0.50 15.10 0.00 3.90 0.10 1.60 3.10 3.70 3.40 0.20 0.00 0.00 0.00 0.00 0.00 0.00

AV.CRUST P 0 7 57.30 0.90 15.90 0.00 9.10 0.60 5.30 7.40 3.10 1.10 0.00 0.00 0.00 0.00 0.00 0.00 0.00

U.CRUST P 0 7 66.00 0.50 15.20 0.00 4.50 0.30 2.20 4.20 3.90 3.40 0.00 0.00 0.00 0.00 0.00 0.00 0.00

L.CRUST P 0 7 54.40 1.00 16.10 0.00 10.60 0.80 6.30 8.50 2.80 0.30 0.00 0.00 0.00 0.00 0.00 0.00 0.00

EARVALK1 V 0 4 45.60 2.40 15.60 0.00 11.30 0.20 6.90 10.40 3.20 1.30 0.60 0.00 0.00 0.00 0.00 0.00 0.00

EARVALK2 V 0 4 51.70 0.90 19.30 0.00 5.90 0.20 1.11 4.10 8.90 4.60 0.30 0.00 0.00 0.00 0.00 0.00 0.00

EARVUAL3 V 0 4 46.20 1.60 18.60 0.00 8.90 0.20 2.30 7.30 9.30 4.20 0.50 0.00 0.00 0.00 0.00 0.00 0.00

EARVUAL4 V 0 4 33.10 2.60 11.30 0.00 12.40 0.30 7.30 17.20 3.20 3.60 1.90 0.00 0.00 0.00 0.00 0.00 0.00

EARVUAL5 V 0 4 44.10 2.80 17.00 0.00 10.00 0.20 3.70 8.40 4.30 7.20 1.20 0.00 0.00 0.00 0.00 0.00 0.00

EARVUAL6 V 0 4 55.40 0.50 20.80 0.00 4.60 0.20 0.50 2.90 9.20 5.50 0.10 0.00 0.00 0.00 0.00 0.00 0.00

EARVTRN7 V 0 4 47.60 2.00 14.80 0.00 11.40 0.20 6.40 11.50 2.70 0.80 0.30 0.00 0.00 0.00 0.00 0.00 0.00

EARVTBR8 V 0 4 61.8 1.0 14.2 0.0 6.4 0.3 0.5 1.8 6.2 5.2 0.2 0.0 0.0 0.0 0.0 0.0 0.0

EARVTRN9 V 0 4 70.30 0.30 7.60 0.00 8.40 0.30 0.00 0.40 7.30 4.30 0.00 0.00 0.00 0.00 0.00 0.00 0.00

EARVTR10 V 0 4 72.50 0.20 10.30 0.00 4.00 0.10 0.00 0.20 5.90 4.40 0.00 0.00 0.00 0.00 0.00 0.00 0.00

EARVSER4 V 0 4 50.80 1.40 14.90 0.00 10.10 0.20 6.90 9.80 2.60 0.40 0.40 0.00 0.00 0.00 0.00 0.00 0.00

LOWKBSLT V 0 8 50.70 0.80 17.70 3.10 7.40 0.00 6.40 11.30 2.00 0.30 0.10 0.00 0.00 0.00 0.00 0.00 0.00

LOWKANDS V 0 8 58.8 0.7 17.0 3.0 5.2 0.0 3.6 8.1 2.9 0.6 0.2 0.0 0.0 0.0 0.0 0.0 0.0

LOWKDACT V 0 8 67.10 0.60 15.00 2.00 3.50 0.00 1.50 5.00 3.80 0.90 0.20 0.00 0.00 0.00 0.00 0.00 0.00

LOWKRHYO V 0 8 74.50 0.40 12.90 1.40 1.70 0.00 0.60 2.80 4.00 1.10 0.10 0.00 0.00 0.00 0.00 0.00 0.00

MDKBASLT V 0 8 50.10 1.00 17.10 3.40 7.00 0.00 7.10 10.60 2.50 0.80 0.20 0.00 0.00 0.00 0.00 0.00 0.00

MDKAANDS V 0 8 59.20 0.70 17.10 2.90 4.20 0.00 3.70 7.10 3.20 1.30 0.20 0.00 0.00 0.00 0.00 0.00 0.00

MDKDACTE V 0 8 67.20 0.50 16.20 2.00 1.80 0.00 1.50 3.80 4.30 2.10 0.20 0.00 0.00 0.00 0.00 0.00 0.00

MDKRHYOL V 0 8 75.20 0.20 13.50 1.00 1.10 0.00 0.50 1.60 4.20 2.70 0.10 0.00 0.00 0.00 0.00 0.00 0.00

HIKBASLT V 0 8 49.80 1.60 16.50 3.90 6.40 0.00 6.80 9.40 3.30 1.60 0.50 0.00 0.00 0.00 0.00 0.00 0.00

HIKAANDS V 0 8 59.40 0.90 16.80 3.60 3.00 0.00 3.20 6.00 3.60 2.80 0.40 0.00 0.00 0.00 0.00 0.00 0.00

HIKDACIT V 0 8 67.50 0.60 16.00 2.00 1.50 0.00 1.10 3.00 4.00 3.90 0.20 0.00 0.00 0.00 0.00 0.00

HIKRHYOL V 0 8 75.60 0.20 13.30 0.90 0.50 0.00 0.30 0.90 3.60 4.50 0.10 0.00 0.00 0.00 0.00 0.00 0.00

AMBAR V 0 9 51.10 2.24 15.10 0.00 13.00 0.22 5.07 9.31 2.58 0.91 0.42 0.00 0.00 0.00 0.00 0.00 0.00

ROCCR V 0 9 49.50 2.41 16.30 0.00 12.40 0.20 6.06 9.15 2.58 0.93 0.41 0.00 0.00 0.00 0.00 0.00 0.00

HIMG V 0 9 53.80 1.78 14.50 0.00 11.40 0.19 5.25 9.07 2.83 1.05 0.28 0.00 0.00 0.00 0.00 0.00 0.00

LOWMG V 0 9 55.90 2.27 14.00 0.00 11.80 0.19 3.36 6.88 3.14 1.99 0.43 0.00 0.00 0.00 0.00 0.00

PRINC V 0 9 51.60 2.71 13.90 0.00 12.30 0.24 4.44 8.12 3.36 2.02 1.39 0.00 0.00 0.00 0.00 0.00 0.00

BMN V 0 9 50.00 1.00 17.10 0.00 10.00 0.14 7.84 11.00 2.44 0.27 0.19 0.00 0.00 0.00 0.00 0.00 0.00

FRSPR V 0 9 52.30 3.17 13.20 0.00 14.40 0.22 4.04 7.90 2.67 1.41 0.71 0.00 0.00 0.00 0.00 0.00 0.00

ROZA V 0 9 51.20 3.13 14.10 0.00 13.90 0.23 4.39 8.48 2.72 1.22 0.67 0.00 0.00 0.00 0.00 0.00 0.00

UMATI V 0 9 54.70 2.80 14.10 0.00 12.60 0.17 2.71 6.14 3.20 2.68 0.88 0.00 0.00 0.00 0.00 0.00 0.00

ASOTN V 0 9 50.70 1.45 16.20 0.00 9.64 0.17 8.19 10.70 2.22 0.51 0.18 0.00 0.00 0.00 0.00 0.00 0.00

GOOSE V 0 9 47.50 3.79 12.50 0.00 17.50 0.27 4.41 8.80 2.44 1.23 1.54 0.00 0.00 0.00 0.00 0.00 0.00

PHILPP90 P 0 15 53.8 2.0 13.9 2.6 9.3 0.2 4.1 7.9 3.00 1.5 0.4 0.0 0.0 0.0 0.0 0.0 0.0 0.0

HAWTHOL1 V 0 10 49.40 2.50 13.90 3.03 8.53 0.16 8.44 10.30 2.13 0.38 0.26 0.00 0.00 0.00 0.00 0.00

HAWTHOL2 V 0 10 49.20 2.57 12.80 1.50 10.10 0.17 10.00 10.80 2.12 0.51 0.25 0.00 0.00 0.00 0.00 0.00

HAWTHOL3 V 0 10 49.40 2.47 13.00 2.32 9.16 0.18 9.79 10.20 2.24 0.47 0.24 0.00 0.00 0.00 0.00 0.00 0.00

ALL V 0 13 50.50 1.56 15.30 0.00 10.50 0.00 7.47 11.50 2.62 0.16 0.13 0.00 0.00 0.00 0.00 0.00 0.00

MAR V 0 13 50.70 1.49 15.60 0.00 9.85 0.00 7.69 11.40 2.66 0.17 0.12 0.00 0.00 0.00 0.00 0.00 0.00

EPR V 0 13 50.20 1.77 14.90 0.00 11.30 0.00 7.10 11.40 2.66 0.16 0.14 0.00 0.00 0.00 0.00 0.00 0.00

IOR V 0 13 50.90 1.19 15.20 0.00 10.30 0.00 7.69 11.80 2.32 0.14 0.10 0.00 0.00 0.00 0.00 0.00 0.00

BASALT V 0 11 42.80 4.14 14.30 5.89 8.55 0.17 6.76 12.00 2.79 2.06 0.58 0.00 0.00 0.00 0.00 0.00

TRACBSLT V 0 11 46.00 3.41 17.10 3.70 7.12 0.17 4.61 10.20 3.99 3.02 0.75 0.00 0.00 0.00 0.00 0.00

TRACBSLT V 0 11 49.40 3.19 18.50 2.87 5.37 0.16 3.31 7.47 4.95 3.68 1.10 0.00 0.00 0.00 0.00 0.00

TRACNDST V 0 11 54.60 1.75 19.50 2.83 2.87 0.18 1.50 5.65 5.82 4.85 0.51 0.00 0.00 0.00 0.00 0.00

TRACHYTE V 0 11 60.20 0.80 20.20 2.20 0.91 0.14 0.49 2.15 6.58 6.23 0.11 0.00 0.00 0.00 0.00 0.00

BASALT V 0 5 50.00 2.61 16.70 0.00 11.60 0.19 5.70 8.71 3.00 1.16 0.34 0.00 0.00 0.00 0.00 0.00 0.00

HAWAIITE V 0 5 51.40 2.65 16.00 0.00 10.70 0.20 5.14 8.36 3.68 1.35 0.59 0.00 0.00 0.00 0.00 0.00 0.00

TRNSANDS V 0 5 53.20 2.52 16.10 0.00 9.66 0.29 3.55 6.44 4.89 1.91 1.15 0.00 0.0 0.0 0.0 0.07 0.06 0.00

TRACHYTE V 0 5 64.80 0.61 16.80 0.00 4.48 0.22 0.53 1.54 6.53 3.63 0.66 0.00 0.0 0.0 0.0 0.17 0.16 0.15 0.14

RHYOLITE V 0 5 73.10 0.20 12.40 0.00 3.39 0.11 0.04 0.22 5.58 4.70 0.02 0.00 0.0 0.0 0.0 0.03 0.04 0.20 0.06

THOLBASL V 0 6 49.20 2.03 16.10 2.72 7.77 0.18 6.44 10.50 3.01 0.14 0.23 0.14 0.00 0.00 0.00 0.00 0.00 0.00

ORENDITE V 0 6 35.60 5.98 12.90 7.68 9.28 0.05 5.40 8.46 8.35 2.78 2.13 0.00 0.00 0.00 0.00 0.00 0.00 0.00

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BARKER-TAB-4-4-&-4-6

MORSE-APPENDIX-1A

BROWNLOW-TAB-8-5

WINTER-TABLE-19-2

WINTER-TABLE-14-3

WINTER-TAB-A-2-&-3

WINTER-TABLE-18-2

WINTER-TABLE-16-2

WINTER-TABLE-15-3

WINTER-TABLE-14-1

WINTER-TABLE-14-2

COXETAL-APPENDIX2

WINTER-TABLE-13-2

WINTER-TABLE-14-4

PHILLIPOT-TAB-6-3