**Electronic Supplementary Material 1**

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| Ferroan poly-lithionite of the sample BO1 | | | | | | | | | | | | | |
| Analysis point name | BO1-c1-13 | BO1-c1-14 | BO1-c1-16 | BO1-c1-17 | BO1-c1-18 | BO1-c1-19 | BO1-c1-20 | BO1-c2-5 | BO1-c2-6 | BO1-c2-8 | BO1-c2-9 | BO1-c2-10 | BO1-c2-11 |
| SiO2 | 47.78 | 47.80 | 46.77 | 47.85 | 45.89 | 47.20 | 46.85 | 48.17 | 47.82 | 50.44 | 46.98 | 48.11 | 47.64 |
| TiO2 | 0.13 | 0.12 | 0.26 | 0.23 | 0.22 | 0.14 | 0.21 | 0.16 | 0.16 | 0.16 | 0.19 | 0.15 | 0.24 |
| Al2O3 | 30.21 | 31.15 | 23.72 | 20.38 | 21.58 | 30.22 | 20.72 | 26.45 | 27.41 | 22.11 | 30.59 | 28.58 | 20.40 |
| FeO | 4.99 | 4.65 | 9.78 | 10.75 | 12.36 | 5.90 | 11.51 | 6.73 | 6.36 | 7.12 | 5.94 | 6.09 | 10.99 |
| MgO | 0.18 | 0.13 | 0.40 | 0.56 | 0.46 | 0.20 | 0.51 | 0.37 | 0.34 | 0.53 | 0.12 | 0.28 | 0.55 |
| CaO | 0.06 | 0.04 | 0.03 | 0.01 | 0.02 | 0.02 | 0.02 | 0.03 | 0.01 | 0.01 | 0.01 | 0.03 | 0.03 |
| K2O | 10.50 | 10.62 | 10.10 | 10.14 | 10.04 | 10.62 | 10.25 | 10.34 | 10.24 | 10.39 | 10.33 | 10.33 | 10.07 |
| Na2O | 0.11 | 0.14 | 0.13 | 0.06 | 0.11 | 0.14 | 0.14 | 0.01 | 0.08 | 0.07 | 0.23 | 0.09 | 0.12 |
| MnO | 0.08 | 0.09 | 0.18 | 0.22 | 0.18 | 0.11 | 0.24 | 0.13 | 0.11 | 0.15 | 0.05 | 0.09 | 0.21 |
| BaO | 0.09 | 0.09 | 0.15 | 0.08 | 0.09 | 0.22 | 0.06 | 0.19 | 0.07 | 0.09 | 0.04 | 0.05 | 0.10 |
| P2O5 | 0.02 | bdl | bdl | bdl | bdl | 0.04 | bdl | bdl | 0.02 | 0.01 | 0.03 | 0.03 | bdl |
| SnO2 | 0.14 | 0.12 | bdl | bdl | bdl | bdl | bdl | 0.06 | 0.05 | 0.04 | 0.10 | 0.04 | bdl |
| Li2O | 4.15 | 4.16 | 4.09 | 4.15 | 4.16 | 3.95 | 3.86 | 4.17 | 3.60 | 4.92 | 3.92 | 4.25 | 4.11 |
| Cl | bdl | 0.01 | 0.01 | 0.01 | 0.01 | bdl | bdl | 0.01 | 0.01 | 0.01 | bdl | 0.01 | 0.01 |
| F | 1.95 | 1.86 | 6.03 | 8.69 | 7.65 | 2.15 | 8.83 | 3.74 | 3.38 | 7.16 | 1.85 | 3.22 | 8.31 |
| H2O | bdl | bdl | bdl | bdl | bdl | 0.02 | bdl | bdl | 0.11 | bdl | 0.09 | bdl | bdl |
| Total | 100.39 | 100.98 | 101.65 | 103.13 | 102.77 | 100.93 | 103.20 | 100.56 | 99.77 | 103.21 | 100.47 | 101.35 | 102.78 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.2 | 6.2 | 6.4 | 6.7 | 6.5 | 6.2 | 6.6 | 6.4 | 6.4 | 6.8 | 6.1 | 6.3 | 6.7 |
| Al (T) | 1.8 | 1.8 | 1.5 | 1.3 | 1.5 | 1.8 | 1.4 | 1.6 | 1.6 | 1.2 | 1.9 | 1.7 | 1.3 |
| K | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.8 | 1.7 | 1.7 | 1.8 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.1 | bdl | bdl |
| Al (M) | 2.9 | 2.9 | 2.3 | 2.1 | 2.0 | 2.8 | 2.1 | 2.6 | 2.7 | 2.3 | 2.9 | 2.7 | 2.1 |
| Fe | 0.5 | 0.5 | 1.1 | 1.3 | 1.4 | 0.6 | 1.4 | 0.7 | 0.7 | 0.8 | 0.6 | 0.7 | 1.3 |
| Mg | bdl | bdl | 0.1 | 0.1 | 0.1 | bdl | 0.1 | 0.1 | 0.1 | 0.1 | bdl | bdl | 0.1 |
| Li | 2.2 | 2.2 | 2.3 | 2.3 | 2.3 | 2.1 | 2.2 | 2.2 | 1.9 | 2.7 | 2.1 | 2.2 | 2.3 |
| F | 0.8 | 0.8 | 2.6 | 3.8 | 3.4 | 0.9 | 3.9 | 1.6 | 1.4 | 3.0 | 0.8 | 1.3 | 3.7 |

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| Ferroan poly-lithionite of the sample BO1 | | | | | | | | | | | | | |
| Analysis point name | BO1-c2-12 | BO1-c2-14 | BO1-c2-15 | BO1-c2-16 | BO1-c2-17 | BO1-c2-18 | BO1-c3-8 | BO1-c3-11 | BO1-c3-12 | BO1-c3-13 | BO1-c3-14 | BO1-c3-15 | BO1-c4-12 |
| SiO2 | 44.08 | 47.65 | 47.97 | 48.59 | 47.20 | 47.61 | 47.71 | 47.30 | 47.58 | 47.23 | 47.77 | 47.26 | 47.66 |
| TiO2 | 0.39 | 0.28 | 0.23 | 0.34 | 0.22 | 0.06 | 0.07 | 0.09 | 0.09 | 0.10 | 0.10 | 0.09 | 0.10 |
| Al2O3 | 21.56 | 24.85 | 20.03 | 20.17 | 23.26 | 29.68 | 31.39 | 30.97 | 30.94 | 31.39 | 31.18 | 32.49 | 28.59 |
| FeO | 14.02 | 8.93 | 10.66 | 10.19 | 9.55 | 6.18 | 4.58 | 4.79 | 4.97 | 4.16 | 4.61 | 3.96 | 6.57 |
| MgO | 0.54 | 0.37 | 0.66 | 0.57 | 0.42 | 0.21 | 0.10 | 0.09 | 0.13 | 0.10 | 0.09 | 0.06 | 0.33 |
| CaO | 0.03 | 0.04 | 0.03 | 0.05 | 0.06 | 0.06 | 0.06 | 0.02 | 0.04 | 0.01 | 0.04 | 0.05 | 0.02 |
| K2O | 9.80 | 10.17 | 10.20 | 10.12 | 10.08 | 10.36 | 10.38 | 10.60 | 10.55 | 10.33 | 10.43 | 10.41 | 10.42 |
| Na2O | 0.14 | 0.07 | 0.14 | 0.11 | 0.22 | 0.11 | 0.11 | 0.13 | 0.13 | 0.17 | 0.10 | 0.19 | 0.16 |
| MnO | 0.28 | 0.16 | 0.25 | 0.25 | 0.20 | 0.11 | 0.11 | 0.08 | 0.09 | 0.06 | 0.07 | 0.05 | 0.13 |
| BaO | 0.13 | 0.06 | 0.10 | 0.03 | 0.09 | 0.09 | 0.14 | 0.02 | 0.13 | 0.07 | 0.12 | 0.03 | 0.08 |
| P2O5 | 0.03 | 0.02 | bdl | bdl | 0.02 | bdl | 0.02 | bdl | 0.02 | 0.06 | 0.03 | 0.03 | bdl |
| SnO2 | 0.01 | 0.03 | bdl | 0.01 | 0.01 | 0.06 | 0.09 | 0.07 | 0.14 | 0.19 | 0.10 | 0.14 | 0.05 |
| Li2O | 3.08 | 4.11 | 4.20 | 4.38 | 3.98 | 4.10 | 4.13 | 4.01 | 4.09 | 3.99 | 4.15 | 4.00 | 4.12 |
| Cl | 0.01 | 0.01 | bdl | bdl | 0.01 | bdl | 0.01 | 0.02 | bdl | 0.03 | bdl | 0.01 | 0.01 |
| F | 7.95 | 4.99 | 8.64 | 8.17 | 6.32 | 2.38 | 1.70 | 1.87 | 2.03 | 1.76 | 1.79 | 1.57 | 3.43 |
| H2O | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.01 | bdl | 0.05 | bdl | 0.10 | bdl |
| Total | 102.05 | 101.74 | 103.11 | 102.98 | 101.64 | 101.01 | 100.60 | 100.07 | 100.93 | 99.70 | 100.58 | 100.44 | 101.67 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.4 | 6.4 | 6.7 | 6.7 | 6.5 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.2 | 6.1 | 6.3 |
| Al (T) | 1.6 | 1.6 | 1.3 | 1.2 | 1.5 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.7 |
| K | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.7 | 1.7 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.4 |
| Na | bdl | bdl | bdl | bdl | 0.1 | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 2.0 | 2.4 | 2.0 | 2.0 | 2.3 | 2.8 | 2.9 | 2.9 | 2.9 | 3.0 | 2.9 | 3.0 | 2.7 |
| Fe | 1.7 | 1.0 | 1.2 | 1.2 | 1.1 | 0.7 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.4 | 0.7 |
| Mg | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.1 |
| Li | 1.8 | 2.2 | 2.4 | 2.4 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.2 | 2.1 | 2.2 |
| F | 3.6 | 2.1 | 3.8 | 3.6 | 2.8 | 1.0 | 0.7 | 0.8 | 0.8 | 0.7 | 0.7 | 0.6 | 1.4 |

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| Muscovite of the sample BO1 | | | | | | | | | |
| Analysis point name | BO1-c1-12 | BO1-c1-15 | BO1-c2-7 | BO1-c2-13 | BO1-c3-1 | BO1-c3-2 | BO1-c3-3 | BO1-c3-4 | BO1-c3-5 |
| SiO2 | 47.58 | 47.10 | 47.01 | 46.71 | 47.89 | 48.13 | 47.45 | 47.78 | 48.08 |
| TiO2 | 0.16 | 0.14 | 0.13 | 0.15 | 0.09 | 0.09 | 0.07 | 0.05 | 0.03 |
| Al2O3 | 33.32 | 33.90 | 32.04 | 32.83 | 33.63 | 33.47 | 33.22 | 32.39 | 32.32 |
| FeO | 3.03 | 2.42 | 4.36 | 3.55 | 2.89 | 2.74 | 2.94 | 3.48 | 3.54 |
| MgO | 0.14 | 0.08 | 0.09 | 0.06 | 0.09 | 0.21 | 0.12 | 0.17 | 0.16 |
| CaO | 0.02 | 0.07 | 0.10 | 0.05 | 0.01 | 0.04 | 0.05 | 0.01 | 0.06 |
| K2O | 10.34 | 10.35 | 10.12 | 10.20 | 10.72 | 10.53 | 10.49 | 10.68 | 10.42 |
| Na2O | 0.16 | 0.18 | 0.23 | 0.22 | 0.11 | 0.10 | 0.11 | 0.12 | 0.08 |
| MnO | 0.06 | 0.03 | 0.03 | 0.03 | 0.08 | 0.06 | 0.09 | 0.07 | 0.05 |
| BaO | 0.08 | 0.03 | 0.12 | 0.10 | 0.07 | 0.06 | 0.07 | 0.07 | 0.04 |
| P2O5 | 0.06 | 0.05 | 0.02 | 0.05 | bdl | 0.05 | 0.02 | 0.02 | 0.04 |
| SnO2 | 0.16 | 0.15 | 0.08 | 0.16 | 0.15 | 0.17 | 0.21 | 0.10 | 0.20 |
| Li2O | 0.57 | 0.48 | 0.67 | 0.72 | 0.48 | 0.45 | 0.62 | 0.76 | 0.62 |
| Cl | bdl | 0.01 | 0.02 | bdl | 0.01 | 0.01 | bdl | bdl | 0.01 |
| F | 1.32 | 1.17 | 1.49 | 1.58 | 1.16 | 1.11 | 1.41 | 1.65 | 1.41 |
| H2O | 3.86 | 3.91 | 3.71 | 3.68 | 3.78 | 3.82 | 3.53 | 3.37 | 3.54 |
| Total | 100.86 | 100.07 | 100.22 | 100.09 | 101.16 | 101.04 | 100.40 | 100.72 | 100.60 |
|  |  |  |  |  |  |  |  |  |  |
| Si | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.4 | 6.3 | 6.4 | 6.4 |
| Al (T) | 1.7 | 1.7 | 1.6 | 1.7 | 1.6 | 1.6 | 1.7 | 1.6 | 1.6 |
| K | 1.8 | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Na | bdl | bdl | 0.1 | 0.1 | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 3.6 | 3.6 | 3.5 | 3.5 | 3.6 | 3.6 | 3.6 | 3.5 | 3.5 |
| Fe | 0.3 | 0.3 | 0.5 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 |
| Mg | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Li | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.3 | 0.4 | 0.3 |
| F | 0.6 | 0.5 | 0.6 | 0.7 | 0.5 | 0.5 | 0.6 | 0.7 | 0.6 |

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| Muscovite of the sample BO1 | | | | | | | |
| Analysis point name | BO1-c3-6 | BO1-c3-7 | BO1-c3-9 | BO1-c3-10 | BO1-c4-9 | BO1-c4-10 | BO1-c4-11 |
| SiO2 | 47.91 | 47.26 | 47.58 | 47.81 | 47.52 | 47.33 | 48.11 |
| TiO2 | 0.04 | 0.09 | 0.07 | 0.03 | 0.24 | 0.20 | bdl |
| Al2O3 | 31.24 | 31.04 | 32.24 | 34.02 | 31.95 | 32.45 | 34.02 |
| FeO | 4.24 | 4.34 | 3.87 | 2.49 | 3.88 | 3.45 | 2.89 |
| MgO | 0.14 | 0.12 | 0.06 | 0.08 | 0.18 | 0.14 | 0.12 |
| CaO | 0.02 | 0.11 | 0.02 | 0.05 | bdl | 0.02 | 0.03 |
| K2O | 10.65 | 10.05 | 10.56 | 10.23 | 10.85 | 10.87 | 10.62 |
| Na2O | 0.12 | 0.13 | 0.15 | 0.14 | 0.10 | 0.07 | 0.07 |
| MnO | 0.08 | 0.08 | 0.08 | 0.04 | 0.08 | 0.07 | 0.05 |
| BaO | 0.13 | 0.10 | 0.07 | 0.18 | 0.10 | 0.15 | 0.07 |
| P2O5 | 0.01 | 0.03 | 0.06 | 0.07 | bdl | bdl | 0.01 |
| SnO2 | 0.28 | 0.12 | 0.13 | 0.19 | 0.06 | 0.01 | 0.18 |
| Li2O | 0.77 | 0.70 | 0.63 | 0.35 | 0.69 | 0.68 | 0.44 |
| Cl | 0.01 | 0.01 | 0.01 | 0.01 | bdl | bdl | 0.01 |
| F | 1.66 | 1.55 | 1.42 | 0.91 | 1.52 | 1.51 | 1.09 |
| H2O | 3.32 | 3.35 | 3.78 | 3.95 | 3.44 | 3.45 | 3.83 |
| Total | 100.62 | 99.08 | 100.73 | 100.55 | 100.61 | 100.40 | 101.54 |
|  |  |  |  |  |  |  |  |
| Si | 6.4 | 6.4 | 6.4 | 6.4 | 6.4 | 6.3 | 6.3 |
| Al (T) | 1.5 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| K | 1.8 | 1.7 | 1.8 | 1.7 | 1.9 | 1.9 | 1.8 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 3.4 | 3.4 | 3.5 | 3.7 | 3.4 | 3.5 | 3.6 |
| Fe | 0.5 | 0.5 | 0.4 | 0.3 | 0.4 | 0.4 | 0.3 |
| Mg | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Li | 0.4 | 0.4 | 0.3 | 0.2 | 0.4 | 0.4 | 0.2 |
| F | 0.7 | 0.7 | 0.6 | 0.4 | 0.6 | 0.6 | 0.4 |

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| Ferroan poly-lithionite of the sample EE2 | | | | | | | | | | | |
| Analysis point name | EE2-c1-8 | EE2-c1-9 | EE2-c1-10 | EE2-c1-12 | EE2-c1-13 | EE2-c1-14 | EE2-c2-1 | EE2-c2-2 | EE2-c2-3 | EE2-c2-4 |
| SiO2 | 46.82 | 47.93 | 45.84 | 47.18 | 46.10 | 47.61 | 44.71 | 44.91 | 44.01 | 45.84 |
| TiO2 | 0.11 | 0.05 | 0.16 | 0.16 | 0.17 | 0.09 | 0.21 | 0.21 | 0.29 | 0.11 |
| Al2O3 | 31.21 | 31.00 | 21.02 | 31.54 | 22.40 | 30.76 | 21.32 | 21.40 | 20.93 | 20.81 |
| FeO | 4.61 | 4.50 | 11.68 | 4.34 | 10.24 | 4.75 | 12.98 | 13.05 | 13.23 | 11.94 |
| MgO | 0.24 | 0.28 | 0.93 | 0.26 | 0.79 | 0.31 | 0.81 | 0.70 | 0.70 | 0.81 |
| CaO | 0.01 | 0.01 | bdl | 0.02 | 0.02 | 0.02 | 0.06 | 0.04 | 0.06 | 0.04 |
| K2O | 10.97 | 10.70 | 10.29 | 10.78 | 10.25 | 10.64 | 10.02 | 9.97 | 9.79 | 10.06 |
| Na2O | 0.12 | 0.08 | 0.08 | 0.16 | 0.10 | 0.13 | 0.10 | 0.11 | 0.14 | 0.10 |
| MnO | 0.11 | 0.09 | 0.22 | 0.11 | 0.21 | 0.10 | 0.21 | 0.18 | 0.21 | 0.21 |
| BaO | 0.07 | 0.07 | 0.17 | 0.08 | 0.06 | 0.09 | 0.08 | 0.19 | 0.07 | 0.10 |
| P2O5 | bdl | 0.01 | 0.03 | bdl | bdl | bdl | 0.02 | 0.03 | 0.03 | bdl |
| SnO2 | 0.05 | 0.01 | 0.02 | 0.05 | bdl | bdl | bdl | bdl | 0.01 | bdl |
| Li2O | 3.87 | 4.19 | 3.59 | 3.98 | 3.66 | 4.10 | 3.26 | 3.32 | 3.06 | 3.59 |
| Cl | bdl | bdl | 0.01 | bdl | bdl | bdl | 0.02 | 0.02 | bdl | 0.01 |
| F | 2.07 | 2.12 | 8.46 | 1.97 | 7.14 | 2.44 | 7.43 | 7.75 | 7.91 | 8.42 |
| H2O | 0.12 | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Total | 100.38 | 101.04 | 102.50 | 100.63 | 101.14 | 101.04 | 101.23 | 101.88 | 100.44 | 102.04 |
|  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.1 | 6.2 | 6.5 | 6.1 | 6.5 | 6.2 | 6.4 | 6.4 | 6.4 | 6.6 |
| Al (T) | 1.9 | 1.8 | 1.5 | 1.9 | 1.5 | 1.8 | 1.6 | 1.5 | 1.6 | 1.4 |
| K | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 2.9 | 2.9 | 2.1 | 2.9 | 2.2 | 2.9 | 2.1 | 2.1 | 2.0 | 2.1 |
| Fe | 0.5 | 0.5 | 1.4 | 0.5 | 1.2 | 0.5 | 1.6 | 1.6 | 1.6 | 1.4 |
| Mg | bdl | bdl | 0.2 | bdl | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.2 |
| Li | 2.0 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 1.9 | 1.9 | 1.8 | 2.1 |
| F | 0.9 | 0.9 | 3.8 | 0.8 | 3.2 | 1.0 | 3.4 | 3.5 | 3.7 | 3.8 |

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| Ferroan poly-lithionite of the sample EE2 | | | | | | | | | | |
| Analysis point name | EE2-c2-5 | EE2-c2-6 | EE2-c2-7 | EE2-c2-8 | EE2-c2-9 | EE2-c2-10 | EE2-c3-7 | EE2-c3-8 | EE2-c3-9 | EE2-c3-10 |
| SiO2 | 43.46 | 45.80 | 46.75 | 46.87 | 46.66 | 47.00 | 45.62 | 46.48 | 45.48 | 44.60 |
| TiO2 | 0.38 | 0.20 | 0.17 | 0.14 | 0.16 | 0.14 | 0.18 | 0.18 | 0.16 | 0.28 |
| Al2O3 | 21.71 | 21.05 | 28.96 | 28.94 | 28.21 | 29.97 | 21.18 | 21.19 | 21.09 | 21.26 |
| FeO | 13.74 | 12.53 | 7.80 | 6.80 | 7.21 | 5.79 | 12.00 | 11.59 | 12.29 | 12.65 |
| MgO | 0.89 | 0.87 | 0.39 | 0.39 | 0.43 | 0.29 | 0.93 | 0.87 | 0.84 | 0.89 |
| CaO | bdl | bdl | 0.05 | 0.01 | 0.05 | 0.02 | 0.09 | 0.05 | bdl | bdl |
| K2O | 10.18 | 10.17 | 10.21 | 10.45 | 10.31 | 10.40 | 10.22 | 10.10 | 10.13 | 10.16 |
| Na2O | 0.07 | 0.10 | 0.15 | 0.17 | 0.17 | 0.12 | 0.10 | 0.12 | 0.12 | 0.10 |
| MnO | 0.19 | 0.22 | 0.08 | 0.09 | 0.09 | 0.08 | 0.25 | 0.15 | 0.19 | 0.26 |
| BaO | 0.06 | 0.12 | 0.15 | 0.07 | 0.12 | 0.15 | 0.10 | 0.11 | 0.10 | 0.08 |
| P2O5 | 0.02 | bdl | 0.02 | 0.01 | 0.02 | 0.03 | 0.01 | 0.01 | bdl | bdl |
| SnO2 | 0.01 | bdl | 0.03 | 0.06 | bdl | 0.04 | bdl | bdl | bdl | bdl |
| Li2O | 2.90 | 3.58 | 3.85 | 3.89 | 3.83 | 3.92 | 3.53 | 3.77 | 3.49 | 3.23 |
| Cl | bdl | 0.01 | bdl | bdl | 0.01 | 0.01 | 0.01 | 0.01 | bdl | bdl |
| F | 7.64 | 8.22 | 3.02 | 2.82 | 2.58 | 2.30 | 8.19 | 8.97 | 8.07 | 7.69 |
| H2O | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Total | 101.25 | 102.87 | 101.63 | 100.71 | 99.85 | 100.26 | 102.41 | 103.60 | 101.96 | 101.20 |
|  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.3 | 6.5 | 6.2 | 6.2 | 6.2 | 6.2 | 6.5 | 6.5 | 6.5 | 6.4 |
| Al (T) | 1.7 | 1.5 | 1.8 | 1.8 | 1.8 | 1.8 | 1.5 | 1.4 | 1.5 | 1.6 |
| K | 1.9 | 1.8 | 1.7 | 1.8 | 1.8 | 1.7 | 1.9 | 1.8 | 1.8 | 1.9 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 2.0 | 2.0 | 2.7 | 2.7 | 2.7 | 2.8 | 2.1 | 2.1 | 2.1 | 2.1 |
| Fe | 1.7 | 1.5 | 0.9 | 0.7 | 0.8 | 0.6 | 1.4 | 1.4 | 1.5 | 1.5 |
| Mg | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 |
| Li | 1.7 | 2.0 | 2.0 | 2.1 | 2.1 | 2.1 | 2.0 | 2.1 | 2.0 | 1.9 |
| F | 3.5 | 3.7 | 1.3 | 1.2 | 1.1 | 1.0 | 3.7 | 4.0 | 3.6 | 3.5 |

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| Ferroan poly-lithionite of the sample EE2 | | | | | | | | |
| Analysis point name | EE2-c4-5 | EE2-c4-6 | EE2-c4-7 | EE2-c4-8 | EE2-c4-9 | EE2-c4-10 | EE2-c4-11 | EE2-c4-12 |
| SiO2 | 43.82 | 45.55 | 47.65 | 45.69 | 44.96 | 45.93 | 45.74 | 46.58 |
| TiO2 | 0.40 | 0.18 | 0.31 | 0.23 | 0.23 | 0.23 | 0.24 | 0.15 |
| Al2O3 | 22.02 | 25.97 | 29.07 | 21.15 | 20.99 | 20.89 | 20.95 | 28.32 |
| FeO | 14.01 | 9.20 | 5.84 | 12.34 | 12.89 | 12.15 | 12.63 | 7.66 |
| MgO | 0.83 | 0.52 | 0.43 | 0.84 | 0.91 | 0.92 | 0.87 | 0.50 |
| CaO | bdl | 0.16 | 0.08 | 0.03 | 0.10 | bdl | 0.04 | bdl |
| K2O | 9.98 | 10.09 | 10.28 | 10.15 | 10.05 | 10.32 | 10.22 | 10.43 |
| Na2O | 0.09 | 0.12 | 0.12 | 0.09 | 0.14 | 0.10 | 0.06 | 0.10 |
| MnO | 0.23 | 0.14 | 0.12 | 0.18 | 0.19 | 0.22 | 0.27 | 0.08 |
| BaO | 0.16 | 0.09 | 0.12 | 0.12 | 0.15 | 0.09 | 0.10 | 0.09 |
| P2O5 | bdl | 0.08 | bdl | 0.05 | bdl | bdl | 0.01 | bdl |
| SnO2 | bdl | 0.01 | 0.04 | bdl | bdl | bdl | 0.02 | 0.02 |
| Li2O | 3.01 | 3.51 | 4.11 | 3.55 | 3.33 | 3.62 | 3.56 | 3.80 |
| Cl | 0.02 | 0.01 | bdl | 0.01 | 0.02 | 0.01 | bdl | bdl |
| F | 7.38 | 4.29 | 2.62 | 8.11 | 7.33 | 8.14 | 7.81 | 2.99 |
| H2O | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Total | 101.95 | 99.92 | 100.79 | 102.54 | 101.29 | 102.62 | 102.52 | 100.72 |
|  |  |  |  |  |  |  |  |  |
| Si | 6.3 | 6.3 | 6.2 | 6.5 | 6.5 | 6.5 | 6.5 | 6.2 |
| Al (T) | 1.7 | 1.7 | 1.7 | 1.5 | 1.5 | 1.5 | 1.5 | 1.8 |
| K | 1.8 | 1.8 | 1.7 | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 2.0 | 2.5 | 2.7 | 2.0 | 2.0 | 2.0 | 2.0 | 2.7 |
| Fe | 1.7 | 1.1 | 0.6 | 1.5 | 1.5 | 1.4 | 1.5 | 0.8 |
| Mg | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 |
| Li | 1.7 | 1.9 | 2.2 | 2.0 | 1.9 | 2.1 | 2.0 | 2.0 |
| F | 3.4 | 1.9 | 1.1 | 3.6 | 3.3 | 3.7 | 3.5 | 1.3 |

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| Muscovite of the sample EE2 | | |
| Analysis point name | EE2-c1-11 | EE2-c4-13 |
| SiO2 | 47.10 | 47.82 |
| TiO2 | 0.03 | 0.04 |
| Al2O3 | 33.22 | 33.30 |
| FeO | 3.19 | 2.85 |
| MgO | 0.16 | 0.19 |
| CaO | 0.02 | 0.03 |
| K2O | 10.62 | 10.49 |
| Na2O | 0.14 | 0.11 |
| MnO | 0.09 | 0.07 |
| BaO | 0.03 | bdl |
| P2O5 | 0.01 | 0.02 |
| SnO2 | 0.08 | 0.14 |
| Li2O | 0.70 | 0.59 |
| Cl | 0.01 | bdl |
| F | 1.55 | 1.35 |
| H2O | 3.73 | 2.80 |
| Total | 100.68 | 99.26 |
|  |  |  |
| Si | 6.3 | 6.4 |
| Al (T) | 1.7 | 1.6 |
| K | 1.8 | 1.8 |
| Na | bdl | bdl |
| Al (M) | 3.5 | 3.6 |
| Fe | 0.4 | 0.3 |
| Mg | bdl | bdl |
| Li | 0.4 | 0.3 |
| F | 0.7 | 0.6 |

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| Ferroan poly-lithionite of the sample GG1 | | | | | | | | | | |
| Analysis point name | GG1-c1-1 | GG1-c1-2 | GG1-c1-3 | GG1-c1-5 | GG1-c1-7 | GG1-c1-8 | GG1-c1-9 | GG1-c1-10 | GG1-c1-11 | GG1-c1-12 |
| SiO2 | 46.60 | 46.73 | 46.12 | 46.76 | 46.41 | 47.19 | 43.50 | 42.68 | 42.05 | 44.00 |
| TiO2 | 0.05 | 0.02 | 0.02 | 0.03 | 0.09 | 0.10 | 0.28 | 0.42 | 0.38 | 0.21 |
| Al2O3 | 31.40 | 30.84 | 30.33 | 30.99 | 30.60 | 30.77 | 21.95 | 21.67 | 21.39 | 21.36 |
| FeO | 5.40 | 6.36 | 6.22 | 6.13 | 6.52 | 5.69 | 16.61 | 16.88 | 18.51 | 16.29 |
| MgO | 0.16 | 0.11 | 0.28 | 0.13 | 0.33 | 0.39 | 0.70 | 0.64 | 0.61 | 0.69 |
| CaO | 0.01 | 0.02 | 0.02 | 0.03 | 0.01 | 0.02 | 0.10 | 0.04 | 0.05 | bdl |
| K2O | 10.43 | 10.33 | 10.34 | 10.57 | 10.67 | 10.45 | 9.63 | 8.20 | 9.52 | 10.03 |
| Na2O | 0.20 | 0.16 | 0.22 | 0.17 | 0.18 | 0.17 | 0.05 | 0.09 | 0.07 | 0.06 |
| MnO | 0.07 | 0.01 | 0.12 | 0.05 | 0.13 | 0.12 | 0.41 | 0.38 | 0.44 | 0.43 |
| BaO | 0.17 | 0.02 | 0.13 | 0.08 | 0.07 | 0.13 | 0.15 | 0.11 | 0.10 | 0.15 |
| P2O5 | bdl | 0.01 | 0.01 | 0.02 | 0.01 | bdl | bdl | bdl | 0.01 | bdl |
| SnO2 | 0.01 | 0.04 | 0.07 | 0.15 | 0.06 | 0.07 | 0.05 | bdl | 0.04 | bdl |
| Li2O | 3.81 | 3.85 | 3.67 | 3.86 | 3.75 | 3.98 | 2.91 | 2.68 | 2.49 | 3.06 |
| Cl | bdl | bdl | 0.01 | 0.01 | bdl | bdl | 0.01 | 0.02 | 0.03 | 0.01 |
| F | 1.07 | 1.15 | 1.11 | 1.09 | 1.23 | 1.16 | 2.67 | 2.43 | 2.67 | 2.84 |
| H2O | 0.32 | 0.29 | 0.41 | 0.27 | 0.37 | 0.17 | 0.65 | 0.84 | 1.01 | 0.48 |
| Total | 99.70 | 99.94 | 99.08 | 100.34 | 100.43 | 100.41 | 99.67 | 97.08 | 99.37 | 99.61 |
|  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.2 | 6.2 | 6.1 | 6.3 |
| Al (T) | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.7 |
| K | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.7 | 1.8 | 1.5 | 1.8 | 1.8 |
| Na | bdl | bdl | 0.1 | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 2.9 | 2.9 | 2.9 | 2.9 | 2.8 | 2.8 | 1.9 | 2.0 | 1.8 | 1.9 |
| Fe | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 2.0 | 2.1 | 2.3 | 1.9 |
| Mg | bdl | bdl | 0.1 | bdl | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Li | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 1.7 | 1.6 | 1.5 | 1.8 |
| F | 0.4 | 0.5 | 0.5 | 0.4 | 0.5 | 0.5 | 1.2 | 1.1 | 1.2 | 1.3 |

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| Ferroan poly-lithionite of the sample GG1 | | | | | | | | | | |
| Analysis point name | GG1-c1-13 | GG1-c1-16 | GG1-c2-1 | GG1-c2-2 | GG1-c2-3 | GG1-c2-4 | GG1-c2-7 | GG1-c2-9 | GG1-c2-11 | GG1-c2-14 |
| SiO2 | 46.92 | 45.95 | 48.35 | 43.76 | 40.96 | 47.50 | 44.41 | 42.39 | 42.41 | 46.73 |
| TiO2 | 0.08 | 0.03 | 0.41 | 0.26 | 0.51 | 0.06 | 0.20 | 0.41 | 0.32 | 0.09 |
| Al2O3 | 30.43 | 31.21 | 19.46 | 21.25 | 21.64 | 30.32 | 20.78 | 21.73 | 21.35 | 31.62 |
| FeO | 6.28 | 5.86 | 16.68 | 16.06 | 18.84 | 6.56 | 17.72 | 18.74 | 19.30 | 5.23 |
| MgO | 0.21 | 0.12 | 0.48 | 0.64 | 0.57 | 0.38 | 0.67 | 0.59 | 0.62 | 0.31 |
| CaO | bdl | 0.06 | 0.04 | 0.01 | 0.03 | 0.05 | 0.02 | bdl | 0.02 | 0.02 |
| K2O | 10.50 | 10.32 | 8.17 | 9.94 | 9.42 | 10.40 | 9.56 | 9.71 | 9.74 | 10.44 |
| Na2O | 0.12 | 0.22 | 0.09 | 0.07 | 0.05 | 0.17 | 0.05 | 0.06 | 0.10 | 0.23 |
| MnO | 0.08 | 0.06 | 0.33 | 0.35 | 0.41 | 0.11 | 0.39 | 0.41 | 0.47 | 0.09 |
| BaO | 0.05 | 0.10 | 0.04 | 0.13 | 0.09 | 0.10 | 0.11 | 0.13 | 0.10 | 0.12 |
| P2O5 | bdl | bdl | bdl | bdl | 0.02 | bdl | 0.02 | 0.01 | bdl | bdl |
| SnO2 | 0.07 | 0.03 | bdl | bdl | bdl | 0.08 | bdl | bdl | 0.02 | 0.06 |
| Li2O | 3.90 | 3.62 | 4.31 | 2.99 | 2.18 | 4.07 | 3.18 | 2.59 | 2.60 | 3.85 |
| Cl | bdl | bdl | 0.07 | 0.01 | 0.06 | 0.01 | 0.02 | 0.03 | 0.02 | bdl |
| F | 1.27 | 1.02 | 2.32 | 5.19 | 2.42 | 1.39 | 2.72 | 2.57 | 2.74 | 1.17 |
| H2O | 0.22 | 0.51 | bdl | 0.15 | 1.29 | 0.05 | 0.37 | 0.95 | 0.93 | 0.30 |
| Total | 100.13 | 99.11 | 100.75 | 100.81 | 98.49 | 101.25 | 100.22 | 100.32 | 100.74 | 100.26 |
|  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.1 | 6.1 | 6.6 | 6.3 | 6.1 | 6.1 | 6.3 | 6.1 | 6.1 | 6.1 |
| Al (T) | 1.9 | 1.9 | 1.4 | 1.7 | 1.9 | 1.8 | 1.7 | 1.9 | 1.9 | 1.9 |
| K | 1.7 | 1.7 | 1.4 | 1.8 | 1.8 | 1.7 | 1.7 | 1.8 | 1.8 | 1.7 |
| Na | bdl | 0.1 | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.1 |
| Al (M) | 2.8 | 2.9 | 1.8 | 1.9 | 1.9 | 2.8 | 1.8 | 1.8 | 1.8 | 2.9 |
| Fe | 0.7 | 0.6 | 1.9 | 1.9 | 2.3 | 0.7 | 2.1 | 2.3 | 2.3 | 0.6 |
| Mg | bdl | bdl | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Li | 2.0 | 1.9 | 2.4 | 1.7 | 1.3 | 2.1 | 1.8 | 1.5 | 1.5 | 2.0 |
| F | 0.5 | 0.4 | 1.0 | 2.4 | 1.1 | 0.6 | 1.2 | 1.2 | 1.2 | 0.5 |

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| Ferroan poly-lithionite of the sample GG1 | | | | | | | | | | |
| Analysis point name | GG1-c3-1 | GG1-c3-2 | GG1-c3-4 | GG1-c3-6 | GG1-c3-7 | GG1-c3-8 | GG1-c3-10 | GG1-c3-11 | GG1-c3-15 | GG1-c3-16 |
| SiO2 | 46.26 | 41.87 | 39.96 | 45.84 | 41.39 | 42.22 | 42.20 | 42.51 | 46.62 | 42.67 |
| TiO2 | 0.10 | 0.28 | 0.51 | 0.17 | 0.16 | 0.16 | 0.16 | 0.16 | 0.31 | 0.38 |
| Al2O3 | 28.81 | 23.98 | 21.68 | 28.36 | 21.89 | 21.14 | 22.35 | 22.68 | 27.85 | 21.59 |
| FeO | 5.54 | 14.51 | 19.02 | 7.52 | 16.65 | 15.79 | 15.32 | 15.54 | 7.07 | 17.26 |
| MgO | 0.44 | 0.88 | 1.48 | 0.57 | 1.60 | 1.46 | 1.44 | 1.67 | 1.11 | 1.12 |
| CaO | 0.02 | 0.03 | 0.07 | bdl | 0.02 | 0.03 | 0.03 | bdl | 0.01 | 0.03 |
| K2O | 10.17 | 9.76 | 9.41 | 10.58 | 9.87 | 9.75 | 9.76 | 9.83 | 10.64 | 9.84 |
| Na2O | 0.04 | 0.15 | 0.14 | 0.08 | 0.12 | 0.05 | 0.11 | 0.04 | 0.12 | 0.06 |
| MnO | 0.12 | 0.31 | 0.25 | 0.16 | 0.27 | 0.30 | 0.21 | 0.25 | 0.12 | 0.28 |
| BaO | 0.11 | 0.06 | 0.09 | 0.11 | 0.14 | 0.10 | 0.06 | 0.05 | 0.14 | 0.05 |
| P2O5 | 0.01 | bdl | 0.01 | bdl | bdl | bdl | 0.02 | 0.04 | bdl | 0.01 |
| SnO2 | 0.16 | 0.02 | 0.01 | 0.03 | 0.06 | bdl | 0.01 | bdl | bdl | 0.01 |
| Li2O | 3.71 | 2.44 | 1.89 | 3.59 | 2.30 | 2.54 | 2.54 | 2.63 | 3.81 | 2.67 |
| Cl | 0.02 | 0.02 | 0.04 | 0.01 | 0.04 | 0.01 | 0.02 | 0.02 | bdl | 0.02 |
| F | 1.27 | 2.05 | 2.66 | 1.78 | 3.86 | 3.00 | 2.73 | 2.70 | 1.97 | 2.69 |
| H2O | 3.62 | 3.05 | 2.68 | 0.32 | 2.17 | 2.55 | 0.95 | 0.90 | 0.12 | 0.85 |
| Total | 97.01 | 97.52 | 98.76 | 99.12 | 99.36 | 97.44 | 97.91 | 99.02 | 99.89 | 99.53 |
|  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.2 | 6.1 | 6.0 | 6.2 | 6.1 | 6.2 | 6.2 | 6.1 | 6.2 | 6.2 |
| Al (T) | 1.8 | 1.9 | 2.0 | 1.8 | 1.9 | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 |
| K | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 2.8 | 2.2 | 1.8 | 2.7 | 1.9 | 1.9 | 2.0 | 2.0 | 2.6 | 1.8 |
| Fe | 0.6 | 1.8 | 2.4 | 0.8 | 2.0 | 1.9 | 1.9 | 1.9 | 0.8 | 2.1 |
| Mg | 0.1 | 0.2 | 0.3 | 0.1 | 0.3 | 0.3 | 0.3 | 0.4 | 0.2 | 0.2 |
| Li | 2.0 | 1.4 | 1.1 | 1.9 | 1.4 | 1.5 | 1.5 | 1.5 | 2.0 | 1.5 |
| F | 0.5 | 0.9 | 1.3 | 0.8 | 1.8 | 1.4 | 1.3 | 1.2 | 0.8 | 1.2 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Muscovite of sample GG1 | | | | | | | | |
| Analysis point name | GG1-c1-4 | GG1-c1-6 | GG1-c1-14 | GG1-c1-15 | GG1-c2-5 | GG1-c2-6 | GG1-c2-8 | GG1-c2-10 |
| SiO2 | 46.83 | 47.00 | 46.92 | 46.31 | 47.19 | 48.64 | 49.86 | 49.83 |
| TiO2 | 0.04 | 0.03 | 0.05 | 0.06 | 0.12 | 0.14 | 0.04 | 0.08 |
| Al2O3 | 31.29 | 31.24 | 32.96 | 32.25 | 33.38 | 29.86 | 31.76 | 31.50 |
| FeO | 5.22 | 5.40 | 3.98 | 4.67 | 4.32 | 5.06 | 3.30 | 3.51 |
| MgO | 0.18 | 0.16 | 0.08 | 0.14 | 0.08 | 0.41 | 0.37 | 0.30 |
| CaO | 0.06 | bdl | 0.02 | 0.01 | 0.07 | 0.01 | 0.01 | bdl |
| K2O | 10.17 | 10.46 | 10.37 | 10.42 | 10.27 | 10.41 | 10.02 | 10.04 |
| Na2O | 0.18 | 0.14 | 0.25 | 0.23 | 0.28 | 0.03 | 0.02 | 0.02 |
| MnO | 0.04 | 0.05 | 0.05 | 0.05 | 0.03 | 0.14 | 0.01 | 0.01 |
| BaO | 0.15 | 0.14 | 0.04 | 0.10 | 0.08 | 0.06 | 0.12 | bdl |
| P2O5 | bdl | bdl | bdl | 0.03 | bdl | bdl | 0.02 | 0.01 |
| SnO2 | 0.04 | 0.09 | 0.19 | 0.11 | 0.08 | 0.16 | 0.24 | 0.29 |
| Li2O | 0.44 | 0.40 | 0.28 | 0.37 | 0.29 | 0.52 | 0.36 | 0.37 |
| Cl | bdl | 0.01 | 0.01 | bdl | bdl | bdl | bdl | bdl |
| F | 1.09 | 1.02 | 0.77 | 0.95 | 0.80 | 1.24 | 0.93 | 0.95 |
| H2O | 3.87 | 3.76 | 3.96 | 3.78 | 3.98 | 3.65 | 3.94 | 3.92 |
| Total | 99.60 | 99.90 | 99.93 | 99.48 | 100.97 | 100.33 | 101.00 | 100.83 |
|  |  |  |  |  |  |  |  |  |
| Si | 6.4 | 6.4 | 6.3 | 6.3 | 6.3 | 6.6 | 6.6 | 6.6 |
| Al (T) | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.4 | 1.4 | 1.4 |
| K | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.8 | 1.7 | 1.7 |
| Na | bdl | bdl | 0.1 | 0.1 | 0.1 | bdl | bdl | bdl |
| Al (M) | 3.4 | 3.4 | 3.6 | 3.5 | 3.5 | 3.3 | 3.5 | 3.5 |
| Fe | 0.6 | 0.6 | 0.4 | 0.5 | 0.5 | 0.6 | 0.4 | 0.4 |
| Mg | bdl | bdl | bdl | bdl | bdl | 0.1 | 0.1 | 0.1 |
| Li | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 |
| F | 0.5 | 0.4 | 0.3 | 0.4 | 0.3 | 0.5 | 0.4 | 0.4 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Muscovite of sample GG1 | | | | | | | | |
| Analysis point name | GG1-c2-12 | GG1-c2-13 | GG1-c3-3 | GG1-c3-5 | GG1-c3-9 | GG1-c3-12 | GG1-c3-13 | GG1-c3-14 |
| SiO2 | 48.35 | 48.47 | 46.88 | 47.64 | 47.34 | 46.08 | 48.37 | 48.92 |
| TiO2 | 0.08 | 0.07 | 0.09 | 0.09 | 0.08 | 0.06 | 0.11 | 0.08 |
| Al2O3 | 32.04 | 30.08 | 30.18 | 30.77 | 31.78 | 32.54 | 31.99 | 32.51 |
| FeO | 3.93 | 4.19 | 4.32 | 4.24 | 3.24 | 4.00 | 2.62 | 2.62 |
| MgO | 0.27 | 0.27 | 0.26 | 0.30 | 0.33 | 0.23 | 0.56 | 0.28 |
| CaO | 0.08 | 0.03 | 0.04 | 0.05 | 0.03 | bdl | 0.04 | 0.02 |
| K2O | 10.22 | 9.84 | 9.88 | bdl | 10.20 | 10.65 | 9.86 | 9.84 |
| Na2O | 0.19 | 0.05 | 0.05 | 0.04 | 0.03 | 0.14 | 0.02 | 0.03 |
| MnO | 0.09 | 0.10 | 0.12 | 0.15 | 0.09 | 0.06 | 0.02 | 0.01 |
| BaO | 0.13 | 0.09 | 0.12 | 0.15 | 0.13 | 0.19 | 0.08 | 0.08 |
| P2O5 | bdl | bdl | 0.02 | 0.02 | bdl | 0.02 | 0.01 | bdl |
| SnO2 | 0.14 | 0.36 | 0.18 | 0.26 | 0.17 | bdl | 0.05 | 0.15 |
| Li2O | 0.43 | 0.31 | 0.35 | 0.28 | 0.25 | 0.38 | 0.35 | 0.27 |
| Cl | 0.01 | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| F | 1.07 | 0.83 | 0.92 | 0.77 | 0.72 | 0.98 | 0.92 | 0.76 |
| H2O | 3.82 | 3.88 | 3.88 | 4.02 | 3.97 | 3.78 | 4.02 | 4.02 |
| Total | 100.85 | 98.57 | 97.15 | 98.65 | 98.36 | 99.11 | 99.02 | 99.59 |
|  |  |  |  |  |  |  |  |  |
| Si | 6.4 | 6.6 | 6.5 | 6.8 | 6.5 | 6.3 | 6.5 | 6.5 |
| Al (T) | 1.5 | 1.4 | 1.5 | 1.2 | 1.5 | 1.7 | 1.5 | 1.5 |
| K | 1.7 | 1.7 | 1.7 | bdl | 1.8 | 1.8 | 1.7 | 1.7 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Al (M) | 3.5 | 3.4 | 3.4 | 3.9 | 3.6 | 3.5 | 3.6 | 3.6 |
| Fe | 0.4 | 0.5 | 0.5 | 0.5 | 0.4 | 0.5 | 0.3 | 0.3 |
| Mg | bdl | bdl | bdl | 0.1 | 0.1 | bdl | 0.1 | 0.1 |
| Li | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.1 |
| F | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 |

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| Ferroan poly-lithionite of the sample GG3 | | | | | | | | |
| Analysis point name | GG3-c2-1 | GG3-c2-2 | GG3-c2-3 | GG3-c2-4 | GG3-c2-5 | GG3-c2-6 | GG3-c2-7 | GG3-c2-8 |
| SiO2 | 46.58 | 46.12 | 46.39 | 46.77 | 46.57 | 47.33 | 46.65 | 47.13 |
| TiO2 | 0.16 | 0.21 | 0.09 | 0.09 | 0.11 | 0.10 | 0.15 | 0.18 |
| Al2O3 | 29.84 | 29.45 | 30.40 | 32.12 | 31.08 | 29.75 | 29.34 | 29.69 |
| FeO | 5.79 | 6.64 | 5.58 | 4.52 | 5.23 | 6.13 | 6.82 | 6.16 |
| MgO | 0.24 | 0.29 | 0.26 | 0.18 | 0.21 | 0.22 | 0.23 | 0.29 |
| CaO | 0.07 | 0.06 | 0.03 | 0.02 | 0.05 | 0.06 | bdl | bdl |
| K2O | 10.57 | 10.38 | 10.64 | 10.79 | 10.66 | 10.45 | 10.60 | 10.77 |
| Na2O | 0.20 | 0.23 | 0.19 | 0.22 | 0.20 | 0.19 | 0.17 | 0.14 |
| MnO | 0.04 | 0.08 | 0.05 | 0.05 | 0.04 | 0.07 | 0.08 | 0.05 |
| BaO | 0.12 | 0.20 | 0.06 | 0.04 | 0.10 | 0.12 | 0.09 | 0.13 |
| P2O5 | 0.03 | 0.02 | 0.02 | 0.06 | 0.03 | bdl | 0.01 | 0.03 |
| SnO2 | 0.06 | 0.07 | 0.01 | 0.03 | 0.03 | 0.06 | 0.07 | bdl |
| Li2O | 3.80 | 3.67 | 3.75 | 3.86 | 3.80 | 4.02 | 3.82 | 3.96 |
| Cl | bdl | 0.01 | bdl | bdl | bdl | bdl | bdl | 0.01 |
| F | 2.23 | 2.43 | 2.00 | 1.80 | 2.26 | 2.12 | 2.71 | 2.57 |
| H2O | 0.10 | 0.18 | 0.21 | 0.21 | 0.15 | bdl | 0.03 | bdl |
| Total | 99.83 | 100.04 | 99.68 | 100.76 | 100.52 | 100.62 | 100.77 | 101.11 |
|  |  |  |  |  |  |  |  |  |
| Si | 6.2 | 6.1 | 6.1 | 6.1 | 6.1 | 6.2 | 6.2 | 6.2 |
| Al (T) | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 |
| K | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.8 | 1.8 |
| Na | bdl | 0.1 | bdl | 0.1 | bdl | bdl | bdl | bdl |
| Al (M) | 2.8 | 2.8 | 2.9 | 3.0 | 2.9 | 2.8 | 2.8 | 2.8 |
| Fe | 0.7 | 0.8 | 0.6 | 0.5 | 0.6 | 0.7 | 0.8 | 0.7 |
| Mg | bdl | 0.1 | bdl | bdl | bdl | bdl | bdl | 0.1 |
| Li | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.1 | 2.0 | 2.1 |
| F | 1.0 | 1.0 | 0.8 | 0.7 | 1.0 | 0.9 | 1.1 | 1.1 |

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| Ferroan poly-lithionite of the sample GG3 | | | | | | | | |
| Analysis point name | GG3-c2-9 | GG3-c2-10 | GG3-c2-11 | GG3-c2-12 | GG3-c2-13 | GG3-c2-14 | GG3-c2-15 | GG3-c2-16 |
| SiO2 | 46.62 | 47.39 | 46.90 | 46.23 | 47.06 | 45.98 | 46.64 | 46.45 |
| TiO2 | 0.10 | 0.08 | 0.05 | 0.06 | 0.11 | 0.26 | 0.25 | 0.27 |
| Al2O3 | 32.26 | 31.30 | 30.52 | 31.27 | 29.12 | 28.02 | 28.91 | 28.56 |
| FeO | 4.29 | 4.75 | 5.27 | 4.54 | 6.21 | 8.11 | 7.13 | 7.96 |
| MgO | 0.20 | 0.23 | 0.22 | 0.20 | 0.25 | 0.29 | 0.27 | 0.24 |
| CaO | 0.05 | 0.04 | 0.05 | 0.07 | 0.01 | 0.03 | 0.01 | 0.03 |
| K2O | 10.44 | 10.47 | 10.45 | 10.46 | 10.57 | 10.61 | 10.66 | 10.55 |
| Na2O | 0.25 | 0.20 | 0.19 | 0.24 | 0.12 | 0.10 | 0.13 | 0.07 |
| MnO | 0.03 | 0.04 | 0.07 | 0.06 | 0.06 | 0.05 | 0.07 | 0.05 |
| BaO | 0.14 | 0.04 | 0.13 | 0.09 | 0.07 | 0.10 | 0.15 | 0.06 |
| P2O5 | 0.05 | bdl | 0.02 | 0.02 | 0.04 | 0.01 | 0.03 | 0.03 |
| SnO2 | 0.10 | bdl | 0.10 | 0.08 | 0.08 | bdl | 0.03 | 0.03 |
| Li2O | 3.81 | 4.04 | 3.90 | 3.70 | 3.94 | 3.63 | 3.82 | 3.77 |
| Cl | bdl | bdl | 0.01 | bdl | bdl | bdl | bdl | bdl |
| F | 1.59 | 1.85 | 1.90 | 1.46 | 2.14 | 2.39 | 2.42 | 2.55 |
| H2O | 0.19 | 0.02 | 0.10 | 0.34 | bdl | 0.22 | 0.06 | 0.07 |
| Total | 100.22 | 100.45 | 99.88 | 98.82 | 99.78 | 99.80 | 100.58 | 100.69 |
|  |  |  |  |  |  |  |  |  |
| Si | 6.1 | 6.1 | 6.2 | 6.1 | 6.2 | 6.2 | 6.2 | 6.2 |
| Al (T) | 1.9 | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 |
| K | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Na | 0.1 | bdl | bdl | 0.1 | bdl | bdl | bdl | bdl |
| Al (M) | 3.0 | 2.9 | 2.9 | 3.0 | 2.8 | 2.6 | 2.7 | 2.7 |
| Fe | 0.5 | 0.5 | 0.6 | 0.5 | 0.7 | 0.9 | 0.8 | 0.9 |
| Mg | bdl | bdl | bdl | bdl | bdl | 0.1 | bdl | bdl |
| Li | 2.0 | 2.1 | 2.1 | 2.0 | 2.1 | 2.0 | 2.0 | 2.0 |
| F | 0.6 | 0.8 | 0.8 | 0.6 | 0.9 | 1.0 | 1.0 | 1.1 |

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| Muscovite of the sample GG3 | | | | | | | |
| Analysis point name | GG3-c1-1 | GG3-c1-2 | GG3-c1-3 | GG3-c1-4 | GG3-c1-5 | GG3-c1-6 | GG3-c1-7 |
| SiO2 | 46.50 | 46.74 | 46.68 | 47.53 | 47.25 | 47.01 | 46.76 |
| TiO2 | 0.03 | 0.02 | 0.01 | bdl | 0.01 | 0.04 | 0.01 |
| Al2O3 | 34.19 | 34.00 | 34.71 | 32.69 | 32.37 | 32.74 | 33.61 |
| FeO | 2.44 | 2.43 | 2.06 | 3.58 | 3.62 | 3.51 | 3.05 |
| MgO | 0.08 | 0.06 | 0.06 | 0.18 | 0.15 | 0.15 | 0.14 |
| CaO | 0.03 | 0.03 | 0.05 | 0.05 | 0.09 | 0.04 | 0.05 |
| K2O | 10.59 | 10.33 | 10.54 | 10.52 | 10.59 | 10.55 | 10.62 |
| Na2O | 0.22 | 0.23 | 0.24 | 0.14 | 0.14 | 0.17 | 0.22 |
| MnO | 0.04 | 0.05 | 0.02 | 0.04 | 0.06 | 0.05 | 0.04 |
| BaO | 0.10 | 0.06 | 0.03 | 0.13 | 0.11 | 0.10 | bdl |
| P2O5 | 0.05 | 0.04 | 0.07 | 0.03 | 0.01 | 0.01 | 0.04 |
| SnO2 | 0.14 | 0.04 | 0.16 | 0.18 | 0.09 | 0.10 | 0.06 |
| Li2O | 0.40 | 0.45 | 0.48 | 0.44 | 0.55 | 0.36 | 0.39 |
| Cl | 0.01 | bdl | bdl | bdl | 0.01 | bdl | bdl |
| F | 1.01 | 1.10 | 1.16 | 1.08 | 1.28 | 0.94 | 1.00 |
| H2O | 3.69 | 3.76 | 3.74 | 3.78 | 3.57 | 3.86 | 3.82 |
| Total | 99.52 | 99.34 | 100.01 | 100.37 | 99.90 | 99.63 | 99.81 |
|  |  |  |  |  |  |  |  |
| Si | 6.3 | 6.3 | 6.2 | 6.4 | 6.4 | 6.3 | 6.3 |
| Al (T) | 1.7 | 1.7 | 1.8 | 1.6 | 1.6 | 1.6 | 1.7 |
| K | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Na | 0.1 | 0.1 | 0.1 | bdl | bdl | bdl | 0.1 |
| Al (M) | 3.7 | 3.7 | 3.7 | 3.5 | 3.5 | 3.6 | 3.6 |
| Fe | 0.3 | 0.3 | 0.2 | 0.4 | 0.4 | 0.4 | 0.3 |
| Mg | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Li | 0.2 | 0.2 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 |
| F | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 |

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| Muscovite of the sample GG3 | | | | | | | | |
| Analysis point name | GG3-c1-8 | GG3-c1-9 | GG3-c1-10 | GG3-c1-11 | GG3-c1-12 | GG3-c1-13 | GG3-c1-14 | GG3-c1-15 |
| SiO2 | 46.56 | 47.17 | 47.03 | 46.83 | 46.85 | 46.96 | 46.87 | 47.46 |
| TiO2 | 0.04 | 0.01 | bdl | bdl | 0.04 | 0.01 | bdl | 0.02 |
| Al2O3 | 35.01 | 33.28 | 32.08 | 33.38 | 34.32 | 33.99 | 32.95 | 31.10 |
| FeO | 1.85 | 3.36 | 3.99 | 3.03 | 2.48 | 2.62 | 3.32 | 4.18 |
| MgO | 0.10 | 0.18 | 0.13 | 0.14 | 0.09 | 0.10 | 0.12 | 0.15 |
| CaO | 0.07 | 0.14 | 0.02 | 0.04 | 0.10 | 0.06 | 0.09 | 0.08 |
| K2O | 10.45 | 10.08 | 10.60 | 10.55 | 10.47 | 10.45 | 10.35 | 10.26 |
| Na2O | 0.24 | 0.25 | 0.18 | 0.18 | 0.27 | 0.23 | 0.26 | 0.10 |
| MnO | 0.03 | 0.06 | 0.03 | 0.05 | 0.05 | 0.06 | 0.05 | 0.09 |
| BaO | 0.06 | 0.19 | 0.09 | 0.15 | 0.08 | 0.06 | 0.11 | 0.08 |
| P2O5 | 0.03 | 0.04 | 0.04 | 0.06 | 0.05 | 0.08 | 0.02 | bdl |
| SnO2 | 0.07 | 0.16 | 0.11 | 0.17 | 0.08 | 0.06 | 0.10 | 0.19 |
| Li2O | 0.28 | 0.39 | 0.69 | 0.54 | 0.55 | 0.54 | 0.52 | 0.63 |
| Cl | 0.01 | 0.01 | bdl | 0.01 | 0.01 | 0.01 | bdl | bdl |
| F | 0.78 | 1.00 | 1.52 | 1.27 | 1.29 | 1.27 | 1.23 | 1.42 |
| H2O | 3.98 | 3.82 | 3.42 | 3.63 | 3.87 | 2.98 | 3.64 | 3.47 |
| Total | 99.56 | 100.14 | 99.93 | 100.03 | 100.60 | 100.14 | 99.63 | 99.23 |
|  |  |  |  |  |  |  |  |  |
| Si | 6.2 | 6.3 | 6.4 | 6.3 | 6.2 | 6.3 | 6.3 | 6.5 |
| Al (T) | 1.8 | 1.7 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 | 1.5 |
| K | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 |
| Na | 0.1 | 0.1 | bdl | bdl | 0.1 | 0.1 | 0.1 | bdl |
| Al (M) | 3.8 | 3.6 | 3.5 | 3.6 | 3.6 | 3.6 | 3.6 | 3.4 |
| Fe | 0.2 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.5 |
| Mg | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Li | 0.1 | 0.2 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| F | 0.3 | 0.4 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 |

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| Ferroan poly-lithionite of the sample JG1 | | | | | | | | | | | |
| Analysis point name | JG1-c1-1 | JG1-c1-2 | JG1-c1-3 | JG1-c1-4 | JG1-c1-5 | JG1-c1-6 | JG1-c1-7 | JG1-c1-8 | JG1-c1-9 | JG1-c1-10 | JG1-c1-11 |
| SiO2 | 46.15 | 47.94 | 47.07 | 47.70 | 48.66 | 47.65 | 46.39 | 45.95 | 47.52 | 48.05 | 47.97 |
| TiO2 | 0.02 | 0.08 | 0.07 | 0.09 | 0.05 | 0.04 | 0.05 | 0.04 | 0.11 | 0.04 | 0.06 |
| Al2O3 | 30.57 | 31.68 | 30.72 | 30.86 | 30.86 | 32.99 | 31.47 | 30.96 | 32.60 | 32.00 | 31.08 |
| FeO | 3.36 | 3.14 | 4.37 | 4.18 | 4.46 | 2.56 | 2.70 | 2.82 | 2.77 | 3.17 | 3.57 |
| MgO | 1.45 | 1.35 | 1.72 | 1.53 | 1.51 | 1.09 | 1.31 | 1.28 | 1.16 | 1.26 | 1.51 |
| CaO | 0.02 | 0.01 | 0.02 | 0.01 | 0.03 | 0.05 | 0.03 | 0.03 | bdl | bdl | bdl |
| K2O | 9.92 | 10.59 | 10.30 | 10.65 | 10.27 | 10.23 | 10.52 | 9.81 | 10.76 | 10.58 | 10.56 |
| Na2O | 0.26 | 0.29 | 0.28 | 0.25 | 0.23 | 0.40 | 0.36 | 0.33 | 0.31 | 0.30 | 0.29 |
| MnO | 0.01 | 0.01 | 0.02 | bdl | 0.03 | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 | 0.02 |
| BaO | 0.09 | bdl | 0.04 | 0.10 | 0.18 | 0.11 | 0.05 | 0.12 | 0.15 | 0.14 | 0.01 |
| P2O5 | bdl | bdl | 0.02 | 0.01 | 0.03 | bdl | bdl | 0.02 | bdl | bdl | bdl |
| SnO2 | 0.09 | 0.11 | 0.08 | 0.10 | 0.12 | 0.11 | 0.12 | 0.12 | 0.11 | 0.11 | 0.10 |
| Li2O | 3.68 | 4.20 | 3.94 | 4.13 | 4.40 | 4.11 | 3.75 | 3.62 | 4.07 | 4.23 | 4.20 |
| Cl | 0.04 | bdl | 0.01 | bdl | bdl | 0.02 | 0.02 | 0.08 | bdl | bdl | 0.01 |
| F | 1.51 | 1.59 | 1.91 | 1.99 | 2.03 | 1.51 | 1.33 | 1.50 | 1.35 | 1.58 | 1.76 |
| H2O | 0.32 | 0.06 | 0.11 | bdl | bdl | 0.06 | 0.33 | 0.35 | 0.13 | bdl | bdl |
| Total | 97.49 | 100.93 | 100.68 | 101.60 | 102.86 | 100.95 | 98.46 | 97.05 | 101.07 | 101.49 | 101.14 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.1 | 6.1 | 6.1 | 6.1 | 6.2 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| Al (T) | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.8 |
| K | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 |
| Na | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Al (M) | 2.9 | 2.9 | 2.8 | 2.8 | 2.8 | 3.0 | 3.0 | 3.0 | 3.0 | 2.9 | 2.8 |
| Fe | 0.4 | 0.3 | 0.5 | 0.4 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 |
| Mg | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 |
| Li | 2.0 | 2.2 | 2.1 | 2.1 | 2.2 | 2.1 | 2.0 | 1.9 | 2.1 | 2.2 | 2.2 |
| F | 0.6 | 0.6 | 0.8 | 0.8 | 0.8 | 0.6 | 0.5 | 0.6 | 0.5 | 0.6 | 0.7 |

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| Ferroan poly-lithionite of the sample JG1 | | | | | | | | | | | |
| Analysis point name | JG1-c2-1 | JG1-c2-2 | JG1-c2-3 | JG1-c2-4 | JG1-c2-5 | JG1-c2-6 | JG1-c2-8 | JG1-c2-9 | JG1-c2-10 | JG1-c2-11 | JG1-c2-12 |
| SiO2 | 46.61 | 46.22 | 46.55 | 46.70 | 46.36 | 45.93 | 47.80 | 46.94 | 46.23 | 46.23 | 46.25 |
| TiO2 | 0.05 | 0.05 | 0.08 | 0.07 | 0.04 | 0.07 | 0.03 | 0.09 | 0.05 | 0.01 | 0.03 |
| Al2O3 | 31.37 | 31.36 | 31.02 | 30.74 | 31.17 | 30.49 | 32.58 | 32.08 | 30.80 | 31.04 | 31.01 |
| FeO | 3.53 | 3.43 | 3.41 | 4.18 | 3.37 | 3.92 | 2.79 | 2.62 | 3.51 | 3.30 | 3.51 |
| MgO | 1.30 | 1.35 | 1.31 | 1.44 | 1.33 | 1.43 | 1.12 | 1.09 | 1.37 | 1.28 | 1.35 |
| CaO | 0.02 | 0.03 | 0.02 | bdl | 0.01 | 0.02 | 0.01 | 0.01 | 0.04 | 0.01 | 0.01 |
| K2O | 10.42 | 10.23 | 10.41 | 10.61 | 10.45 | 10.32 | 10.48 | 10.46 | 10.45 | 10.48 | 10.55 |
| Na2O | 0.28 | 0.38 | 0.27 | 0.28 | 0.28 | 0.26 | 0.35 | 0.37 | 0.28 | 0.30 | 0.23 |
| MnO | 0.01 | 0.01 | bdl | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.03 | 0.02 | 0.03 |
| BaO | 0.11 | 0.01 | 0.12 | 0.07 | 0.11 | 0.10 | 0.12 | 0.10 | 0.07 | 0.07 | 0.08 |
| P2O5 | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.02 | bdl | 0.02 | bdl |
| SnO2 | 0.10 | 0.11 | 0.15 | 0.15 | 0.10 | 0.11 | 0.16 | 0.16 | 0.12 | 0.11 | 0.10 |
| Li2O | 3.81 | 3.70 | 3.79 | 3.84 | 3.74 | 3.62 | 4.16 | 3.91 | 3.70 | 3.70 | 3.71 |
| Cl | bdl | bdl | bdl | bdl | 0.01 | bdl | bdl | 0.01 | bdl | 0.01 | bdl |
| F | 1.51 | 1.63 | 1.69 | 1.80 | 1.49 | 1.56 | 1.56 | 1.36 | 1.65 | 1.65 | 1.46 |
| H2O | 0.27 | 0.34 | 0.24 | 0.19 | 0.31 | 0.40 | 0.02 | 0.22 | 0.32 | 0.32 | 0.35 |
| Total | 99.39 | 98.85 | 99.06 | 100.08 | 98.78 | 98.25 | 101.19 | 99.46 | 98.62 | 98.55 | 98.67 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| Al (T) | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| K | 1.7 | 1.7 | 1.7 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 |
| Na | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Al (M) | 2.9 | 2.9 | 2.9 | 2.8 | 2.9 | 2.9 | 3.0 | 3.0 | 2.9 | 2.9 | 2.9 |
| Fe | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 |
| Mg | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.2 | 0.3 |
| Li | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.9 | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 |
| F | 0.6 | 0.7 | 0.7 | 0.7 | 0.6 | 0.7 | 0.6 | 0.6 | 0.7 | 0.7 | 0.6 |

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| Muscovite of the sample JG1 | | | |
| Analysis point name | JG1-c2-7 | JG1-c2-13 | JG1-c2-14 |
| SiO2 | 42.41 | 47.33 | 47.45 |
| TiO2 | 0.08 | 0.04 | 0.05 |
| Al2O3 | 28.78 | 32.15 | 31.86 |
| FeO | 2.63 | 2.36 | 2.59 |
| MgO | 1.15 | 1.24 | 1.21 |
| CaO | 0.03 | bdl | 0.07 |
| K2O | 9.35 | 10.34 | 10.08 |
| Na2O | 0.24 | 0.32 | 0.36 |
| MnO | 0.01 | 0.03 | 0.03 |
| BaO | 0.11 | 0.05 | 0.13 |
| P2O5 | 0.02 | bdl | 0.03 |
| SnO2 | 0.15 | 0.20 | 0.09 |
| Li2O | 0.40 | 0.61 | 0.53 |
| Cl | 0.18 | bdl | 0.01 |
| F | 1.01 | 1.40 | 1.26 |
| H2O | 3.30 | 3.53 | 3.61 |
| Total | 89.85 | 99.60 | 99.36 |
|  |  |  |  |
| Si | 6.4 | 6.4 | 6.4 |
| Al (T) | 1.6 | 1.6 | 1.6 |
| K | 1.8 | 1.8 | 1.7 |
| Na | 0.1 | 0.1 | 0.1 |
| Al (M) | 3.4 | 3.5 | 3.5 |
| Fe | 0.3 | 0.3 | 0.3 |
| Mg | 0.3 | 0.2 | 0.2 |
| Li | 0.2 | 0.3 | 0.3 |
| F | 0.5 | 0.6 | 0.5 |

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| Ferroan poly-lithionite of the sample JG2 | |
| Analysis point name | JG2-c2-13 |
| SiO2 | 45.28 |
| TiO2 | 0.01 |
| Al2O3 | 32.82 |
| FeO | 5.01 |
| MgO | 0.41 |
| CaO | 0.05 |
| K2O | 10.11 |
| Na2O | 0.28 |
| MnO | 0.03 |
| BaO | 0.13 |
| P2O5 | bdl |
| SnO2 | 0.14 |
| Li2O | 3.43 |
| Cl | 0.02 |
| F | 0.76 |
| H2O | 0.75 |
| Total | 99.23 |
|  |  |
| Si | 6.0 |
| Al (T) | 2.0 |
| K | 1.7 |
| Na | 0.1 |
| Al (M) | 3.0 |
| Fe | 0.5 |
| Mg | 0.1 |
| Li | 1.8 |
| F | 0.3 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Muscovite of the sample JG2 | | | | | | | | | | | | | |
| Analysis point name | JG2-c2-9 | JG2-c2-10 | JG2-c2-11 | JG2-c2-12 | JG2-c3-1 | JG2-c3-2 | JG2-c3-6 | JG2-c3-7 | JG2-c3-9 | JG2-c3-10 | JG2-c3-12 | JG2-c3-13 | JG2-c3-14 |
| SiO2 | 47.39 | 46.50 | 46.86 | 47.32 | 45.61 | 45.70 | 46.41 | 43.83 | 44.03 | 45.61 | 46.02 | 46.62 | 46.33 |
| TiO2 | 0.02 | bdl | 0.03 | 0.03 | bdl | 0.02 | bdl | bdl | bdl | bdl | bdl | 0.01 | 0.01 |
| Al2O3 | 35.25 | 34.91 | 33.94 | 34.45 | 33.63 | 33.08 | 34.79 | 31.94 | 31.75 | 33.49 | 33.28 | 35.00 | 33.52 |
| FeO | 2.03 | 2.97 | 3.13 | 3.08 | 3.74 | 4.23 | 2.84 | 4.16 | 3.13 | 4.17 | 4.50 | 2.31 | 3.53 |
| MgO | 0.40 | 0.35 | 0.36 | 0.31 | 0.36 | 0.35 | 0.26 | 0.43 | 0.33 | 0.42 | 0.38 | 0.28 | 0.36 |
| CaO | 0.03 | 0.02 | 0.06 | 0.05 | bdl | 0.03 | 0.02 | 0.04 | 0.13 | 0.09 | 0.03 | 0.05 | 0.04 |
| K2O | 10.19 | 10.21 | 10.27 | 10.01 | 10.49 | 10.24 | 10.12 | 9.94 | 9.73 | 9.99 | 10.33 | 10.20 | 10.55 |
| Na2O | 0.42 | 0.42 | 0.32 | 0.37 | 0.29 | 0.27 | 0.28 | 0.26 | 0.28 | 0.34 | 0.29 | 0.44 | 0.27 |
| MnO | bdl | 0.01 | 0.02 | 0.04 | 0.04 | 0.02 | 0.01 | bdl | 0.02 | 0.01 | 0.03 | bdl | 0.03 |
| BaO | 0.10 | 0.05 | 0.16 | 0.06 | 0.10 | 0.07 | 0.10 | 0.09 | 0.05 | 0.09 | 0.03 | 0.13 | 0.14 |
| P2O5 | 0.01 | bdl | bdl | 0.01 | 0.01 | bdl | bdl | bdl | 0.01 | 0.02 | 0.01 | bdl | 0.01 |
| SnO2 | 0.07 | 0.09 | 0.14 | 0.14 | 0.06 | 0.07 | 0.09 | 0.06 | 0.08 | 0.09 | 0.10 | 0.10 | 0.11 |
| Li2O | 0.20 | 0.19 | 0.25 | 0.24 | 0.23 | 0.25 | 0.14 | 0.15 | 0.22 | 0.20 | 0.22 | 0.18 | 0.20 |
| Cl | bdl | bdl | 0.01 | 0.01 | 0.01 | bdl | 0.01 | 0.07 | 0.02 | 0.01 | bdl | bdl | 0.02 |
| F | 0.60 | 0.59 | 0.71 | 0.70 | 0.67 | 0.71 | 0.47 | 0.48 | 0.64 | 0.60 | 0.65 | 0.56 | 0.60 |
| H2O | 4.17 | 4.14 | 4.04 | 4.09 | 3.98 | 3.96 | 4.18 | 3.89 | 3.80 | 4.02 | 4.03 | 4.15 | 4.15 |
| Total | 100.88 | 100.45 | 100.30 | 100.91 | 99.22 | 99.00 | 99.72 | 95.34 | 94.22 | 99.15 | 99.90 | 100.03 | 99.87 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.2 | 6.2 | 6.3 | 6.3 | 6.2 | 6.2 | 6.2 | 6.2 | 6.3 | 6.2 | 6.2 | 6.2 | 6.3 |
| Al (T) | 1.7 | 1.8 | 1.7 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.7 |
| K | 1.7 | 1.7 | 1.7 | 1.7 | 1.8 | 1.8 | 1.7 | 1.8 | 1.8 | 1.7 | 1.8 | 1.7 | 1.8 |
| Na | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Al (M) | 3.7 | 3.7 | 3.6 | 3.7 | 3.6 | 3.5 | 3.7 | 3.5 | 3.6 | 3.6 | 3.5 | 3.7 | 3.6 |
| Fe | 0.2 | 0.3 | 0.3 | 0.3 | 0.4 | 0.5 | 0.3 | 0.5 | 0.4 | 0.5 | 0.5 | 0.3 | 0.4 |
| Mg | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | bdl | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Li | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| F | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 |

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| Muscovite of the sample CSV1 | | | | | | | | | |
| Analysis point name | CSV1-c2-1 | CSV1-c2-2 | CSV1-c2-3 | CSV1-c2-4 | CSV1-c2-5 | CSV1-c2-6 | CSV1-c2-7 | CSV1-c2-8 | CSV1-c2-9 |
| SiO2 | 49.68 | 49.38 | 49.11 | 48.61 | 48.79 | 48.84 | 45.37 | 45.04 | 47.01 |
| TiO2 | 0.27 | 0.28 | 0.30 | 0.28 | 0.29 | 0.30 | 0.06 | 0.10 | 0.23 |
| Al2O3 | 26.96 | 26.99 | 27.04 | 26.35 | 26.42 | 26.66 | 34.27 | 32.98 | 29.20 |
| FeO | 6.67 | 6.51 | 6.23 | 6.74 | 6.67 | 6.63 | 2.82 | 3.79 | 5.43 |
| MgO | 0.50 | 0.58 | 0.61 | 0.43 | 0.42 | 0.63 | 0.15 | 0.47 | 0.48 |
| CaO | 0.01 | 0.01 | 0.03 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | bdl |
| K2O | 10.24 | 10.22 | 10.03 | 10.47 | 10.40 | 10.19 | 10.58 | 10.43 | 10.58 |
| Na2O | 0.16 | 0.20 | 0.19 | 0.07 | 0.12 | 0.18 | 0.35 | 0.31 | 0.20 |
| MnO | 0.15 | 0.14 | 0.17 | 0.17 | 0.18 | 0.16 | 0.04 | 0.10 | 0.12 |
| BaO | 0.13 | 0.04 | 0.10 | 0.09 | 0.11 | 0.15 | 0.08 | 0.11 | 0.17 |
| P2O5 | bdl | 0.01 | bdl | bdl | 0.01 | bdl | bdl | bdl | 0.01 |
| SnO2 | 0.02 | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Li2O | 0.10 | 0.11 | 0.07 | 0.26 | 0.22 | 0.10 | bdl | 0.02 | 0.06 |
| Cl | bdl | bdl | 0.01 | bdl | bdl | 0.01 | bdl | bdl | bdl |
| F | 0.36 | 0.39 | 0.27 | 0.73 | 0.65 | 0.37 | 0.02 | 0.10 | 0.25 |
| H2O | 4.14 | 4.13 | 4.17 | 3.82 | 4.00 | 4.08 | 4.38 | 4.29 | 3.55 |
| Total | 99.39 | 98.99 | 98.33 | 98.04 | 98.30 | 98.31 | 98.13 | 97.75 | 97.29 |
|  |  |  |  |  |  |  |  |  |  |
| Si | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 | 6.8 | 6.2 | 6.2 | 6.5 |
| Al (T) | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.8 | 1.8 | 1.5 |
| K | 1.8 | 1.8 | 1.8 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | 0.1 | 0.1 | bdl |
| Al (M) | 3.1 | 3.1 | 3.2 | 3.1 | 3.1 | 3.1 | 3.7 | 3.6 | 3.3 |
| Fe | 0.8 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.3 | 0.4 | 0.6 |
| Mg | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | bdl | 0.1 | 0.1 |
| Li | 0.1 | 0.1 | bdl | 0.1 | 0.1 | 0.1 | bdl | bdl | bdl |
| F | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 | 0.2 | bdl | bdl | 0.1 |

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| Ferroan poly-lithionite of the sample HAS1 | | | | | | | | | | | | |
| Analysis point name | HAS1-c1-1 | HAS1-c1-2 | HAS1-c1-3 | HAS1-c1-4 | HAS1-c1-5 | HAS1-c1-6 | HAS1-c1-7 | HAS1-c1-8 | HAS1-c1-9 | HAS1-c1-18 | HAS1-c1-19 | HAS1-c1-20 |
| SiO2 | 48.32 | 48.41 | 48.19 | 48.40 | 47.29 | 47.85 | 49.18 | 49.05 | 47.43 | 49.49 | 49.83 | 49.77 |
| TiO2 | 0.33 | 0.34 | 0.31 | 0.33 | 0.30 | 0.34 | 0.35 | 0.33 | 0.40 | 0.32 | 0.30 | 0.36 |
| Al2O3 | 25.57 | 25.83 | 26.21 | 27.24 | 26.43 | 27.66 | 25.94 | 25.90 | 27.35 | 26.51 | 25.57 | 25.84 |
| FeO | 7.94 | 7.97 | 7.97 | 7.99 | 9.39 | 7.76 | 8.08 | 8.00 | 7.89 | 7.90 | 8.08 | 8.09 |
| MgO | 0.35 | 0.36 | 0.47 | 0.38 | 1.31 | 0.41 | 0.48 | 0.43 | 0.41 | 0.42 | 0.34 | 0.39 |
| CaO | bdl | 0.03 | 0.04 | 0.04 | 0.17 | 0.03 | bdl | bdl | 0.01 | bdl | 0.02 | 0.01 |
| K2O | 10.16 | 10.30 | 10.24 | 10.17 | 9.06 | 10.14 | 10.36 | 10.18 | 10.19 | 10.24 | 10.54 | 10.20 |
| Na2O | 0.13 | 0.11 | 0.17 | 0.20 | 0.24 | 0.25 | 0.19 | 0.23 | 0.18 | 0.17 | 0.08 | 0.14 |
| MnO | 0.18 | 0.21 | 0.18 | 0.16 | 0.18 | 0.18 | 0.17 | 0.19 | 0.16 | 0.18 | 0.19 | 0.17 |
| BaO | 0.08 | 0.07 | 0.08 | 0.17 | 0.11 | 0.10 | 0.14 | 0.01 | 0.04 | 0.04 | 0.10 | 0.06 |
| P2O5 | bdl | bdl | 0.01 | bdl | bdl | bdl | 0.04 | 0.01 | bdl | 0.01 | 0.01 | 0.04 |
| SnO2 | bdl | bdl | bdl | bdl | bdl | 0.05 | 0.02 | bdl | bdl | bdl | 0.03 | bdl |
| Li2O | 4.31 | 4.33 | 4.27 | 4.33 | 4.01 | 4.17 | 4.55 | 4.52 | 4.05 | 4.64 | 4.74 | 4.72 |
| Cl | bdl | bdl | 0.01 | 0.01 | 0.01 | bdl | 0.01 | 0.01 | bdl | bdl | bdl | 0.01 |
| F | 1.24 | 1.25 | 1.20 | 1.10 | 0.97 | 0.95 | 1.11 | 1.24 | 1.08 | 1.09 | 1.37 | 1.44 |
| H2O | bdl | bdl | bdl | bdl | 0.07 | bdl | bdl | bdl | 0.01 | bdl | bdl | bdl |
| Total | 98.61 | 99.21 | 99.35 | 100.52 | 99.54 | 99.89 | 100.62 | 100.10 | 99.20 | 101.01 | 101.20 | 101.24 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.4 | 6.4 | 6.4 | 6.3 | 6.3 | 6.3 | 6.4 | 6.4 | 6.3 | 6.4 | 6.5 | 6.5 |
| Al (T) | 1.5 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.6 | 1.5 | 1.5 |
| K | 1.7 | 1.7 | 1.7 | 1.7 | 1.5 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 | 1.7 |
| Na | bdl | bdl | bdl | bdl | 0.1 | 0.1 | bdl | 0.1 | bdl | bdl | bdl | bdl |
| Al (M) | 2.5 | 2.5 | 2.5 | 2.5 | 2.4 | 2.6 | 2.4 | 2.4 | 2.6 | 2.5 | 2.4 | 2.4 |
| Fe | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| Mg | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Li | 2.3 | 2.3 | 2.3 | 2.3 | 2.1 | 2.2 | 2.4 | 2.4 | 2.2 | 2.4 | 2.5 | 2.5 |
| F | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.6 | 0.6 |

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| Ferroan poly-lithionite of the sample HAS1 | | | | | | | | | | | | |
| Analysis point name | HAS1-c2-1 | HAS1-c2-2 | HAS1-c2-3 | HAS1-c2-4 | HAS1-c2-5 | HAS1-c2-6 | HAS1-c2-7 | HAS1-c2-8 | HAS1-c2-9 | HAS1-c2-10 | HAS1-c2-11 | HAS1-c2-12 |
| SiO2 | 48.77 | 49.24 | 49.14 | 47.99 | 49.08 | 48.99 | 45.95 | 47.94 | 47.68 | 46.36 | 48.11 | 47.51 |
| TiO2 | 0.32 | 0.28 | 0.34 | 0.37 | 0.30 | 0.35 | 0.27 | 0.36 | 0.35 | 0.35 | 0.32 | 0.31 |
| Al2O3 | 26.35 | 26.12 | 26.17 | 26.09 | 26.10 | 26.11 | 27.33 | 25.87 | 26.49 | 28.01 | 26.01 | 26.04 |
| FeO | 7.06 | 7.23 | 7.18 | 7.98 | 7.39 | 7.15 | 8.30 | 7.64 | 7.36 | 7.17 | 7.02 | 7.72 |
| MgO | 0.42 | 0.39 | 0.45 | 0.85 | 0.39 | 0.38 | 1.38 | 0.45 | 0.49 | 0.40 | 0.43 | 0.43 |
| CaO | 0.03 | 0.01 | bdl | 0.06 | 0.01 | 0.02 | 0.02 | 0.03 | 0.01 | 0.03 | 0.08 | 0.06 |
| K2O | 10.19 | 10.28 | 10.46 | 9.66 | 10.24 | 10.68 | 9.41 | 9.96 | 10.12 | 10.36 | 10.33 | 10.23 |
| Na2O | 0.15 | 0.09 | 0.09 | 0.18 | 0.09 | 0.10 | 0.24 | 0.22 | 0.24 | 0.22 | 0.12 | 0.17 |
| MnO | 0.15 | 0.20 | 0.16 | 0.18 | 0.14 | 0.16 | 0.14 | 0.16 | 0.17 | 0.17 | 0.17 | 0.16 |
| BaO | 0.11 | 0.04 | 0.09 | 0.10 | bdl | 0.06 | 0.10 | 0.12 | 0.12 | 0.12 | 0.07 | 0.03 |
| P2O5 | 0.01 | bdl | bdl | bdl | bdl | bdl | 0.01 | bdl | 0.01 | bdl | bdl | bdl |
| SnO2 | bdl | bdl | 0.03 | bdl | bdl | bdl | 0.05 | 0.03 | bdl | bdl | 0.03 | bdl |
| Li2O | 4.44 | 4.57 | 4.54 | 4.21 | 4.53 | 4.50 | 3.62 | 4.20 | 4.12 | 3.74 | 4.25 | 4.07 |
| Cl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.01 | bdl | 0.01 | bdl |
| F | 1.61 | 1.81 | 1.68 | 1.51 | 1.77 | 2.04 | 0.95 | 1.29 | 1.25 | 1.31 | 1.88 | 1.66 |
| H2O | bdl | bdl | bdl | bdl | bdl | bdl | 0.42 | bdl | bdl | 0.25 | bdl | bdl |
| Total | 99.61 | 100.26 | 100.33 | 99.18 | 100.04 | 100.54 | 98.19 | 98.27 | 98.42 | 98.49 | 98.83 | 98.39 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.4 | 6.5 | 6.4 | 6.4 | 6.4 | 6.4 | 6.2 | 6.4 | 6.4 | 6.2 | 6.4 | 6.4 |
| Al (T) | 1.6 | 1.5 | 1.6 | 1.6 | 1.5 | 1.6 | 1.8 | 1.6 | 1.6 | 1.8 | 1.6 | 1.6 |
| K | 1.7 | 1.7 | 1.7 | 1.6 | 1.7 | 1.8 | 1.6 | 1.7 | 1.7 | 1.8 | 1.8 | 1.7 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | 0.1 | 0.1 | 0.1 | 0.1 | bdl | bdl |
| Al (M) | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.7 | 2.5 | 2.5 |
| Fe | 0.8 | 0.8 | 0.8 | 0.9 | 0.8 | 0.8 | 1.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 |
| Mg | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Li | 2.3 | 2.4 | 2.4 | 2.2 | 2.4 | 2.4 | 2.0 | 2.3 | 2.2 | 2.0 | 2.3 | 2.2 |
| F | 0.7 | 0.7 | 0.7 | 0.6 | 0.7 | 0.8 | 0.4 | 0.5 | 0.5 | 0.6 | 0.8 | 0.7 |

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| Ferroan poly-lithionite of the sample HAS1 | | | | | | | | | | | |
| Analysis point name | HAS1-c2-13 | HAS1-c2-14 | HAS1-c2-15 | HAS1-c2-16 | HAS1-c2-17 | HAS1-c2-18 | HAS1-c3-7 | HAS1-c3-9 | HAS1-c3-20 | HAS1-c3-21 | HAS1-c3-22 |
| SiO2 | 48.64 | 48.59 | 46.95 | 46.12 | 45.79 | 45.46 | 46.40 | 46.46 | 48.50 | 47.30 | 48.15 |
| TiO2 | 0.28 | 0.30 | 0.33 | 0.38 | 0.38 | 0.39 | 0.14 | 0.30 | 0.20 | 0.28 | 0.36 |
| Al2O3 | 25.96 | 25.56 | 26.28 | 26.97 | 27.14 | 28.21 | 30.20 | 29.81 | 27.57 | 27.88 | 26.81 |
| FeO | 7.44 | 7.74 | 7.71 | 7.56 | 7.74 | 7.58 | 6.07 | 6.85 | 7.27 | 7.87 | 7.85 |
| MgO | 0.41 | 0.47 | 0.43 | 0.43 | 0.48 | 0.42 | 0.50 | 0.43 | 0.50 | 0.39 | 0.40 |
| CaO | 0.02 | 0.04 | 0.02 | 0.02 | 0.05 | 0.01 | 0.03 | 0.04 | bdl | bdl | bdl |
| K2O | 9.94 | 9.94 | 10.26 | 10.06 | 10.33 | 10.25 | 10.30 | 10.17 | 10.13 | 10.43 | 10.43 |
| Na2O | 0.18 | 0.25 | 0.27 | 0.30 | 0.30 | 0.29 | 0.28 | 0.31 | 0.23 | 0.20 | 0.19 |
| MnO | 0.16 | 0.17 | 0.16 | 0.20 | 0.18 | 0.19 | 0.14 | 0.15 | 0.14 | 0.16 | 0.16 |
| BaO | 0.11 | 0.13 | 0.12 | 0.05 | 0.12 | 0.04 | 0.10 | 0.09 | 0.10 | 0.09 | 0.10 |
| P2O5 | bdl | bdl | bdl | 0.01 | bdl | bdl | 0.01 | bdl | 0.01 | bdl | bdl |
| SnO2 | 0.03 | 0.03 | bdl | bdl | bdl | 0.01 | bdl | 0.02 | bdl | bdl | 0.01 |
| Li2O | 4.40 | 4.38 | 3.91 | 3.67 | 3.57 | 3.48 | 3.75 | 3.77 | 4.36 | 4.01 | 4.26 |
| Cl | bdl | bdl | bdl | 0.01 | 0.01 | bdl | 0.01 | bdl | 0.01 | bdl | bdl |
| F | 1.56 | 1.72 | 1.58 | 1.33 | 1.41 | 1.14 | 0.79 | 0.94 | 1.16 | 1.28 | 1.37 |
| H2O | bdl | bdl | 0.01 | 0.25 | 0.34 | 0.48 | 0.39 | 0.36 | bdl | 0.05 | bdl |
| Total | 99.13 | 99.32 | 98.03 | 97.36 | 97.84 | 97.99 | 99.11 | 99.70 | 100.18 | 99.94 | 100.09 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Si | 6.4 | 6.5 | 6.3 | 6.3 | 6.2 | 6.2 | 6.1 | 6.1 | 6.3 | 6.2 | 6.3 |
| Al (T) | 1.5 | 1.5 | 1.6 | 1.7 | 1.8 | 1.8 | 1.9 | 1.9 | 1.7 | 1.7 | 1.6 |
| K | 1.7 | 1.7 | 1.8 | 1.7 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.8 | 1.7 |
| Na | bdl | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | bdl | bdl |
| Al (M) | 2.5 | 2.5 | 2.5 | 2.6 | 2.6 | 2.7 | 2.8 | 2.7 | 2.6 | 2.6 | 2.5 |
| Fe | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.7 | 0.7 | 0.8 | 0.9 | 0.9 |
| Mg | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Li | 2.3 | 2.3 | 2.1 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 2.3 | 2.1 | 2.3 |
| F | 0.6 | 0.7 | 0.7 | 0.6 | 0.6 | 0.5 | 0.3 | 0.4 | 0.5 | 0.5 | 0.6 |

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| Muscovite of the sample HAS1 | | | | | | | | | |
| Analysis point name | HAS1-c1-10 | HAS1-c1-11 | HAS1-c1-12 | HAS1-c1-13 | HAS1-c1-14 | HAS1-c1-15 | HAS1-c1-16 | HAS1-c1-17 | HAS1-c3-14 |
| SiO2 | 49.33 | 49.94 | 50.94 | 49.56 | 49.65 | 50.06 | 49.71 | 50.28 | 55.54 |
| TiO2 | 0.27 | 0.31 | 0.26 | 0.30 | 0.33 | 0.32 | 0.35 | 0.36 | 0.19 |
| Al2O3 | 26.45 | 25.94 | 25.24 | 26.14 | 26.10 | 26.26 | 26.05 | 26.17 | 23.08 |
| FeO | 7.77 | 7.83 | 7.04 | 7.71 | 7.64 | 7.34 | 7.89 | 7.22 | 4.07 |
| MgO | 0.45 | 0.43 | 0.48 | 0.42 | 0.49 | 0.38 | 0.46 | 0.36 | 0.27 |
| CaO | 0.02 | bdl | 0.05 | 0.01 | bdl | 0.01 | 0.01 | 0.01 | bdl |
| K2O | 10.06 | 10.05 | 10.08 | 10.28 | 10.17 | 10.46 | bdl | 10.35 | 13.09 |
| Na2O | 0.20 | 0.16 | 0.20 | 0.14 | 0.19 | 0.12 | 0.18 | 0.08 | 0.23 |
| MnO | 0.16 | 0.15 | 0.16 | 0.19 | 0.15 | 0.20 | 0.20 | 0.17 | 0.07 |
| BaO | 0.09 | 0.10 | 0.04 | 0.12 | 0.12 | 0.09 | 0.06 | 0.02 | 0.07 |
| P2O5 | bdl | 0.01 | bdl | 0.01 | 0.01 | bdl | 0.01 | bdl | 0.02 |
| SnO2 | 0.04 | bdl | 0.01 | bdl | 0.03 | 0.01 | bdl | 0.02 | bdl |
| Li2O | 0.41 | 0.41 | 0.39 | 0.48 | 0.47 | 0.53 | 0.58 | 0.55 | 0.15 |
| Cl | bdl | bdl | 0.04 | bdl | bdl | bdl | bdl | bdl | 0.01 |
| F | 1.03 | 1.03 | 0.99 | 1.17 | 1.14 | 1.26 | 1.34 | 1.28 | 0.49 |
| H2O | 3.71 | 3.71 | 3.76 | 3.62 | 3.64 | 3.60 | 3.75 | 3.55 | 4.18 |
| Total | 99.99 | 100.07 | 99.68 | 100.15 | 100.13 | 100.64 | 90.59 | 100.42 | 101.46 |
|  |  |  |  |  |  |  |  |  |  |
| Si | 6.8 | 6.8 | 7.0 | 6.8 | 6.8 | 6.8 | 7.1 | 6.8 | 7.4 |
| Al (T) | 1.2 | 1.2 | 1.0 | 1.2 | 1.2 | 1.2 | 0.9 | 1.2 | 0.6 |
| K | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | bdl | 1.8 | 2.2 |
| Na | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl | 0.1 |
| Al (M) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.4 | 3.0 | 3.0 |
| Fe | 0.9 | 0.9 | 0.8 | 0.9 | 0.9 | 0.8 | 0.9 | 0.8 | 0.4 |
| Mg | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | bdl |
| Li | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.1 |
| F | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.2 |

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| Grossular of the sample HAS2 | | | | | | | | | | | | |
| Analysis point name | HAS2-5-1 | HAS2-5-2 | HAS2-5-3 | HAS2-5-4 | HAS2-5-5 | HAS2-5-6 | HAS2-5-7 | HAS2-5-8 | HAS2-5-9 | HAS2-5-10 | HAS2-5-11 | HAS2-5-12 |
| SiO2 | 38.08 | 37.84 | 37.88 | 38.07 | 38.30 | 38.19 | 37.43 | 38.25 | 38.05 | 38.04 | 36.49 | 38.30 |
| TiO2 | 0.06 | 0.07 | 0.06 | 0.13 | 0.08 | 0.07 | 0.67 | 0.06 | 0.06 | 0.04 | 0.21 | 0.09 |
| Al2O3 | 16.94 | 15.66 | 16.56 | 17.15 | 17.08 | 17.03 | 11.92 | 17.75 | 17.30 | 16.80 | 7.29 | 17.40 |
| FeO | 10.55 | 11.78 | 11.41 | 10.79 | 10.86 | 10.61 | 13.21 | 10.67 | 10.52 | 10.64 | 18.24 | 10.47 |
| MgO | 0.21 | 0.16 | 0.16 | 0.21 | 0.18 | 0.19 | 0.03 | 0.19 | 0.19 | 0.19 | 0.06 | 0.19 |
| CaO | 28.55 | 29.65 | 28.66 | 28.60 | 28.06 | 28.51 | 32.56 | 27.96 | 28.17 | 28.41 | 32.06 | 27.71 |
| K2O | 0.02 | 0.03 | bdl | 0.02 | 0.02 | bdl | 0.01 | 0.03 | 0.01 | 0.04 | 0.01 | bdl |
| Na2O | bdl | bdl | bdl | bdl | bdl | bdl | 0.03 | bdl | bdl | 0.03 | 0.05 | bdl |
| Cr2O3 | bdl | 0.02 | bdl | 0.03 | bdl | bdl | 0.04 | bdl | bdl | bdl | 0.01 | bdl |
| MnO | 4.54 | 3.71 | 4.34 | 4.57 | 4.78 | 4.62 | 2.12 | 4.85 | 4.75 | 4.46 | 1.74 | 4.87 |
| SnO2 | 0.12 | 0.29 | 0.13 | 0.17 | 0.11 | 0.15 | 0.38 | 0.10 | 0.12 | 0.12 | 0.88 | 0.12 |
| Total | 99.07 | 99.20 | 99.20 | 99.74 | 99.47 | 99.37 | 98.40 | 99.87 | 99.17 | 98.78 | 97.04 | 99.15 |

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| Grossular of the sample HAS2 | | | | | | | | | | | | | | |
| Analysis point name | HAS2-5-13 | HAS2-5-14 | HAS2-6-1 | HAS2-6-2 | HAS2-6-3 | HAS2-6-4 | HAS2-6-5 | HAS2-6-6 | HAS2-6-7 | HAS2-6-8 | HAS2-6-9 | HAS2-6-10 | HAS2-6-11 |
| SiO2 | 39.32 | 38.06 | 39.07 | 38.06 | 37.97 | 39.10 | 37.87 | 38.16 | 38.17 | 38.38 | 37.99 | 39.18 | 36.54 |
| TiO2 | 0.47 | 0.07 | 1.13 | 0.05 | 0.04 | 0.58 | 0.08 | 0.08 | 0.04 | 0.09 | 0.03 | 0.78 | 0.26 |
| Al2O3 | 20.80 | 16.99 | 20.60 | 17.08 | 16.64 | 21.17 | 16.03 | 16.43 | 16.42 | 17.43 | 15.85 | 20.91 | 7.01 |
| FeO | 1.50 | 11.06 | 1.21 | 11.26 | 11.45 | 0.89 | 11.38 | 11.43 | 10.94 | 9.65 | 11.02 | 0.98 | 18.70 |
| MgO | 0.01 | 0.16 | 0.02 | 0.20 | 0.17 | 0.03 | 0.15 | 0.16 | 0.21 | 0.25 | 0.17 | 0.02 | 0.10 |
| CaO | 36.97 | 28.54 | 36.93 | 28.05 | 28.20 | 37.20 | 29.53 | 28.92 | 29.81 | 28.89 | 29.11 | 37.33 | 32.15 |
| K2O | 0.01 | 0.02 | bdl | 0.01 | bdl | bdl | 0.01 | 0.03 | 0.01 | bdl | 0.02 | bdl | bdl |
| Na2O | bdl | bdl | 0.04 | bdl | 0.04 | 0.05 | bdl | bdl | bdl | 0.02 | bdl | bdl | bdl |
| Cr2O3 | bdl | bdl | 0.01 | bdl | 0.01 | bdl | bdl | 0.01 | bdl | bdl | bdl | 0.06 | bdl |
| MnO | 0.09 | 4.46 | 0.15 | 4.69 | 4.60 | 0.08 | 4.06 | 4.36 | 4.05 | 4.45 | 4.15 | 0.12 | 1.86 |
| SnO2 | bdl | 0.15 | 0.01 | 0.15 | 0.17 | bdl | 0.20 | 0.14 | 0.25 | 0.12 | 0.17 | 0.01 | 0.79 |
| Total | 99.17 | 99.52 | 99.18 | 99.55 | 99.27 | 99.11 | 99.32 | 99.71 | 99.91 | 99.29 | 98.51 | 99.39 | 97.41 |

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| Almandine of the sample HGS1 | | | | | | | | | |
| Analysis point name | HGS1-2-1 | HGS1-2-2 | HGS1-2-3 | HGS1-2-4 | HGS1-2-5 | HGS1-2-6 | HGS1-2-7 | HGS1-2-8 | HGS1-2-9 |
| SiO2 | 38.37 | 37.70 | 37.69 | 37.53 | 37.64 | 37.53 | 37.43 | 37.25 | 37.30 |
| TiO2 | 0.08 | 0.08 | 0.08 | 0.07 | 0.11 | 0.09 | 0.08 | 0.10 | 0.10 |
| Al2O3 | 21.55 | 20.85 | 20.83 | 20.93 | 20.90 | 20.73 | 20.72 | 20.76 | 20.78 |
| FeO | 29.02 | 28.21 | 28.28 | 28.33 | 27.82 | 27.89 | 28.39 | 27.36 | 27.96 |
| MgO | 1.62 | 1.52 | 1.32 | 1.23 | 1.17 | 1.09 | 1.10 | 0.99 | 1.04 |
| CaO | 9.46 | 10.38 | 10.02 | 9.71 | 9.71 | 9.23 | 7.81 | 8.13 | 7.49 |
| K2O | 0.02 | bdl | 0.01 | 0.01 | bdl | bdl | bdl | 0.01 | 0.01 |
| Na2O | 0.03 | 0.05 | 0.04 | 0.06 | 0.03 | 0.03 | 0.01 | bdl | 0.01 |
| Cr2O3 | bdl | 0.01 | 0.03 | 0.01 | 0.02 | bdl | bdl | 0.03 | bdl |
| MnO | 0.34 | 0.50 | 0.91 | 1.27 | 1.99 | 2.59 | 3.88 | 4.56 | 4.45 |
| SnO2 | bdl | bdl | bdl | 0.02 | bdl | bdl | 0.02 | bdl | bdl |
| Total | 100.50 | 99.30 | 99.21 | 99.17 | 99.40 | 99.19 | 99.44 | 99.19 | 99.13 |

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| Almandine of the sample HGS1 | | | | | | | | | |
| Analysis point name | HGS1-2-10 | HGS1-2-11 | HGS1-2-12 | HGS1-2-13 | HGS1-2-14 | HGS1-2-15 | HGS1-2-16 | HGS1-2-17 | HGS1-2-18 |
| SiO2 | 37.73 | 37.72 | 37.57 | 37.65 | 37.60 | 37.55 | 37.66 | 37.63 | 37.88 |
| TiO2 | 0.09 | 0.09 | 0.07 | 0.06 | 0.07 | 0.10 | 0.09 | 0.09 | 0.09 |
| Al2O3 | 20.82 | 20.84 | 21.02 | 20.87 | 20.72 | 20.74 | 20.97 | 20.91 | 20.93 |
| FeO | 26.79 | 27.43 | 28.40 | 27.97 | 27.62 | 27.42 | 27.86 | 28.49 | 28.74 |
| MgO | 1.05 | 1.07 | 1.37 | 1.32 | 1.11 | 0.96 | 1.21 | 1.28 | 1.65 |
| CaO | 10.39 | 9.98 | 9.79 | 10.47 | 10.25 | 7.07 | 9.03 | 9.72 | 9.61 |
| K2O | 0.03 | bdl | bdl | bdl | bdl | bdl | bdl | bdl | bdl |
| Na2O | 0.05 | 0.01 | 0.03 | 0.05 | bdl | bdl | 0.07 | bdl | 0.05 |
| Cr2O3 | 0.01 | bdl | bdl | 0.03 | bdl | 0.02 | 0.02 | 0.01 | 0.01 |
| MnO | 2.59 | 2.16 | 0.98 | 0.74 | 1.93 | 5.87 | 2.79 | 1.26 | 0.42 |
| SnO2 | bdl | bdl | bdl | bdl | bdl | 0.02 | 0.01 | bdl | bdl |
| Total | 99.55 | 99.30 | 99.24 | 99.17 | 99.29 | 99.76 | 99.71 | 99.38 | 99.37 |

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| Cummingtonite of the sample HAS2 | | | | | | | | | | |
| Analysis point name | HAS2-4-1 | HAS2-4-2 | HAS2-4-3 | HAS2-4-4 | HAS2-4-5 | HAS2-4-6 | HAS2-4-7 | HAS2-4-8 | HAS2-4-9 | HAS2-4-10 |
| SiO2 | 36.14 | 29.82 | 32.83 | 29.29 | 30.14 | 29.47 | 30.65 | 28.75 | 28.70 | 29.46 |
| TiO2 | 0.04 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | bdl | 0.05 | 0.02 | 0.03 |
| Al2O3 | 13.28 | 14.64 | 14.26 | 14.52 | 15.12 | 15.28 | 15.53 | 16.86 | 16.93 | 15.54 |
| FeO | 14.66 | 21.36 | 20.62 | 21.47 | 21.04 | 20.25 | 22.19 | 19.84 | 20.43 | 19.99 |
| MgO | 10.81 | 16.42 | 15.53 | 18.39 | 17.85 | 19.04 | 15.75 | 17.79 | 16.67 | 19.26 |
| CaO | 0.21 | 0.24 | 0.49 | 0.07 | 0.16 | 0.08 | 0.24 | 0.05 | 0.12 | 0.06 |
| K2O | 4.26 | 0.27 | 1.08 | bdl | 0.01 | 0.04 | 0.60 | 0.02 | 0.01 | bdl |
| Na2O | 0.05 | 0.05 | bdl | 0.02 | 0.02 | 0.01 | 0.06 | 0.02 | 0.02 | 0.05 |
| Cr2O3 | bdl | bdl | 0.01 | 0.01 | bdl | 0.02 | bdl | bdl | 0.03 | 0.01 |
| MnO | 0.84 | 1.73 | 1.51 | 1.40 | 1.76 | 2.22 | 1.86 | 3.53 | 3.47 | 2.33 |
| SnO2 | 0.49 | 0.10 | 0.15 | 0.11 | 0.09 | 0.07 | 0.09 | 0.03 | 0.07 | 0.03 |
| Total | 80.77 | 84.64 | 86.51 | 85.30 | 86.21 | 86.51 | 86.97 | 86.94 | 86.47 | 86.76 |

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| Augite of the sample CSV1 | | | | | | | | | | |
| Analysis point name | CSV1-c4-1 | CSV1-c4-2 | CSV1-c4-3 | CSV1-c4-4 | CSV1-c4-5 | CSV1-c4-6 | CSV1-c4-7 | CSV1-c4-8 | CSV1-c4-9 | CSV1-c4-10 |
| SiO2 | 39.56 | 39.24 | 38.61 | 38.65 | 39.30 | 36.85 | 37.65 | 37.83 | 37.62 | 37.71 |
| TiO2 | 0.10 | 0.05 | 0.09 | 0.03 | 0.11 | 0.10 | 0.05 | 0.06 | 0.02 | 0.04 |
| Al2O3 | 9.76 | 8.66 | 10.31 | 10.47 | 11.60 | 10.62 | 10.55 | 10.74 | 10.66 | 10.50 |
| FeO | 31.20 | 33.21 | 32.36 | 30.97 | 28.16 | 32.75 | 32.77 | 31.97 | 32.64 | 32.79 |
| MgO | 2.05 | 0.88 | 1.08 | 2.16 | 2.68 | 0.68 | 0.75 | 1.38 | 0.86 | 0.82 |
| CaO | 10.63 | 11.06 | 10.98 | 10.39 | 8.80 | 11.01 | 11.18 | 10.75 | 11.07 | 11.13 |
| K2O | 1.58 | 1.77 | 1.70 | 1.91 | 2.96 | 2.41 | 2.08 | 1.98 | 2.15 | 1.96 |
| Na2O | 0.97 | 1.12 | 1.16 | 1.12 | 0.86 | 1.17 | 1.21 | 1.08 | 1.23 | 1.33 |
| MnO | 0.87 | 0.67 | 0.73 | 0.85 | 0.67 | 0.60 | 0.63 | 0.69 | 0.60 | 0.62 |
| SnO2 | 0.53 | 0.46 | 0.45 | 0.53 | 0.60 | 0.62 | 0.77 | 0.56 | 0.55 | 0.62 |
| Total | 97.25 | 97.12 | 97.47 | 97.07 | 95.74 | 96.81 | 97.64 | 97.03 | 97.40 | 97.52 |

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| Schorl of the sample GG3 | | | | | | | | |
| Analysis point name | GG3-c4-1 | GG3-c4-2 | GG3-c4-3 | GG3-c4-4 | GG3-c4-5 | GG3-c4-6 | GG3-c4-7 | GG3-c4-8 |
| B2O3 | 10.21 | 10.27 | 10.25 | 10.06 | 10.29 | 10.16 | 10.18 | 10.22 |
| SiO2 | 34.07 | 34.44 | 34.36 | 33.34 | 34.29 | 34.30 | 34.25 | 34.60 |
| TiO2 | 0.63 | 0.61 | 0.64 | 0.63 | 0.67 | 0.87 | 0.81 | 0.91 |
| Al2O3 | 32.75 | 32.84 | 32.39 | 32.08 | 32.61 | 30.80 | 31.02 | 31.41 |
| FeO | 16.24 | 16.17 | 16.67 | 16.67 | 17.05 | 17.85 | 17.83 | 16.80 |
| MgO | 0.52 | 0.56 | 0.59 | 0.54 | 0.54 | 0.71 | 0.83 | 0.90 |
| CaO | 0.10 | 0.12 | 0.13 | 0.12 | 0.10 | 0.03 | 0.06 | 0.09 |
| K2O | 0.04 | 0.07 | 0.05 | 0.08 | 0.08 | 0.07 | 0.08 | 0.07 |
| Na2O | 2.42 | 2.30 | 2.50 | 2.55 | 2.55 | 2.65 | 2.56 | 2.40 |
| BaO | 0.08 | 0.15 | 0.10 | 0.04 | 0.06 | 0.07 | 0.13 | 0.09 |
| MnO | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.20 | 0.24 | 0.17 |
| SnO2 | 0.04 | bdl | 0.07 | 0.09 | 0.01 | 0.09 | 0.08 | 0.04 |
| Cl | bdl | bdl | bdl | 0.01 | bdl | bdl | bdl | bdl |
| F | 1.01 | 1.05 | 1.07 | 1.07 | 1.05 | 1.13 | 1.15 | 1.21 |
| H2O | 3.04 | 3.04 | 3.03 | 2.96 | 3.05 | 2.97 | 2.97 | 2.95 |
| Total | 101.32 | 101.81 | 102.01 | 100.40 | 102.52 | 101.91 | 102.18 | 101.88 |

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| Schorl of the sample GG3 | | | | | | | | |
| Analysis point name | GG3-c4-9 | GG3-c4-10 | GG3-c4-11 | GG3-c4-12 | GG3-c4-13 | GG3-c4-14 | GG3-c4-15 | GG3-c4-16 |
| B2O3 | 10.26 | 10.26 | 10.20 | 10.24 | 10.30 | 10.21 | 10.18 | 10.22 |
| SiO2 | 34.31 | 34.37 | 34.40 | 35.15 | 35.26 | 34.90 | 34.61 | 34.94 |
| TiO2 | 0.76 | 0.85 | 0.79 | 0.01 | 0.16 | 0.06 | bdl | 0.01 |
| Al2O3 | 32.43 | 32.22 | 31.43 | 32.30 | 32.53 | 31.94 | 31.98 | 32.11 |
| FeO | 16.50 | 16.87 | 17.36 | 17.39 | 17.27 | 18.03 | 18.06 | 17.83 |
| MgO | 0.66 | 0.55 | 0.67 | 0.01 | 0.04 | 0.02 | 0.02 | 0.01 |
| CaO | 0.13 | 0.15 | 0.03 | 0.04 | 0.02 | 0.02 | 0.05 | 0.03 |
| K2O | 0.04 | 0.07 | 0.07 | 0.05 | 0.02 | 0.08 | 0.07 | 0.06 |
| Na2O | 2.49 | 2.42 | 2.62 | 2.27 | 2.33 | 2.34 | 2.40 | 2.33 |
| BaO | 0.08 | 0.07 | 0.06 | 0.05 | 0.07 | 0.08 | 0.14 | 0.07 |
| MnO | 0.16 | 0.19 | 0.16 | 0.11 | 0.14 | 0.16 | 0.17 | 0.14 |
| SnO2 | 0.04 | 0.17 | 0.05 | bdl | bdl | 0.03 | bdl | 0.03 |
| Cl | 0.01 | bdl | bdl | 0.01 | bdl | 0.01 | bdl | bdl |
| F | 1.15 | 1.11 | 1.03 | 1.17 | 1.18 | 1.18 | 1.19 | 1.15 |
| H2O | 2.99 | 3.01 | 3.03 | 2.98 | 2.99 | 2.96 | 2.95 | 2.98 |
| Total | 102.00 | 102.32 | 101.90 | 101.78 | 102.30 | 102.02 | 101.80 | 101.92 |

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| Foitite of the sample HAS1 | | | | | | |
| Analysis point name | HAS1-c4-1 | HAS1-c4-2 | HAS1-c4-3 | HAS1-c4-4 | HAS1-c4-5 | HAS1-c4-6 |
| B2O3 | 9.17 | 9.38 | 9.53 | 9.49 | 9.39 | 8.56 |
| SiO2 | 27.47 | 28.67 | 29.27 | 29.20 | 27.99 | 23.28 |
| TiO2 | 0.04 | 0.05 | 0.06 | 0.04 | 0.05 | 0.09 |
| Al2O3 | 18.17 | 19.38 | 20.22 | 19.44 | 19.41 | 19.40 |
| FeO | 29.64 | 27.94 | 27.24 | 28.25 | 28.65 | 38.26 |
| MgO | 11.24 | 10.96 | 10.82 | 10.98 | 11.66 | 4.25 |
| CaO | 0.15 | 0.12 | 0.12 | 0.11 | 0.09 | 0.05 |
| K2O | 0.51 | 0.81 | 1.08 | 1.00 | 0.58 | 0.28 |
| Na2O | 0.06 | 0.04 | 0.04 | 0.03 | 0.03 | bdl |
| BaO | 0.01 | 0.07 | 0.08 | 0.08 | 0.07 | 0.08 |
| MnO | 0.15 | 0.13 | 0.13 | 0.13 | 0.10 | 0.95 |
| SnO2 | 0.06 | bdl | 0.01 | 0.03 | bdl | 0.03 |
| Cl | 0.02 | 0.01 | bdl | bdl | 0.01 | 0.01 |
| F | 0.02 | 0.13 | 0.10 | bdl | bdl | bdl |
| H2O | 3.15 | 3.17 | 3.24 | 3.27 | 3.24 | 2.95 |
| Total | 99.86 | 100.86 | 101.93 | 102.05 | 101.27 | 98.18 |

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| Foitite of the sample HAS1 | | | | | | | |
| Analysis point name | HAS1-c4-7 | HAS1-c5-10 | HAS1-c5-11 | HAS1-c5-12 | HAS1-c5-13 | HAS1-c5-14 | HAS1-c5-15 |
| B2O3 | 9.39 | 9.22 | 9.41 | 9.38 | 9.21 | 9.58 | 8.67 |
| SiO2 | 27.75 | 26.70 | 28.34 | 28.05 | 26.65 | 29.87 | 22.85 |
| TiO2 | 0.03 | 0.03 | 0.04 | 0.02 | 0.02 | 0.05 | 0.05 |
| Al2O3 | 19.68 | 19.26 | 19.34 | 19.71 | 19.60 | 20.67 | 21.03 |
| FeO | 28.53 | 29.01 | 28.58 | 28.24 | 29.18 | 26.72 | 40.06 |
| MgO | 11.84 | 11.99 | 11.57 | 11.46 | 11.50 | 10.17 | 3.07 |
| CaO | 0.11 | 0.11 | 0.05 | 0.09 | 0.08 | 0.05 | 0.07 |
| K2O | 0.32 | 0.08 | 0.58 | 0.38 | 0.21 | 1.62 | 0.05 |
| Na2O | 0.02 | 0.08 | 0.02 | 0.02 | 0.03 | 0.01 | 0.03 |
| BaO | 0.07 | 0.05 | 0.05 | 0.12 | 0.06 | 0.06 | 0.07 |
| MnO | 0.13 | 0.08 | 0.12 | 0.10 | 0.06 | 0.11 | 1.15 |
| SnO2 | bdl | 0.05 | 0.01 | 0.02 | 0.04 | 0.01 | 0.02 |
| Cl | bdl | 0.02 | 0.01 | 0.02 | 0.03 | 0.02 | 0.01 |
| F | 0.02 | bdl | 0.02 | bdl | bdl | bdl | bdl |
| H2O | 3.23 | 3.18 | 3.24 | 3.23 | 3.18 | 3.30 | 3.00 |
| Total | 101.13 | 99.85 | 101.38 | 100.83 | 99.84 | 102.23 | 100.12 |

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| Schorl of the sample JG1 | | | | | | | | | | | | |
| Analysis point name | JG1-c3-1 | JG1-c3-2 | JG1-c3-3 | JG1-c3-4 | JG1-c3-5 | JG1-c3-6 | JG1-c3-7 | JG1-c3-8 | JG1-c3-9 | JG1-c3-10 | JG1-c3-11 | JG1-c3-12 |
| B2O3 | 10.19 | 10.09 | 10.33 | 10.10 | 10.37 | 10.45 | 10.15 | 10.22 | 9.97 | 10.26 | 10.33 | 10.38 |
| SiO2 | 34.75 | 34.53 | 35.08 | 34.74 | 35.36 | 35.92 | 34.82 | 35.10 | 34.26 | 35.49 | 35.57 | 35.79 |
| TiO2 | 0.07 | 0.02 | 0.02 | 0.03 | bdl | 0.06 | bdl | bdl | 0.02 | bdl | 0.04 | 0.03 |
| Al2O3 | 29.65 | 29.03 | 31.91 | 28.66 | 31.75 | 30.27 | 28.60 | 29.17 | 27.56 | 29.73 | 30.64 | 29.74 |
| FeO | 19.18 | 20.72 | 17.27 | 19.99 | 16.05 | 14.22 | 18.32 | 18.96 | 22.94 | 17.68 | 17.53 | 16.36 |
| MgO | 1.85 | 1.03 | 1.34 | 1.67 | 2.19 | 4.63 | 2.92 | 2.34 | 0.66 | 2.36 | 1.92 | 3.57 |
| CaO | 0.75 | 0.64 | 0.60 | 0.39 | 0.62 | 0.88 | 0.96 | 0.93 | 0.78 | 0.75 | 0.63 | 0.79 |
| K2O | 0.03 | 0.04 | 0.04 | 0.07 | 0.03 | 0.04 | 0.03 | 0.03 | 0.06 | 0.03 | 0.03 | 0.02 |
| Na2O | 2.02 | 2.21 | 1.92 | 2.42 | 1.90 | 2.13 | 2.13 | 1.97 | 2.19 | 1.99 | 2.05 | 2.23 |
| BaO | 0.03 | 0.12 | 0.08 | 0.15 | 0.09 | 0.05 | 0.08 | 0.04 | 0.13 | 0.05 | 0.03 | 0.11 |
| MnO | 0.09 | 0.09 | 0.10 | 0.11 | 0.08 | 0.07 | 0.08 | 0.09 | 0.14 | 0.06 | 0.08 | 0.05 |
| SnO2 | 0.05 | 0.20 | 0.08 | bdl | 0.07 | 0.10 | 0.10 | 0.09 | 0.08 | 0.06 | 0.05 | 0.09 |
| Cl | 0.02 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 |
| F | 0.19 | 0.01 | 0.04 | 0.44 | 0.03 | 0.35 | 0.22 | 0.24 | 0.22 | 0.25 | 0.08 | 0.27 |
| H2O | 3.43 | 3.48 | 3.55 | 3.27 | 3.56 | 3.44 | 3.40 | 3.41 | 3.34 | 3.42 | 3.53 | 3.45 |
| Total | 102.29 | 102.22 | 102.37 | 102.04 | 102.11 | 102.63 | 101.82 | 102.63 | 102.36 | 102.13 | 102.52 | 102.90 |

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| Schorl of the sample JG1 | | | | | | | | | | | | |
| Analysis point name | JG1-c3-13 | JG1-c4-1 | JG1-c4-2 | JG1-c4-3 | JG1-c4-4 | JG1-c4-5 | JG1-c4-6 | JG1-c4-7 | JG1-c4-8 | JG1-c4-9 | JG1-c4-10 | JG1-c4-11 |
| B2O3 | 10.35 | 10.44 | 9.83 | 10.43 | 10.52 | 10.41 | 10.28 | 9.89 | 10.49 | 10.51 | 10.59 | 10.17 |
| SiO2 | 35.70 | 35.65 | 33.00 | 35.51 | 35.71 | 35.59 | 34.92 | 33.93 | 35.69 | 35.88 | 36.32 | 34.82 |
| TiO2 | 0.01 | 0.33 | 0.52 | 0.30 | 0.53 | 0.12 | 0.19 | 0.07 | 0.40 | 0.35 | 0.15 | 0.21 |
| Al2O3 | 30.19 | 30.64 | 25.06 | 29.89 | 31.18 | 31.33 | 30.70 | 26.24 | 31.02 | 30.93 | 31.56 | 28.79 |
| FeO | 17.11 | 13.96 | 23.11 | 13.04 | 12.82 | 15.60 | 14.43 | 21.56 | 13.28 | 12.71 | 11.63 | 18.83 |
| MgO | 2.65 | 4.44 | 3.25 | 5.57 | 4.75 | 2.87 | 3.68 | 2.36 | 4.59 | 5.03 | 5.31 | 2.44 |
| CaO | 0.66 | 0.91 | 0.97 | 1.27 | 0.94 | 0.42 | 0.66 | 1.43 | 1.11 | 0.96 | 0.81 | 0.98 |
| K2O | 0.05 | 0.01 | 0.04 | 0.03 | 0.03 | 0.03 | 0.02 | 0.03 | 0.02 | 0.01 | 0.02 | 0.03 |
| Na2O | 2.14 | 1.99 | 2.22 | 2.04 | 2.05 | 2.13 | 2.24 | 1.84 | 1.89 | 2.08 | 2.13 | 2.05 |
| BaO | 0.08 | 0.05 | 0.08 | 0.10 | 0.09 | 0.14 | 0.08 | 0.12 | 0.08 | 0.07 | 0.12 | 0.12 |
| MnO | 0.10 | 0.05 | 0.11 | 0.08 | 0.06 | 0.05 | 0.07 | 0.10 | 0.06 | 0.05 | 0.06 | 0.07 |
| SnO2 | 0.12 | 0.02 | 0.31 | 0.03 | 0.07 | 0.07 | 0.10 | 0.35 | 0.05 | 0.07 | 0.02 | 0.13 |
| Cl | 0.01 | 0.01 | 0.01 | 0.01 | 0.03 | bdl | 0.02 | 0.03 | 0.02 | 0.01 | 0.01 | 0.02 |
| F | 0.21 | 0.27 | 0.22 | 0.63 | 0.24 | bdl | 0.21 | 0.30 | 0.36 | 0.32 | 0.36 | 0.12 |
| H2O | 3.47 | 3.47 | 3.29 | 3.30 | 3.51 | 3.59 | 3.45 | 3.27 | 3.45 | 3.47 | 3.48 | 3.45 |
| Total | 102.85 | 102.25 | 102.01 | 102.23 | 102.53 | 102.35 | 101.05 | 101.52 | 102.50 | 102.44 | 102.57 | 102.22 |

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| Schorl of the sample JG1 | | | | | | | | | | | | |
| Analysis point name | JG1-c4-12 | JG1-c4-13 | JG1-c4-14 | JG1-c4-15 | JG1-c4-16 | JG1-c4-17 | JG1-c5-1 | JG1-c5-2 | JG1-c5-3 | JG1-c5-4 | JG1-c5-5 | JG1-c5-6 |
| B2O3 | 10.40 | 10.54 | 10.54 | 10.65 | 10.62 | 10.39 | 10.42 | 10.35 | 10.18 | 10.38 | 10.28 | 10.45 |
| SiO2 | 35.77 | 36.48 | 36.17 | 36.68 | 36.87 | 35.69 | 35.42 | 35.53 | 35.36 | 35.94 | 35.50 | 35.92 |
| TiO2 | 0.51 | 0.23 | 0.20 | 0.15 | 0.14 | 0.40 | 0.03 | 0.22 | 0.04 | 0.07 | 0.03 | 0.08 |
| Al2O3 | 29.24 | 31.36 | 31.37 | 32.20 | 32.44 | 29.74 | 32.83 | 29.37 | 28.13 | 28.47 | 29.32 | 30.68 |
| FeO | 14.27 | 14.12 | 13.29 | 11.98 | 13.38 | 15.37 | 17.75 | 16.87 | 19.47 | 16.11 | 18.77 | 15.88 |
| MgO | 4.87 | 3.59 | 4.36 | 4.65 | 3.34 | 3.95 | 0.46 | 3.48 | 2.48 | 4.81 | 2.16 | 3.31 |
| CaO | 1.18 | 0.31 | 0.85 | 0.50 | 0.23 | 0.97 | 0.38 | 1.08 | 0.44 | 1.00 | 0.70 | 0.51 |
| K2O | 0.04 | 0.02 | 0.05 | 0.03 | 0.02 | 0.04 | 0.04 | 0.01 | 0.04 | 0.02 | 0.02 | 0.03 |
| Na2O | 2.09 | 2.32 | 1.94 | 2.07 | 1.98 | 2.11 | 1.99 | 2.16 | 2.53 | 2.27 | 2.29 | 2.33 |
| BaO | 0.03 | 0.11 | 0.11 | 0.07 | 0.10 | 0.11 | 0.14 | 0.03 | 0.06 | 0.11 | 0.08 | 0.13 |
| MnO | 0.07 | 0.06 | 0.03 | 0.04 | 0.03 | 0.08 | 0.10 | 0.05 | 0.07 | 0.05 | 0.09 | 0.05 |
| SnO2 | 0.11 | 0.21 | 0.08 | 0.03 | 0.07 | 0.10 | 0.04 | bdl | 0.03 | 0.05 | 0.01 | 0.02 |
| Cl | 0.01 | 0.01 | 0.02 | 0.01 | bdl | 0.01 | bdl | 0.02 | bdl | 0.01 | 0.02 | bdl |
| F | 0.31 | bdl | 0.26 | 0.03 | bdl | 0.25 | 0.86 | 0.76 | 0.84 | 0.57 | 0.62 | 0.33 |
| H2O | 3.44 | 3.64 | 3.51 | 3.66 | 3.66 | 3.47 | 3.19 | 3.21 | 3.11 | 3.31 | 3.25 | 3.45 |
| Total | 102.32 | 103.00 | 102.78 | 102.74 | 102.89 | 102.68 | 103.63 | 103.15 | 102.78 | 103.16 | 103.14 | 103.17 |

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| Schorl of the sample JG1 | | | | | | | | | | | | | |
| Analysis point name | JG1-c5-7 | JG1-c5-8 | JG1-c5-9 | JG1-c5-10 | JG1-c5-11 | JG1-c5-12 | JG1-c5-13 | JG1-c5-14 | JG1-c5-15 | JG1-c5-16 | JG1-c5-17 | JG1-c5-18 | JG1-c5-19 | |
| B2O3 | 10.66 | 10.37 | 10.70 | 10.49 | 10.47 | 10.60 | 10.43 | 10.36 | 10.32 | 10.27 | 10.47 | 10.31 | 10.39 | |
| SiO2 | 36.53 | 35.94 | 36.89 | 36.22 | 36.27 | 36.61 | 36.03 | 35.74 | 35.81 | 35.50 | 36.49 | 36.00 | 35.91 | |
| TiO2 | 0.19 | 0.03 | 0.03 | 0.04 | 0.09 | 0.30 | 0.21 | 0.17 | 0.11 | 0.04 | 0.17 | 0.04 | 0.20 | |
| Al2O3 | 31.08 | 27.93 | 32.91 | 30.32 | 28.81 | 30.28 | 29.65 | 29.51 | 28.86 | 29.16 | 29.02 | 28.13 | 29.53 | |
| FeO | 11.58 | 15.16 | 12.10 | 15.15 | 14.52 | 11.70 | 15.01 | 15.67 | 17.97 | 19.13 | 14.89 | 17.67 | 16.46 | |
| MgO | 6.04 | 5.74 | 4.25 | 4.13 | 5.62 | 6.15 | 4.31 | 3.96 | 3.07 | 2.07 | 4.99 | 3.74 | 3.39 | |
| CaO | 0.85 | 1.34 | 0.25 | 0.73 | 1.14 | 0.99 | 0.84 | 0.83 | 0.81 | 0.64 | 0.88 | 0.71 | 0.98 | |
| K2O | 0.03 | 0.01 | 0.01 | 0.04 | 0.02 | 0.03 | 0.04 | 0.03 | 0.04 | 0.03 | 0.02 | 0.04 | 0.03 | |
| Na2O | 2.35 | 2.18 | 2.16 | 2.17 | 2.21 | 2.20 | 2.31 | 2.26 | 2.24 | 2.32 | 2.28 | 2.40 | 2.21 | |
| BaO | 0.14 | 0.14 | 0.07 | 0.04 | 0.08 | 0.06 | 0.09 | 0.07 | 0.07 | 0.05 | 0.09 | 0.03 | 0.04 | |
| MnO | 0.02 | 0.04 | 0.01 | 0.02 | 0.03 | 0.03 | 0.06 | 0.05 | 0.06 | 0.06 | 0.04 | 0.05 | 0.08 | |
| SnO2 | 0.02 | 0.06 | 0.07 | 0.04 | 0.05 | bdl | 0.07 | 0.03 | 0.02 | 0.01 | 0.11 | 0.04 | 0.02 | |
| Cl | 0.01 | 0.07 | bdl | 0.04 | 0.03 | 0.01 | 0.01 | 0.05 | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | |
| F | 0.54 | 0.55 | bdl | 0.24 | 0.50 | 0.55 | 0.65 | 0.62 | 0.49 | 0.45 | 0.46 | 0.67 | 0.78 | |
| H2O | 3.42 | 3.32 | 3.69 | 3.50 | 3.37 | 3.39 | 3.29 | 3.28 | 3.33 | 3.33 | 3.39 | 3.24 | 3.21 | |
| Total | 103.46 | 102.89 | 103.13 | 103.16 | 103.20 | 102.89 | 103.01 | 102.62 | 103.23 | 103.07 | 103.30 | 103.07 | 103.24 | |

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| Schorl of the sample JG2 | | | | | | | | | | | | |
| Analysis point name | JG2-c1-5 | JG2-c1-6 | JG2-c1-7 | JG2-c1-8 | JG2-c1-9 | JG2-c1-10 | JG2-c1-11 | JG2-c2-14 | JG2-c2-15 | JG2-c2-16 | JG2-c2-17 | JG2-c2-18 |
| B2O3 | 10.49 | 10.42 | 10.31 | 10.24 | 10.26 | 9.81 | 10.32 | 10.21 | 10.43 | 10.42 | 10.34 | 10.37 |
| SiO2 | 35.16 | 35.39 | 35.00 | 35.29 | 35.31 | 33.58 | 35.68 | 34.51 | 35.39 | 35.80 | 35.28 | 35.50 |
| TiO2 | bdl | bdl | bdl | bdl | bdl | 0.08 | 0.17 | 0.01 | bdl | 0.05 | bdl | bdl |
| Al2O3 | 35.34 | 33.42 | 31.84 | 30.18 | 29.43 | 27.71 | 30.46 | 32.47 | 33.76 | 32.49 | 32.99 | 31.43 |
| FeO | 15.32 | 16.42 | 17.99 | 19.14 | 18.21 | 17.00 | 17.91 | 18.54 | 17.27 | 17.80 | 17.73 | 17.04 |
| MgO | 0.09 | 0.80 | 0.91 | 1.06 | 2.42 | 3.11 | 1.63 | bdl | 0.04 | 0.36 | bdl | 1.78 |
| CaO | 0.06 | 0.37 | 0.53 | 0.57 | 0.71 | 0.74 | 0.47 | 0.01 | 0.30 | 0.05 | 0.02 | 0.60 |
| K2O | 0.03 | 0.02 | 0.06 | 0.03 | 0.02 | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.06 |
| Na2O | 2.01 | 1.68 | 1.95 | 2.18 | 2.33 | 2.40 | 2.15 | 1.93 | 1.73 | 2.31 | 1.98 | 2.01 |
| BaO | 0.14 | 0.07 | 0.15 | 0.15 | 0.12 | 0.09 | 0.07 | 0.10 | 0.03 | 0.08 | 0.08 | 0.03 |
| MnO | 0.06 | 0.07 | 0.08 | 0.06 | 0.06 | 0.08 | 0.05 | 0.04 | 0.05 | 0.03 | 0.04 | 0.05 |
| SnO2 | 0.07 | 0.04 | 0.05 | 0.01 | 0.01 | 0.09 | 0.02 | 0.12 | bdl | bdl | 0.08 | 0.03 |
| Cl | bdl | 0.05 | 0.02 | 0.03 | 0.02 | 0.02 | 0.01 | bdl | 0.01 | bdl | bdl | bdl |
| F | 0.47 | 0.65 | 0.43 | 0.39 | 0.27 | 0.19 | 0.41 | 0.25 | 0.21 | 0.68 | 0.46 | 0.52 |
| H2O | 3.40 | 3.29 | 3.35 | 3.35 | 3.41 | 3.29 | 3.37 | 3.40 | 3.50 | 3.27 | 3.35 | 3.33 |
| Total | 102.64 | 102.69 | 102.67 | 102.68 | 102.59 | 98.21 | 102.75 | 101.65 | 102.76 | 103.38 | 102.39 | 102.76 |

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| Schorl of the sample JG2 | | | | | | | | | | | | |
| Analysis point name | JG2-c2-19 | JG2-c3-17 | JG2-c3-18 | JG2-c5-2 | JG2-c5-3 | JG2-c5-4 | JG2-c5-5 | JG2-c5-6 | JG2-c5-7 | JG2-c5-8 | JG2-c5-9 | JG2-c5-10 |
| B2O3 | 10.31 | 10.24 | 10.36 | 10.52 | 10.39 | 10.35 | 10.39 | 10.41 | 10.29 | 10.47 | 10.45 | 10.37 |
| SiO2 | 35.49 | 35.41 | 35.54 | 36.03 | 35.40 | 35.28 | 35.77 | 35.88 | 35.06 | 35.75 | 35.40 | 35.58 |
| TiO2 | bdl | bdl | 0.02 | 0.23 | 0.03 | 0.05 | 0.03 | 0.03 | 0.01 | 0.01 | bdl | bdl |
| Al2O3 | 30.68 | 30.11 | 32.57 | 30.67 | 31.58 | 31.95 | 29.42 | 30.23 | 28.98 | 33.10 | 33.05 | 31.47 |
| FeO | 18.05 | 21.21 | 18.20 | 14.13 | 16.47 | 18.41 | 16.50 | 16.93 | 21.94 | 17.25 | 17.78 | 18.35 |
| MgO | 1.54 | 0.02 | 0.03 | 4.55 | 2.24 | 0.68 | 3.87 | 2.85 | 0.36 | 0.59 | 0.51 | 1.07 |
| CaO | 0.53 | 0.07 | 0.03 | 0.84 | 0.47 | 0.23 | 0.94 | 0.75 | 0.57 | 0.28 | 0.33 | 0.40 |
| K2O | 0.04 | 0.07 | 0.02 | 0.02 | 0.02 | 0.02 | 0.04 | 0.05 | 0.02 | 0.03 | 0.04 | 0.04 |
| Na2O | 2.19 | 2.48 | 1.96 | 2.15 | 2.12 | 2.05 | 2.26 | 2.25 | 2.34 | 1.92 | 1.97 | 2.02 |
| BaO | 0.05 | 0.05 | 0.07 | 0.03 | 0.11 | 0.11 | 0.08 | 0.15 | 0.14 | 0.08 | 0.07 | 0.12 |
| MnO | 0.04 | 0.07 | 0.14 | 0.07 | 0.05 | 0.08 | 0.05 | 0.06 | 0.09 | 0.07 | 0.10 | 0.06 |
| SnO2 | 0.03 | bdl | bdl | 0.01 | bdl | 0.02 | 0.02 | 0.05 | 0.06 | 0.02 | 0.02 | 0.02 |
| Cl | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | bdl | 0.02 | 0.02 | 0.02 | bdl | 0.01 | 0.01 |
| F | 0.55 | 0.81 | 0.62 | 0.59 | bdl | bdl | 0.45 | 0.45 | 0.33 | 0.49 | 0.23 | 0.34 |
| H2O | 3.30 | 3.15 | 3.28 | 3.35 | 3.58 | 3.57 | 3.37 | 3.39 | 3.39 | 3.38 | 3.49 | 3.42 |
| Total | 102.81 | 103.70 | 102.86 | 103.21 | 102.46 | 102.80 | 103.22 | 103.50 | 103.60 | 103.44 | 103.46 | 103.28 |