附表1 大港锂矿床白云母花岗岩云母族矿物EPMA分析结果

Extend table 1 Results of mica-group mineral EPMA dating for the muscovite granite in the Dagang Li deposit

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 样品编号 | 21DG-1-Mus-1 | 21DG-1-Mus-2 | 21DG-1-Mus-3 | 21DG-1-Mus-4 | 21DG-1-Mus-5 | 21DG-1-Mus-6 | 21DG-1-Mus-7 | 21DG-1-Mus-8 | 21DG-1-Mus-9 | 21DG-1-Mus-10 | 21DG-1-Mus-11 | 21DG-1-Mus-12 |
| TiO2 | 0.03 | bdl. | 0.05 | 0.02 | 0.05 | 0.07 | 0.00 | 0.04 | 0.03 | 0.06 | 0.13 | 0.11 |
| Cs2O | 0.06 | 0.01 | 0.04 | 0.02 | 0.02 | 0.01 | 0.30 | bdl. | 0.02 | 0.07 | bdl. | 0.01 |
| CaO | 0.01 | 0.03 | bdl. | bdl. | 0.01 | 0.03 | 0.02 | 0.01 | 0.01 | 0.04 | 0.02 | 0.02 |
| K2O | 10.90 | 10.54 | 10.63 | 10.97 | 10.89 | 10.81 | 10.98 | 10.71 | 10.55 | 10.70 | 10.95 | 10.39 |
| Cl | bdl. | 0.01 | bdl. | 0.01 | bdl. | bdl. | bdl. | bdl. | bdl. | bdl. | bdl. | 0.01 |
| MnO | 0.44 | 0.27 | 0.47 | 0.45 | 0.42 | 0.59 | 0.90 | 0.36 | 0.42 | 0.71 | 0.58 | 0.39 |
| FeO | 3.56 | 3.03 | 3.12 | 3.67 | 2.98 | 1.66 | 2.22 | 2.41 | 4.85 | 2.40 | 2.07 | 6.46 |
| F | 2.88 | 1.63 | 2.53 | 2.82 | 2.39 | 2.75 | 3.98 | 1.84 | 2.05 | 2.91 | 2.53 | 2.70 |
| Na2O | 0.32 | 0.60 | 0.57 | 0.32 | 0.39 | 0.52 | 0.28 | 0.58 | 0.52 | 0.53 | 0.38 | 0.56 |
| MgO | 0.03 | bdl. | 0.01 | bdl. | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.05 | 0.12 | 0.34 |
| Al2O3 | 30.72 | 32.81 | 32.07 | 31.17 | 32.20 | 32.29 | 28.58 | 33.23 | 30.70 | 31.16 | 32.02 | 29.84 |
| Rb2O | 0.59 | 0.55 | 0.70 | 0.61 | 0.61 | 0.55 | 0.93 | 0.52 | 0.65 | 0.73 | 0.56 | 0.65 |
| SiO2 | 45.19 | 44.85 | 45.27 | 44.74 | 44.70 | 45.65 | 46.76 | 45.27 | 44.18 | 45.64 | 45.44 | 44.08 |
| Total | 93.51 | 93.64 | 94.38 | 93.60 | 93.68 | 93.79 | 93.30 | 94.22 | 93.13 | 93.77 | 93.74 | 94.42 |
| Li2O\* | 3.40 | 3.30 | 3.42 | 3.27 | 3.26 | 3.53 | 3.86 | 3.42 | 3.11 | 3.53 | 3.47 | 3.08 |
| Li2O\*计算基于Tischendorf et al. (1997); bdl.-低于检测限 | | | | | | | | | | | | |
| 以24个阴离子为基准计算的阳离子数 | | | | | | | | | | | | |
| Si | 6.32 | 6.34 | 6.29 | 6.28 | 6.28 | 6.30 | 6.42 | 6.32 | 6.34 | 6.33 | 6.32 | 6.24 |
| AlIV | 1.68 | 1.66 | 1.71 | 1.72 | 1.72 | 1.70 | 1.58 | 1.68 | 1.66 | 1.67 | 1.68 | 1.76 |
| T-site | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| AlVI | 3.39 | 3.81 | 3.54 | 3.43 | 3.61 | 3.56 | 3.05 | 3.78 | 3.53 | 3.42 | 3.56 | 3.23 |
| Ti |  |  | 0.01 |  |  | 0.01 |  |  |  | 0.01 | 0.01 | 0.01 |
| Fe | 0.42 | 0.36 | 0.36 | 0.43 | 0.35 | 0.19 | 0.26 | 0.28 | 0.58 | 0.28 | 0.24 | 0.76 |
| Mn | 0.05 | 0.03 | 0.05 | 0.05 | 0.05 | 0.07 | 0.10 | 0.04 | 0.05 | 0.08 | 0.07 | 0.05 |
| Mg | 0.01 |  |  |  | 0.01 | 0.01 |  |  |  | 0.01 | 0.02 | 0.07 |
| Li | 1.91 | 1.88 | 1.91 | 1.85 | 1.84 | 1.96 | 2.13 | 1.92 | 1.79 | 1.97 | 1.94 | 1.76 |
| Y-site | 5.78 | 6.07 | 5.88 | 5.76 | 5.86 | 5.79 | 5.55 | 6.04 | 5.96 | 5.77 | 5.85 | 5.88 |
| Ca |  |  |  |  |  | 0.01 |  |  |  | 0.01 |  |  |
| Na | 0.09 | 0.16 | 0.15 | 0.09 | 0.10 | 0.14 | 0.08 | 0.16 | 0.15 | 0.14 | 0.10 | 0.15 |
| K | 1.95 | 1.90 | 1.88 | 1.96 | 1.95 | 1.90 | 1.92 | 1.91 | 1.93 | 1.89 | 1.94 | 1.88 |
| Rb | 0.05 | 0.05 | 0.06 | 0.05 | 0.05 | 0.05 | 0.08 | 0.05 | 0.06 | 0.07 | 0.05 | 0.06 |
| Cs | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| X-site | 2.09 | 2.12 | 2.10 | 2.11 | 2.11 | 2.10 | 2.10 | 2.11 | 2.14 | 2.11 | 2.10 | 2.10 |
| F | 1.27 | 0.73 | 1.11 | 1.25 | 1.06 | 1.20 | 1.73 | 0.81 | 0.93 | 1.28 | 1.11 | 1.21 |
| Cl | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| OH | 2.73 | 3.27 | 2.89 | 2.75 | 2.94 | 2.80 | 2.27 | 3.19 | 3.07 | 2.72 | 2.89 | 2.79 |
| Z-site | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |

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| 样品编号 | 22DG-2-Mus-4 | 22DG-2-Mus-5 | 22DG-2-Mus-6 | 22DG-2-Mus-7 | 22DG-2-Mus-8 | 22DG-2-Mus-9 | 22DG-2-Mus-1 | 22DG-2-Mus-2 | 22DG-2-Mus-3 | 22DG-3-Mus-1 | 22DG-3-Mus-2 | 22DG-3-Mus-3 |
| TiO2 | bdl. | 0.06 | bdl. | 0.03 | 0.00 | 0.23 | 0.03 | 0.04 | 0.02 | bdl. | 0.04 | bdl. |
| Cs2O | 0.12 | 0.19 | 0.18 | bdl. | 0.19 | 0.12 | 0.04 | 0.02 | 0.10 | 0.41 | 0.12 | 0.33 |
| CaO | 0.01 | 0.03 | 0.02 | bdl. | 0.02 | 0.01 | 0.02 | 0.01 | bdl. | bdl. | 0.01 | bdl. |
| K2O | 10.89 | 10.82 | 10.38 | 10.66 | 9.83 | 10.71 | 11.06 | 10.74 | 11.12 | 10.59 | 11.06 | 10.89 |
| Cl | 0.02 | 0.01 | 0.01 | bdl. | bdl. | bdl. | bdl. | 0.01 | bdl. | bdl. | 0.01 | 0.01 |
| MnO | 1.17 | 0.59 | 1.23 | 0.45 | 0.97 | 0.54 | 0.76 | 0.58 | 0.61 | 1.25 | 0.72 | 0.86 |
| FeO | 3.01 | 1.72 | 3.08 | 5.61 | 2.66 | 4.21 | 2.84 | 1.92 | 2.74 | 3.06 | 2.67 | 2.10 |
| F | 5.34 | 2.35 | 5.80 | 2.94 | 3.76 | 2.19 | 2.89 | 2.30 | 2.68 | 5.94 | 2.94 | 3.86 |
| Na2O | 0.28 | 0.42 | 0.36 | 0.58 | 0.29 | 0.33 | 0.40 | 0.50 | 0.34 | 0.22 | 0.40 | 0.24 |
| MgO | 0.02 | 0.02 | 0.02 | 0.00 | 0.03 | 0.55 | 0.01 | 0.01 | 0.02 | bdl. | bdl. | bdl. |
| Al2O3 | 24.10 | 32.51 | 23.75 | 30.55 | 27.57 | 30.43 | 31.32 | 32.33 | 31.82 | 23.48 | 29.96 | 28.31 |
| Rb2O | 1.33 | 0.55 | 1.42 | 0.71 | 1.08 | 0.65 | 0.71 | 0.62 | 0.70 | 1.63 | 0.73 | 1.01 |
| SiO2 | 47.95 | 44.83 | 48.80 | 44.64 | 47.77 | 45.13 | 45.50 | 45.10 | 45.71 | 48.88 | 46.08 | 47.28 |
| Total | 92.00 | 93.09 | 92.60 | 94.94 | 92.57 | 94.18 | 94.35 | 93.21 | 94.73 | 92.96 | 93.49 | 93.26 |
| Li2O\* | 4.20 | 3.30 | 4.44 | 3.24 | 4.15 | 3.38 | 3.49 | 3.38 | 3.55 | 4.47 | 3.66 | 4.01 |
| Li2O\*计算基于Tischendorf et al. (1997); bdl.-低于检测限 | | | | | | | | | | | | |
| 以24个阴离子为基准计算的阳离子数 | | | | | | | | | | | | |
| Si | 6.57 | 6.30 | 6.58 | 6.24 | 6.57 | 6.36 | 6.30 | 6.33 | 6.31 | 6.58 | 6.42 | 6.49 |
| AlIV | 1.43 | 1.70 | 1.42 | 1.76 | 1.43 | 1.64 | 1.70 | 1.67 | 1.69 | 1.42 | 1.58 | 1.51 |
| T-site | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| AlVI | 2.47 | 3.68 | 2.35 | 3.26 | 3.04 | 3.41 | 3.41 | 3.67 | 3.49 | 2.31 | 3.33 | 3.07 |
| Ti |  | 0.01 |  |  |  | 0.02 |  |  |  |  |  |  |
| Fe | 0.35 | 0.20 | 0.35 | 0.66 | 0.31 | 0.50 | 0.33 | 0.23 | 0.32 | 0.34 | 0.31 | 0.24 |
| Mn | 0.14 | 0.07 | 0.14 | 0.05 | 0.11 | 0.06 | 0.09 | 0.07 | 0.07 | 0.14 | 0.08 | 0.10 |
| Mg |  | 0.01 | 0.00 |  | 0.01 | 0.12 |  |  |  |  |  |  |
| Li | 2.32 | 1.86 | 2.41 | 1.82 | 2.29 | 1.92 | 1.94 | 1.90 | 1.97 | 2.42 | 2.05 | 2.21 |
| Y-site | 5.27 | 5.83 | 5.26 | 5.80 | 5.75 | 6.03 | 5.78 | 5.87 | 5.86 | 5.22 | 5.78 | 5.62 |
| Ca |  |  |  |  |  |  |  |  |  |  |  |  |
| Na | 0.08 | 0.11 | 0.10 | 0.16 | 0.08 | 0.09 | 0.11 | 0.14 | 0.09 | 0.06 | 0.11 | 0.06 |
| K | 1.91 | 1.94 | 1.79 | 1.90 | 1.72 | 1.92 | 1.95 | 1.92 | 1.96 | 1.82 | 1.96 | 1.91 |
| Rb | 0.12 | 0.05 | 0.12 | 0.06 | 0.10 | 0.06 | 0.06 | 0.06 | 0.06 | 0.14 | 0.07 | 0.09 |
| Cs | 0.01 | 0.01 | 0.01 |  | 0.01 | 0.01 |  |  | 0.01 | 0.02 | 0.01 | 0.02 |
| X-site | 2.11 | 2.12 | 2.02 | 2.12 | 1.91 | 2.08 | 2.13 | 2.12 | 2.12 | 2.04 | 2.15 | 2.08 |
| F | 2.32 | 1.04 | 2.47 | 1.30 | 1.63 | 0.98 | 1.27 | 1.02 | 1.17 | 2.53 | 1.29 | 1.67 |
| Cl | 0.01 | 0.00 | 0.00 |  |  |  |  |  |  |  |  |  |
| OH | 1.68 | 2.96 | 1.53 | 2.70 | 2.37 | 3.02 | 2.73 | 2.98 | 2.83 | 1.47 | 2.70 | 2.32 |
| Z-site | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |

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| 样品编号 | 22DG-3-Mus-4 | 22DG-3-Mus-5 | 22DG-1-Mus-1 | 22DG-1-Mus-2 | 22DG-1-Mus-3 | 22DG-1-Mus-4 | 22DG-1-Mus-5 | 22DG-1-Mus-6 | 22DG-1-Mus-7 |
| TiO2 | 0.03 | 0.03 | 0.07 | 0.09 | 0.05 | 0.02 | 0.06 | 0.09 | bdl. |
| Cs2O | 0.01 | 0.02 | bdl. | 0.01 | 0.04 | 0.07 | 0.01 | bdl. | 0.11 |
| CaO | 0.01 | 0.02 | bdl. | 0.01 | 0.05 | 0.03 | 0.01 | 0.01 | 0.01 |
| K2O | 10.59 | 11.06 | 10.77 | 10.71 | 10.81 | 10.06 | 10.63 | 11.07 | 10.89 |
| Cl | 0.02 | bdl. | bdl. | 0.01 | 0.01 | 0.01 | bdl. | 0.01 | bdl. |
| MnO | 0.52 | 0.59 | 0.67 | 0.74 | 0.72 | 0.50 | 0.44 | 0.58 | 1.04 |
| FeO | 2.95 | 1.98 | 1.97 | 2.14 | 2.01 | 3.69 | 5.72 | 1.81 | 2.55 |
| F | 2.47 | 2.33 | 2.48 | 2.73 | 2.60 | 2.42 | 2.95 | 2.48 | 4.67 |
| Na2O | 0.57 | 0.44 | 0.54 | 0.45 | 0.41 | 0.51 | 0.57 | 0.37 | 0.28 |
| MgO | bdl. | 0.01 | 0.03 | 0.02 | 0.01 | bdl. | bdl. | 0.02 | 0.01 |
| Al2O3 | 31.74 | 33.10 | 31.72 | 31.31 | 31.79 | 31.27 | 30.26 | 32.43 | 26.72 |
| Rb2O | 0.69 | 0.58 | 0.65 | 0.70 | 0.66 | 0.66 | 0.80 | 0.56 | 1.14 |
| SiO2 | 44.70 | 45.81 | 45.11 | 45.17 | 45.45 | 44.65 | 43.88 | 44.83 | 46.73 |
| Total | 93.25 | 94.99 | 92.96 | 92.94 | 93.50 | 92.86 | 94.08 | 93.20 | 92.18 |
| Li2O\* | 3.26 | 3.58 | 3.38 | 3.40 | 3.48 | 3.25 | 3.02 | 3.30 | 3.85 |
| Li2O\*计算基于Tischendorf et al. (1997); bdl.-低于检测限 | | | | | | | | | |
| 以24个阴离子为基准计算的阳离子数 | | | | | | | | | |
| Si | 6.30 | 6.30 | 6.34 | 6.33 | 6.33 | 6.32 | 6.21 | 6.28 | 6.45 |
| AlIV | 1.70 | 1.70 | 1.66 | 1.67 | 1.67 | 1.68 | 1.79 | 1.72 | 1.55 |
| T-site | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| AlVI | 3.57 | 3.66 | 3.58 | 3.50 | 3.55 | 3.54 | 3.26 | 3.64 | 2.80 |
| Ti |  |  | 0.01 | 0.01 |  |  | 0.01 | 0.01 |  |
| Fe | 0.35 | 0.23 | 0.23 | 0.25 | 0.23 | 0.44 | 0.68 | 0.21 | 0.29 |
| Mn | 0.06 | 0.07 | 0.08 | 0.09 | 0.08 | 0.06 | 0.05 | 0.07 | 0.12 |
| Mg | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Li | 1.85 | 1.98 | 1.91 | 1.91 | 1.95 | 1.85 | 1.72 | 1.86 | 2.14 |
| Y-site | 5.83 | 5.94 | 5.82 | 5.77 | 5.83 | 5.89 | 5.72 | 5.79 | 5.35 |
| Ca |  |  |  |  | 0.01 |  |  |  |  |
| Na | 0.15 | 0.12 | 0.15 | 0.12 | 0.11 | 0.14 | 0.16 | 0.10 | 0.07 |
| K | 1.90 | 1.94 | 1.93 | 1.91 | 1.92 | 1.82 | 1.92 | 1.98 | 1.92 |
| Rb | 0.06 | 0.05 | 0.06 | 0.06 | 0.06 | 0.06 | 0.07 | 0.05 | 0.10 |
| Cs | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| X-site | 2.12 | 2.11 | 2.13 | 2.10 | 2.10 | 2.02 | 2.15 | 2.13 | 2.10 |
| F | 1.10 | 1.01 | 1.10 | 1.21 | 1.15 | 1.08 | 1.32 | 1.10 | 2.04 |
| Cl | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| OH | 2.89 | 2.99 | 2.90 | 2.79 | 2.85 | 2.91 | 2.68 | 2.90 | 1.96 |
| Z-site | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |