

Hard Rock Mine Waste

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|-----------------|-----------------------------------|
| Art. ID | NIST-2780a |
| Unit | 50 g |
| Deliverydetails | No Dangerous Good /not restricted |

Description

This Standard Reference Material (SRM) is intended primarily for use in validation of chemical and instrumental methods of analysis used to determine elements in hard rock mine waste and materials of a similar matrix. It can be used to validate value assignment of in-house reference materials. NIST-2780a is composed of material collected from waste piles of abandoned mine sites in the mountains of central Colorado. A unit of NIST-2780a consists of approximately 50 g of material of which 90 % passes a 150 µm (No. 100) sieve. /// Sample value(s) - please ask for current certificate.

| Text/Information | Analyte/Parameter | CAS number | Concentration/Value | Unit | Method | Source |
|------------------|-------------------|-------------|---------------------|-------|--------|--------|
| Certified value | Aluminium (Al) | [7429-90-5] | 8,43 | % | | |
| Certified value | Barium (Ba) | [7440-39-3] | 0,093 | % | | |
| Certified value | Calcium (Ca) | [7440-70-2] | 0,247 | % | | |
| Certified value | Iron (Fe) | [7439-89-6] | 8,75 | % | | |
| Certified value | Lead (Pb) | [7439-92-1] | 0,665 | % | | |
| Certified value | Magnesium (Mg) | [7439-95-4] | 0,465 | % | | |
| Certified value | Potassium (K) | [7440-09-7] | 3,99 | % | | |
| Certified value | Silicon (Si) | [7440-21-3] | 24,1 | % | | |
| Certified value | Sodium (Na) | [7440-23-5] | 0,108 | % | | |
| Certified value | Sulfur (S) | [7704-34-9] | 8,85 | % | | |
| Certified value | Titanium (Ti) | [7440-32-6] | 0,643 | % | | |
| Certified value | Zinc (Zn) | [7440-66-6] | 0,102 | % | | |
| Certified value | Antimony (Sb) | [7440-36-0] | 18,3 | mg/kg | | |
| Certified value | Arsenic (As) | [7440-38-2] | 65,9 | mg/kg | | |
| Certified value | Cerium (Ce) | [7440-45-1] | 67,7 | mg/kg | | |
| Certified value | Cesium (Cs) | | 8,3 | mg/kg | | |
| Certified value | Chromium (Cr) | [7440-47-3] | 205 | mg/kg | | |
| Certified value | Cobalt (Co) | [7440-48-4] | 16,5 | mg/kg | | |
| Certified value | Copper (Cu) | [7440-50-8] | 240 | mg/kg | | |
| Certified value | Gold (Au) | [7440-57-5] | 6,6 | mg/kg | | |
| Certified value | Lanthanum (La) | [7439-91-0] | 34,4 | mg/kg | | |
| Certified value | Manganese (Mn) | [7439-96-5] | 490 | mg/kg | | |
| Certified value | Molybdenum (Mo) | [7439-98-7] | 25 | mg/kg | | |
| Certified value | Neodymium (Nd) | [7440-00-8] | 28,3 | mg/kg | | |
| Certified value | Nickel (Ni) | [7440-02-0] | 95 | mg/kg | | |
| Certified value | Phosphorus (P) | [7723-14-0] | 286 | mg/kg | | |

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|-----------------|--------------------------|--------------|------|-------|
| Certified value | Rubidium (Rb) | [7440-17-7] | 220 | mg/kg |
| Certified value | Samarium (Sm) | [7440-19-9] | 4,7 | mg/kg |
| Certified value | Scandium (Sc) | [7440-20-2] | 15,6 | mg/kg |
| Certified value | Silver (Ag) | [7440-22-4] | 72,5 | mg/kg |
| Certified value | Strontium (Sr) | [7440-24-6] | 121 | mg/kg |
| Certified value | Thorium (Th) | [7440-29-1] | 12 | mg/kg |
| Certified value | Uranium (U) | [7440-61-1] | 4 | mg/kg |
| Certified value | Vanadium (V) | [7440-62-2] | 152 | mg/kg |
| Certified value | Zirconium (Zr) | [7440-67-7] | 206 | mg/kg |
| Reference value | Beryllium (Be) | [7440-41-7] | 1,1 | mg/kg |
| Reference value | Bismuth (Bi) | [7440-69-9] | 45 | mg/kg |
| Reference value | Cadmium (Cd) | [7440-43-9] | 4,8 | mg/kg |
| Reference value | Dysprosium (Dy) | [7429-91-6] | 3,1 | mg/kg |
| Reference value | Erbium (Er) | [7440-52-0] | 2 | mg/kg |
| Reference value | Europium (Eu) | [7440-53-1] | 0,9 | mg/kg |
| Reference value | Gallium (Ga) | [7440-55-3] | 21 | mg/kg |
| Reference value | Gadolinium (Gd) | [7440-54-2] | 3,2 | mg/kg |
| Reference value | Hafnium (Hf) | [7440-58-6] | 5,5 | mg/kg |
| Reference value | Holmium (Ho) | [7440-60-0] | 0,7 | mg/kg |
| Reference value | Indium (In) | [7440-74-6] | 1,65 | mg/kg |
| Reference value | Lithium (Li) | [7439-93-2] | 14 | mg/kg |
| Reference value | Lutetium (Lu) | [7439-94-3] | 0,33 | mg/kg |
| Reference value | Niobium (Nb) | [7440-03-1] | 20 | mg/kg |
| Reference value | Praseodymium (Pr) | [7440-10-0] | 8 | mg/kg |
| Reference value | Tantalum (Ta) | [7440-25-7] | 1,2 | mg/kg |
| Reference value | Tellurium (Te) | [13494-80-9] | 22 | mg/kg |
| Reference value | Terbium (Tb) | [7440-27-9] | 0,5 | mg/kg |
| Reference value | Thallium (Tl) | [7440-28-0] | 5,5 | mg/kg |
| Reference value | Thulium (Tm) | [7440-30-4] | 0,31 | mg/kg |
| Reference value | Tin (Sn) | [7440-31-5] | 7,2 | mg/kg |
| Reference value | Tungsten (W) | [7440-33-7] | 17,4 | mg/kg |
| Reference value | Yttrium (Y) | [7440-65-5] | 18 | mg/kg |
| Reference value | Ytterbium (Yb) | [7440-64-4] | 2 | mg/kg |
| Reference value | Carbon (C) | [7440-44-0] | 0,19 | % |
| Reference value | Loss on ignition (950°C) | | 11,1 | % |