



# Analytical Report



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**Report ID:** AgReport- A14-04945

**Sample Name:** Wasatch

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### Analysis Methods

#### 1) FUS-MS-Na2O2 (Fusion-Inductively Coupled Plasma-Mass Spectrometry-Sodium Peroxide Oxidation)

A sample is oxidized with sodium peroxide through sintering at 650°C. The oxidized material is dissolved in aqueous nitric acid. ICP-MS is used to quantify various elements in the resulting solution.

#### 2) FUS-Na2O2 (Fusion-Inductively Coupled Plasma-Sodium Peroxide Oxidation)

A sample is oxidized with sodium peroxide through sintering at 650°C. The oxidized material is dissolved in aqueous nitric acid. ICP-OES is used to quantify various elements in the resulting solution.

	Test Value	Unit Symbol	Detection Limit	Analysis Method
Arsenic (As)	< 5	ppm	5	FUS-MS-Na2O2
Boron (B)	100	ppm	10	FUS-MS-Na2O2
Barium (Ba)	2,580	ppm	3	FUS-MS-Na2O2
Beryllium (Be)	< 4	ppm	4	FUS-MS-Na2O2
Bismuth (Bi)	< 2	ppm	2	FUS-MS-Na2O2
Cadmium (Cd)	< 2	ppm	2	FUS-MS-Na2O2
Cerium (Ce)	90.8	ppm	0.8	FUS-MS-Na2O2
Cobalt (Co)	2.8	ppm	0.2	FUS-MS-Na2O2
Chromium (Cr)	< 30	ppm	30	FUS-MS-Na2O2
Cesium (Cs)	8.2	ppm	0.1	FUS-MS-Na2O2
Copper (Cu)	17	ppm	2	FUS-MS-Na2O2
Dysprosium (Dy)	2.7	ppm	0.3	FUS-MS-Na2O2
Erbium (Er)	1.8	ppm	0.1	FUS-MS-Na2O2
Europium (Eu)	1.0	ppm	0.1	FUS-MS-Na2O2
Gallium (Ga)	15.6	ppm	0.2	FUS-MS-Na2O2
Gadolinium (Gd)	4.3	ppm	0.1	FUS-MS-Na2O2
Germanium (Ge)	3.2	ppm	0.7	FUS-MS-Na2O2
Hafnium (Hf)	< 10	ppm	10	FUS-MS-Na2O2
Holmium (Ho)	0.6	ppm	0.2	FUS-MS-Na2O2
Indium (In)	< 0.2	ppm	0.2	FUS-MS-Na2O2
Lanthanum (La)	58.8	ppm	0.4	FUS-MS-Na2O2
Lithium (Li)	34	ppm	3	FUS-MS-Na2O2
Manganese (Mn)	439	ppm	3	FUS-MS-Na2O2
Molybdenum (Mo)	2	ppm	1	FUS-MS-Na2O2
Niobium (Nb)	9.8	ppm	2.4	FUS-MS-Na2O2
Neodymium (Nd)	34.1	ppm	0.4	FUS-MS-Na2O2
Nickel (Ni)	< 10	ppm	10	FUS-MS-Na2O2
Lead (Pb)	53.9	ppm	0.8	FUS-MS-Na2O2
Praseodymium (Pr)	10.6	ppm	0.1	FUS-MS-Na2O2
Rubidium (Rb)	191.0	ppm	0.4	FUS-MS-Na2O2
Antimony (Sb)	< 2	ppm	2	FUS-MS-Na2O2
Selenium (Se)	1.9	ppm	0.8	FUS-MS-Na2O2
Samarium (Sm)	5.3	ppm	0.1	FUS-MS-Na2O2
Tin (Sn)	1.5	ppm	0.5	FUS-MS-Na2O2
Strontium (Sr)	279	ppm	3	FUS-MS-Na2O2
Tantalum (Ta)	1.0	ppm	0.2	FUS-MS-Na2O2
Terbium (Tb)	0.5	ppm	0.1	FUS-MS-Na2O2
Tellurium (Te)	< 6	ppm	6	FUS-MS-Na2O2
Thorium (Th)	20.6	ppm	0.1	FUS-MS-Na2O2
Thallium (Tl)	1.1	ppm	0.1	FUS-MS-Na2O2
Thulium (Tm)	0.3	ppm	0.1	FUS-MS-Na2O2
Uranium (U)	5.5	ppm	0.1	FUS-MS-Na2O2
Vanadium (V)	57	ppm	5	FUS-MS-Na2O2
Tungsten (W)	1.2	ppm	0.7	FUS-MS-Na2O2
Yttrium (Y)	15.3	ppm	0.1	FUS-MS-Na2O2
Ytterbium (Yb)	1.8	ppm	0.1	FUS-MS-Na2O2
Zinc (Zn)	90	ppm	30	FUS-MS-Na2O2
Aluminium (Al)	6.30	%	0.01	FUS-Na2O2
Calcium (Ca)	2.58	%	0.01	FUS-Na2O2
Iron (Fe)	1.52	%	0.05	FUS-Na2O2
Potassium (K)	4.1	%	0.1	FUS-Na2O2
Magnesium (Mg)	0.47	%	0.01	FUS-Na2O2
Phosphorus (P)	0.020	%	0.005	FUS-Na2O2
Sulfur (S)	0.14	%	0.01	FUS-Na2O2
Silicon (Si)	30.60	%	0.01	FUS-Na2O2
Titanium	0.15	%	0.01	FUS-Na2O2