



Bureau of Mining Regulation and Reclamation

Analyte List for Humidity Cell Tests Profile 1 and Profile III (Saturated Conditions Characterization Analytical Profile)

General Chemistry Parameters

Constituent/Parameter	Field Filter	Analytical Method ⁽¹⁾	Reporting Limit ⁽²⁾	Reporting Units
Acidity ⁽³⁾	No	SM2310B	1	mg/L
Alkalinity, Bicarbonate (as CaCO ₃) ⁽⁴⁾	No	SM2320B	1	mg/L
Alkalinity, Total (as CaCO ₃) ⁽⁴⁾	No	SM2320B	1	mg/L
Chloride	No	EPA 300.0	1	mg/L
Eh (Oxidation Reduction Potential, ORP)	No	ASTM D1498	0.1	mV
EC (Electrical Conductivity)	No	SM2510-B	0.01	μS/cm
Fluoride	No	EPA 300.0	0.1	mg/L
Nitrate + Nitrite (as N)	No	EPA 353.2	0.4	mg/L
Nitrogen, Total (as N)	No	EPA 351.2	0.4	mg/L
pH (± 0.1 SU)	No	SM4500-H ⁺ -B	0.1	SU
Phosphorus ⁽⁵⁾	No	EPA 200.7	0.5	mg/L
Sulfate	No	EPA 300.0	1.5	mg/L
Total Dissolved Solids	No	SM2540C	10	mg/L
Total Suspended Solids	No	SM2540D	5	mg/L
WAD Cyanide	No	EPA 4500-CN-I, E	0.01	mg/L

Dissolved Metals⁽⁶⁾

Constituent/Parameter	Field Filter	Analytical Method ⁽¹⁾	Reporting Limit ⁽²⁾	Reporting Units
Aluminum	Yes	EPA 200.7	0.05	mg/L
Antimony	Yes	EPA 200.8	0.003	mg/L
Arsenic	Yes	EPA 200.8	0.005	mg/L
Barium	Yes	EPA 200.7	0.02	mg/L
Beryllium	Yes	EPA 200.8	0.001	mg/L
Cadmium	Yes	EPA 200.8	0.001	mg/L
Calcium	Yes	EPA 200.7	2	mg/L
Chromium	Yes	EPA 200.7	0.005	mg/L
Copper	Yes	EPA 200.7	0.04	mg/L
Iron	Yes	EPA 200.7	0.1	mg/L
Lead	Yes	EPA 200.8	0.0025	mg/L
Magnesium	Yes	EPA 200.7	0.5	mg/L
Manganese	Yes	EPA 200.7	0.01	mg/L
Mercury	Yes	EPA 245.1	0.0002	mg/L
Potassium	Yes	EPA 200.7	1	mg/L
Selenium	Yes	EPA 200.8	0.005	mg/L
Silver	Yes	EPA 200.8	0.005	mg/L
Sodium	Yes	EPA 200.7	2	mg/L
Thallium	Yes	EPA 200.8	0.001	mg/L
Zinc	Yes	EPA 200.7	0.02	mg/L

Radiological

Constituent/Parameter	Field Filter	Analytical Method ⁽¹⁾	Reporting Limit ⁽²⁾	Reporting Units
Uranium ⁽⁷⁾	No	EPA 200.8	0.005	mg/L

Total Metals⁽⁸⁾

Constituent/Parameter	Field Filter	Analytical Method ⁽¹⁾	Reporting Limit ⁽²⁾	Reporting Units
Aluminum	No	EPA 200.7	0.05	mg/L
Antimony	No	EPA 200.8	0.003	mg/L
Arsenic	No	EPA 200.8	0.005	mg/L
Barium	No	EPA 200.7	0.02	mg/L
Beryllium	No	EPA 200.8	0.001	mg/L
Boron	No	EPA 200.7	0.1	mg/L
Cadmium	No	EPA 200.8	0.001	mg/L
Calcium	No	EPA 200.7	2	mg/L
Chromium	No	EPA 200.7	0.005	mg/L
Copper	No	EPA 200.7	0.04	mg/L
Iron	No	EPA 200.7	0.1	mg/L
Ferric Iron (Iron II) ⁽⁹⁾	No	SM3500-Fe B	0.1	mg/L
Ferrous Iron (Iron III) ⁽⁹⁾	No	HACH 8146	0.1	mg/L
Lead	No	EPA 200.8	0.0025	mg/L
Lithium	No	EPA 200.7	0.1	mg/L
Magnesium	No	EPA 200.7	0.5	mg/L
Manganese	No	EPA 200.7	0.01	mg/L
Mercury	No	EPA 245.1	0.0002	mg/L
Molybdenum	No	EPA 200.7	0.02	mg/L
Nickel	No	EPA 200.7	0.03	mg/L
Potassium	No	EPA 200.7	1	mg/L
Selenium	No	EPA 200.8	0.005	mg/L
Sodium	No	EPA 200.7	2	mg/L
Thallium	No	EPA 200.8	0.001	mg/L
Tin	No	EPA 200.7	5	mg/L
Vanadium	No	EPA 200.8	0.01	mg/L
Zinc	No	EPA 200.7	0.02	mg/L

Footnotes:

- (1) The provided list is the most common analytical methods used for the constituents. A full list of methods can be found in 40 CFR Part 136 Table 1B. Verify if the method is certified by the State of Nevada, Bureau of Safe Drinking Water, Lab Certification Program.
- (2) Samples requiring dilution may result in higher reporting limits for the respective parameter.
- (3) Acidity shall be analyzed when pH is less than or equal to 5 standard units (SU).
- (4) Alkalinity (Bicarbonate and Total) shall be analyzed when pH is greater than or equal to 4.5 SU.
- (5) Phosphorus is Part of Profile III and is not required as a part of Profile 1.
- (6) Dissolved metal samples shall be filtered with a 0.45 µm (micron) filter. Filters are to be used for one sample only, and filters cannot be used for multiple samples. Filtration conducted prior to shipment to the laboratory

shall be documented on the chain of custody. Filtration conducted at the laboratory shall be documented in the analytical report.

- (7) If uranium is greater than or equal to 0.03 mg/L, then the Division will require an analysis of the sample for Profile R, which can be found on the Division's website at: <https://ndep.nv.gov/land/mining>. Uranium is required for initial characterization and per the issued Water Pollution Control Permit.
- (8) Analysis for total metals is required in some instances. An example of when analysis for total metals is required includes, but is not limited to, sites which have conditions that have or may result in the formation of a saturated conditions (i.e. pit lake or pit lakes and flooded underground workings).
- (9) Iron speciation for Ferric and Ferrous iron is required if the pH is less than 5.0 SU or iron total is greater than 0.06 mg/L.

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