

# Water Sciences Laboratory

## Analyte/Protocol Price List

### 2024



**Nebraska  
Water Center**  
Daugherty Water for Food Global Institute

[Nebraska Water Center](http://Nebraska Water Center), a part of the  
[Robert B. Daugherty Water for Food Global Institute at the University of Nebraska](http://Robert B. Daugherty Water for Food Global Institute at the University of Nebraska)  
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## Standard Methods :: Solids

Protocol	Analyte	Reporting Limit	Protocol Cost	NU Cost (20% discount)
<p><b>Total Kjeldahl Nitrogen (TKN) (Solids)</b> Protocol ID: 02_07_02</p> <p><b>Sample Container:</b> 125 mL wide mouth amber glass bottle <b>Sample Size:</b> 50 gm <b>Preservation:</b> Frozen <b>Holding Time:</b> 60 Days <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>References:</b> Seal Analytical "EPA 111A Total Kjeldahl Nitrogen-N (copper catalyst) in Drinking, Ground, and Surface Waters, and Domestic and Industrial Wastes".  (1993), "EPA 351.2 Determination of Total Kjeldahl Nitrogen by Semi-Automated Colorimetry".</p>	<p>Gravametric Moisture (g/g) Total Kjeldahl Nitrogen</p>	<p>Pending 0.5 µg-N/g</p>	<p><b>\$28.90</b></p>	<p>\$23.12</p>
<p><b>Total Kjeldahl Phosphorus (TKP) (Solids)</b> Protocol ID: 02_08_02</p> <p><b>Sample Container:</b> 125 mL wide mouth amber glass bottle <b>Sample Size:</b> 50 gm <b>Preservation:</b> Frozen <b>Holding Time:</b> 60 Days <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>References:</b> (1974), "EPA 365.4 Phosphorous, Total (Colorimetric, Automated, Block Digester AA II)".  Seal Analytical (2009), "EPA 135A Total Phosphorus-P in Kjeldahl Digests of Drinking water, domestic and Industrial Wastes (copper catalyst Method)".</p>	<p>Gravametric Moisture (g/g) Total Kjeldahl P</p>	<p>Pending 0.5 µg-P/g</p>	<p><b>\$28.90</b></p>	<p>\$23.12</p>

Turnaround times are subject to existing sample queues    Reporting Limits are subject to verification

Protocol	Analyte	Reporting Limit	Protocol Cost	NU Cost (20% discount)
<p><b>Water Extractable Phosphate (Solids)</b>  <b>Protocol ID: 02_12_01</b></p> <p><b>Sample Container:</b> 125 mL wide mouth amber glass bottle  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Frozen  <b>Holding Time:</b> 60 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>References:</b>  (1993), "EPA 365.1 Determination of Phosphorus by Semi-Automated Colorimetry".   "Method developed internally at WSL",</p>	Phosphate-P	0.1 µg/g	\$14.40	\$11.52
<p><b>Bromide by Ion Selective Electrode (Solids)</b>  <b>Protocol ID: 03_06_02</b></p> <p><b>Sample Container:</b> Quart Size (or smaller) resealable plastic bag  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Frozen  <b>Holding Time:</b> 2 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>Reference:</b>  "EPA 9211 Potentiometric Determination of Bromide in Aqueous Samples with Ion-Selective Electrode".</p>	Bromide	Pending	\$11.60	\$9.28
<p><b>Soil Organic Carbon - Colorimetric</b>  <b>Protocol ID: 04_06_02</b></p> <p><b>Sample Container:</b> 125 mL wide mouth amber glass bottle  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Frozen  <b>Holding Time:</b> 60 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>Reference:</b>  Islam, K. R., &amp; Weil, R. R. (1998), "A rapid microwave digestion method for colorimetric measurement of soil organic carbon.", <i>Communications in Soil Science &amp; Plant Analysis</i> <b>29(15-16)</b>, 2269-2284.</p>	TOC	0.5 µg/g	\$23.10	\$18.48

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Protocol	Analyte	Reporting Limit	Protocol Cost	NU Cost (20% discount)
<p><b>Extractable Organic Carbon (DOC) (Solids)</b>  <b>Protocol ID: 05_01_02</b></p> <p><b>Sample Container:</b> 125 mL wide mouth amber glass bottle  <b>Sample Size:</b> 5 gm  <b>Preservation:</b> Add sulfuric acid to pH &lt; 2, Cool, &lt; 6°C  <b>Holding Time:</b> 28 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>Reference:</b>  "Standard Methods 5310 - Total Organic Carbon",</p>	DOC	0.1 µg C/g	\$23.10	\$18.48
<p><b>Extractable Organic Carbon using Cold Extraction (DOC) (Solids)</b>  <b>Protocol ID: 05_01_03</b></p> <p><b>Sample Container:</b> Quart Size (or smaller) resealable plastic bag  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Frozen  <b>Holding Time:</b> 28 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p>	DOC	0.5 µg C/g	\$23.10	\$18.48
<p><b>Gravimetric Moisture Content</b>  <b>Protocol ID: 07_02_08</b></p> <p><b>Sample Container:</b> 125 mL wide mouth amber glass bottle  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Pending  <b>Holding Time:</b> 60 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>References:</b>  A.E. Greenberg; L.S. Clesceri; A.D. Eaton, Eds.; American Public Health Association; American Water Works Association; Water Environment Federation (1992), "Standard Methods for the Examination of Water and Wastewater", <b>18th Edition</b>,</p> <p>Black, C. A. (1965), "Particle Fractionation and Particle-Size Analysis", <i>Methods of Soil Analysis</i> <b>1</b>, 1-770.</p>	Moisture Content	.001 g H2O/g soli	\$9.20	\$7.36

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Protocol	Analyte	Reporting Limit	Protocol Cost	NU Cost (20% discount)
<p><b>Nitrate and Ammonia in Soil (KCl Extraction) - Includes pH and Moisture Content</b>  <b>Protocol ID: 13_02_02</b></p> <p><b>Sample Container:</b> 125 mL wide mouth amber glass bottle  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Add sulfuric acid to pH &lt; 2, Cool, &lt; 6°C  <b>Holding Time:</b> 90 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>References:</b>            Spalding, RF, Kitchen L. (1988), "Spalding, Roy F., and Lisa A. Kitchen. "Nitrate in the intermediate vadose zone beneath irrigated cropland", <i>Groundwater Monitoring &amp; Remediation</i> <b>8</b>(2), 89-95.             (1993), "Nitrate-N movement in a fine-textured vadose zone", <i>Journal Soil Water Conservation</i> <b>48</b>(4), 350-354.</p>	<p><b>Moisture</b>  <b>NH4N</b>  <b>NO3N</b>  <b>pH</b></p>	<p>0.06 µg/g            0.09 µg/g</p>	<p><b>\$25.20</b></p>	<p>\$20.16</p>
<p><b>Particle Size of Soil</b>  <b>Protocol ID: 17_09_01</b></p> <p><b>Sample Container:</b> Quart Size (or smaller) resealable plastic bag  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Frozen  <b>Holding Time:</b> 30 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>References:</b>            Kettler, T. A.; Doran, J. W.; Gilbert, T. L. "Simplified method for soil particle-size determination to accompany soil-quality analyses", <i>Soil Science Society of America</i>             (2004), "ASTM D6913-0 0 Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis",             Black, C. A. (1965), "Particle Fractionation and Particle-Size Analysis", <i>Methods of Soil Analysis</i> <b>1</b>, 1-770.</p>	<p><b>Clay</b>  <b>Sand</b>  <b>Silt</b></p>	<p>1 %            0.3 %            1 %</p>	<p><b>\$11.60</b></p>	<p>\$9.28</p>

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Protocol	Analyte	Reporting Limit	Protocol Cost	NU Cost (20% discount)
<p><b>Anions - Inorganic (Solids)</b>  <b>Protocol ID: 22_01_02</b></p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>&amp;Add digestion charge of \$9.40/sample</p> </div> <p><b>Sample Container:</b> 125 mL polyethylene bottle  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Frozen  <b>Holding Time:</b> 30 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>Reference:</b>  (1993), "EPA 300 Determination of Inorganic Anions by Ion Chromatography".</p>	<p><b>Bromide</b>  <b>Chloride</b>  <b>Fluoride</b>  <b>Nitrate-N</b>  <b>Nitrite-N</b>  <b>Phosphate-P</b>  <b>Sulfate</b></p>	<p>0.2 µg/g  0.2 µg/g  0.2 µg/g  0.2 µg/g  0.2 µg/g  0.2 µg/g  0.2 µg/g</p>	<p><b>\$28.90&amp;</b></p>	<p>\$23.12&amp;</p>
<p><b>Chloride, Chlorate, and Chlorite (Solids)</b>  <b>Protocol ID: 22_02_02</b></p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> <p>&amp;Add digestion charge of \$9.40/sample</p> </div> <p><b>Sample Container:</b> 125 mL wide mouth amber glass bottle  <b>Sample Size:</b> 50 gm  <b>Preservation:</b> Frozen  <b>Holding Time:</b> 60 Days  <b>Estimated Turnaround Time:</b> 6-8 Weeks</p> <p><b>References:</b>  "EPA 325.2 Chloride (Colorimetric, Automated Ferricyanide AAll)".  (1993), "EPA 300 Determination of Inorganic Anions by Ion Chromatography".</p>	<p><b>Bromide</b>  <b>Chlorate</b>  <b>Chloride</b>  <b>Chlorite</b>  <b>Fluoride</b>  <b>Nitrate</b>  <b>Nitrite</b>  <b>Phosphate</b>  <b>Sulfate</b></p>	<p>0.5 µg/g  0.06 µg/g  1 µg/g  0.08 µg/g  0.5 µg/g  0.5 µg/g  0.5 µg/g  0.5 µg/g</p>	<p><b>\$23.10&amp;</b></p>	<p>\$18.48&amp;</p>