

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 150711

Grade 3-8-8

Statistical Summary

Analytes: 33

Labs Reporting: 88

Issue Date : 08/31/2015

| Analyte Code | Analyte | # Tests Submitted | # Tests in Robust Calculations | Raw Mean | Raw SD | Assigned Value Robust Mean | IA at Analyte Value | Robust sd | Robust Uncertainty (U) | Robust % RSD | IA %RSD | Average Range (R-bar) | Horwitz %RSD |
|--------------|--|-------------------|--------------------------------|----------|--------|----------------------------|---------------------|-----------|------------------------|--------------|---------|-----------------------|--------------|
| 001 | Ammoniacal Nitrogen (%) | 2 | 1 | 0.2300 | | | | | | | | | |
| 003 | Water Insoluble Nitrogen (%) | 1 | | 3.995 | | | | | | | | | |
| 010 | Total Nitrogen (3%) | 75 | 72 | 4.205 | 0.5207 | 4.299 | 0.4960 | 0.1060 | 0.0088 | 2.47% | 5.77% | 0.0529 | 3.21% |
| 020 | Total Phosphorus as P2O5 (%) | 46 | 45 | 12.04 | 0.9367 | 12.20 | | 0.3153 | 0.0332 | 2.59% | | 0.1489 | 2.75% |
| 030 | Citrate Insoluble Phosphorus as P2O5 (%) | 1 | | 2.360 | | | | | | | | | |
| 040 | Indirect Available Phosphorus as P2O5 (8%) | 3 | 3 | 9.360 | 3.013 | 9.360 | 0.6836 | 3.013 | 1.230 | 32.19% | 3.65% | 0.0400 | 2.86% |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 44 | 43 | 10.37 | 1.797 | 10.53 | 0.6900 | 1.469 | 0.1584 | 13.95% | 3.28% | 0.1047 | 2.81% |
| 048 | Water Soluble Phosphorus as P2O5 (%) | 3 | 3 | 0.4133 | 0.5085 | 0.4133 | | 0.5085 | 0.2076 | 123.01% | | 0.0000 | 4.57% |
| 050 | Soluble Potassium as K2O (8%) | 85 | 82 | 8.290 | 1.047 | 8.324 | 0.6162 | 0.4679 | 0.0365 | 5.62% | 3.70% | 0.1240 | 2.91% |
| 060 | Water (Free) (%) | 4 | 4 | 3.716 | 0.8899 | 3.716 | | 0.8899 | 0.3146 | 23.95% | | 0.0775 | 3.28% |
| 101 | Acid Soluble Calcium (%) | 15 | 15 | 11.75 | 0.5595 | 11.64 | | 0.4103 | 0.0749 | 3.52% | | 0.2752 | 2.76% |
| 121 | Acid Soluble Magnesium (3%) | 53 | 51 | 3.786 | 0.4234 | 3.738 | 0.3869 | 0.1995 | 0.0198 | 5.34% | 5.18% | 0.0826 | 3.28% |
| 131 | Water Soluble Magnesium (%) | 17 | 17 | 3.397 | 0.3759 | 3.387 | | 0.2312 | 0.0396 | 6.82% | | 0.1072 | 3.33% |
| 143 | Elemental Sulfur (%) | 3 | 3 | 7.927 | 0.4352 | 7.927 | | 0.4352 | 0.1777 | 5.49% | | 0.0933 | 2.93% |
| 148 | Total Sulfur (%) | 15 | 15 | 8.129 | 1.054 | 7.993 | | 0.6911 | 0.1262 | 8.65% | | 0.1541 | 2.93% |
| 151 | Acid Soluble Arsenic (ppm) | 7 | 5 | 0.4662 | 0.4109 | 0.4662 | | 0.4109 | 0.1299 | 88.14% | | 0.0357 | 17.94% |
| 165 | Acid Soluble Boron (%) | 3 | 3 | 0.0029 | 0.0019 | 0.0029 | | 0.0019 | 0.0008 | 63.97% | | 0.0010 | 9.63% |
| 171 | Water Soluble Boron (%) | 1 | | 0.0151 | | | | | | | | | |
| 181 | Acid Soluble Cadmium (ppm) | 7 | 4 | 0.5290 | 0.9309 | 0.5290 | | 0.9309 | 0.3291 | 175.98% | | 0.2616 | 17.61% |
| 190 | Water Soluble Chlorine (%) | 1 | | 0.4850 | | | | | | | | | |
| 191 | Acid Soluble Chromium (ppm) | 18 | 18 | 98.65 | 21.62 | 104.3 | | 10.99 | 1.831 | 10.54% | | 4.984 | 7.95% |
| 202 | Acid Soluble Cobalt (ppm) | 14 | 13 | 2.421 | 1.165 | 2.231 | | 0.4601 | 0.0902 | 20.63% | | 0.1670 | 14.18% |
| 221 | Acid Soluble Copper (%) | 22 | 18 | 0.0479 | 0.1989 | 0.0009 | | 0.0005 | 0.0001 | 57.34% | | 0.0019 | 11.54% |
| 241 | Acid Soluble Iron (%) | 17 | 16 | 0.0658 | 0.0151 | 0.0679 | | 0.0117 | 0.0021 | 17.27% | | 0.0028 | 6.00% |
| 251 | Acid Soluble Lead (ppm) | 6 | 4 | 13.92 | 27.25 | 13.92 | | 27.25 | 9.635 | 195.72% | | 8.218 | 10.76% |
| 261 | Acid Soluble Manganese (%) | 10 | 10 | 0.0029 | 0.0003 | 0.0029 | | 0.0003 | 0.0001 | 10.21% | | 0.0002 | 9.65% |
| 281 | Acid Soluble Mercury (ppm) | 4 | 2 | 0.0313 | 0.0385 | 0.0313 | | 0.0385 | 0.0193 | 123.32% | | 0.0085 | 26.95% |
| 289 | Acid Soluble Molybdenum (ppm) | 14 | 13 | 8.626 | 1.560 | 8.798 | | 1.302 | 0.2553 | 14.80% | | 0.5209 | 11.53% |
| 291 | Acid Soluble Nickel (ppm) | 19 | 19 | 54.37 | 12.80 | 57.58 | | 5.413 | 0.8781 | 9.40% | | 2.587 | 8.69% |
| 301 | Acid Soluble Selenium (ppm) | 4 | 1 | 0.6356 | | 57.58 | | 5.413 | 3.827 | 9.40% | | 1.187 | 8.69% |
| 311 | Sodium (%) | 6 | 6 | 0.5189 | 0.0334 | 0.5238 | | 0.0264 | 0.0076 | 5.05% | | 0.0077 | 4.41% |

| Analyte Code | Analyte | # Tests Submitted | # Tests in Robust Calculations | Raw Mean | Raw SD | Assigned Value Robust Mean | IA at Analyte Value | Robust sd | Robust Uncertainty (U) | Robust % RSD | IA %RSD | Average Range (R-bar) | Horwitz %RSD |
|--------------|------------------------|-------------------|--------------------------------|----------|--------|----------------------------|---------------------|-----------|------------------------|--------------|---------|-----------------------|--------------|
| 321 | Acid Soluble Zinc (%) | 33 | 30 | 0.0392 | 0.1657 | 0.0072 | | 0.0019 | 0.0002 | 26.06% | | 0.0017 | 8.40% |
| 325 | Water Soluble Zinc (%) | 1 | | 0.0000 | | | | | | | | | |

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STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Analytes: 33

Sample # 150711

Lab Values

Labs Reporting: 88

Grade 3-8-8

Issue Date : 08/31/2015

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 001 | Ammoniacal Nitrogen (%) | 0096 | 0.2300 | 0.0200 | 0.0010 | 0.0006 | 0.0200 | 1 | 371.59 | 001.99 | 0 |
| 001 | Ammoniacal Nitrogen (%) | 0394 | 0.0000 | 0.0000 | 0.0010 | 0.0006 | 0.0200 | 1 | -1.62 | 001.99 | 4 |
| 003 | Water Insoluble Nitrogen (%) | 0027 | 3.995 | 0.0700 | | | 0.0700 | 1 | | | 0 |
| 010 | Total Nitrogen (3%) | 0394 | 0.4350* | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | -36.46 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0444 | 3.050* | 0.1400 | 4.299 | 0.1060 | 0.0529 | 72 | -11.78 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0510 | 3.320* | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | -9.24 | 010.11 | 0 |
| 010 | Total Nitrogen (3%) | 0500 | 3.385* | 0.0300 | 4.299 | 0.1060 | 0.0529 | 72 | -8.62 | 010.11 | 0 |
| 010 | Total Nitrogen (3%) | 0456 | 3.690* | 0.0600 | 4.299 | 0.1060 | 0.0529 | 72 | -5.75 | 010.11 | 0 |
| 010 | Total Nitrogen (3%) | 0037 | 3.895 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | -3.81 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0275 | 3.920 | 0.0800 | 4.299 | 0.1060 | 0.0529 | 72 | -3.58 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0354 | 4.069 | 0.0110 | 4.299 | 0.1060 | 0.0529 | 72 | -2.17 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0489 | 4.095 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | -1.92 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0291 | 4.125 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | -1.64 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0117 | 4.150 | 0.0200 | 4.299 | 0.1060 | 0.0529 | 72 | -1.41 | 010.12 | 0 |
| 010 | Total Nitrogen (3%) | 0487 | 4.150 | 0.1000 | 4.299 | 0.1060 | 0.0529 | 72 | -1.41 | 010.99 | 0 |
| 010 | Total Nitrogen (3%) | 0023 | 4.177 | 0.0043 | 4.299 | 0.1060 | 0.0529 | 72 | -1.15 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0493 | 4.200 | 0.1000 | 4.299 | 0.1060 | 0.0529 | 72 | -0.93 | 010.99 | 0 |
| 010 | Total Nitrogen (3%) | 0200 | 4.205 | 0.0900 | 4.299 | 0.1060 | 0.0529 | 72 | -0.89 | 010.11 | 0 |
| 010 | Total Nitrogen (3%) | 0422 | 4.213 | 0.0540 | 4.299 | 0.1060 | 0.0529 | 72 | -0.81 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0035 | 4.230 | 0.0200 | 4.299 | 0.1060 | 0.0529 | 72 | -0.65 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0233 | 4.232 | 0.1240 | 4.299 | 0.1060 | 0.0529 | 72 | -0.63 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0102 | 4.235 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | -0.60 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0040 | 4.250 | 0.1000 | 4.299 | 0.1060 | 0.0529 | 72 | -0.46 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0390 | 4.250 | 0.1400 | 4.299 | 0.1060 | 0.0529 | 72 | -0.46 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0025 | 4.260 | 0.1600 | 4.299 | 0.1060 | 0.0529 | 72 | -0.37 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0452 | 4.265 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | -0.32 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0090 | 4.270 | 0.0400 | 4.299 | 0.1060 | 0.0529 | 72 | -0.27 | 010.11 | 0 |
| 010 | Total Nitrogen (3%) | 0095 | 4.275 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | -0.23 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0034 | 4.280 | 0.0350 | 4.299 | 0.1060 | 0.0529 | 72 | -0.18 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0136 | 4.280 | 0.0400 | 4.299 | 0.1060 | 0.0529 | 72 | -0.18 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0405 | 4.280 | 0.0400 | 4.299 | 0.1060 | 0.0529 | 72 | -0.18 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0105 | 4.280 | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | -0.18 | 010.11 | 0 |
| 010 | Total Nitrogen (3%) | 0114 | 4.285 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | -0.13 | 010.11 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|---------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 010 | Total Nitrogen (3%) | 0234 | 4.285 | 0.0700 | 4.299 | 0.1060 | 0.0529 | 72 | -0.13 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0406 | 4.285 | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | -0.13 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0043 | 4.290 | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | -0.09 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0421 | 4.290 | 0.0200 | 4.299 | 0.1060 | 0.0529 | 72 | -0.09 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0443 | 4.290 | 0.0600 | 4.299 | 0.1060 | 0.0529 | 72 | -0.09 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0368 | 4.295 | 0.0954 | 4.299 | 0.1060 | 0.0529 | 72 | -0.04 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0177 | 4.297 | 0.0200 | 4.299 | 0.1060 | 0.0529 | 72 | -0.02 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0371 | 4.305 | 0.0500 | 4.299 | 0.1060 | 0.0529 | 72 | 0.06 | 010.11 | 0 |
| 010 | Total Nitrogen (3%) | 0018 | 4.310 | 0.0200 | 4.299 | 0.1060 | 0.0529 | 72 | 0.10 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0516 | 4.315 | 0.2100 | 4.299 | 0.1060 | 0.0529 | 72 | 0.15 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0220 | 4.320 | 0.0600 | 4.299 | 0.1060 | 0.0529 | 72 | 0.20 | 010.11 | 0 |
| 010 | Total Nitrogen (3%) | 0157 | 4.320 | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | 0.20 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0292 | 4.320 | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | 0.20 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0451 | 4.330 | 0.0220 | 4.299 | 0.1060 | 0.0529 | 72 | 0.29 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0185 | 4.335 | 0.0500 | 4.299 | 0.1060 | 0.0529 | 72 | 0.34 | 010.12 | 0 |
| 010 | Total Nitrogen (3%) | 0486 | 4.335 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | 0.34 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0105 | 4.345 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | 0.43 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0360 | 4.345 | 0.0700 | 4.299 | 0.1060 | 0.0529 | 72 | 0.43 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0377 | 4.345 | 0.0700 | 4.299 | 0.1060 | 0.0529 | 72 | 0.43 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0389 | 4.350 | 0.0400 | 4.299 | 0.1060 | 0.0529 | 72 | 0.48 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0494 | 4.350 | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | 0.48 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0482 | 4.360 | 0.0200 | 4.299 | 0.1060 | 0.0529 | 72 | 0.58 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0483 | 4.360 | 0.1000 | 4.299 | 0.1060 | 0.0529 | 72 | 0.58 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0231 | 4.365 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | 0.62 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0481 | 4.369 | 0.0573 | 4.299 | 0.1060 | 0.0529 | 72 | 0.66 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0307 | 4.369 | 0.0820 | 4.299 | 0.1060 | 0.0529 | 72 | 0.66 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0325 | 4.375 | 0.0300 | 4.299 | 0.1060 | 0.0529 | 72 | 0.72 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0324 | 4.380 | 0.1000 | 4.299 | 0.1060 | 0.0529 | 72 | 0.76 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0117 | 4.390 | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | 0.86 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0356 | 4.410 | 0.1200 | 4.299 | 0.1060 | 0.0529 | 72 | 1.05 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0230 | 4.415 | 0.0500 | 4.299 | 0.1060 | 0.0529 | 72 | 1.09 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0472 | 4.415 | 0.0100 | 4.299 | 0.1060 | 0.0529 | 72 | 1.09 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0096 | 4.420 | 0.0400 | 4.299 | 0.1060 | 0.0529 | 72 | 1.14 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0049 | 4.440 | 0.0400 | 4.299 | 0.1060 | 0.0529 | 72 | 1.33 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0073 | 4.445 | 0.0500 | 4.299 | 0.1060 | 0.0529 | 72 | 1.38 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0457 | 4.445 | 0.0500 | 4.299 | 0.1060 | 0.0529 | 72 | 1.38 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0007 | 4.450 | 0.1000 | 4.299 | 0.1060 | 0.0529 | 72 | 1.42 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0029 | 4.485 | 0.1310 | 4.299 | 0.1060 | 0.0529 | 72 | 1.75 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0055 | 4.490 | 0.0800 | 4.299 | 0.1060 | 0.0529 | 72 | 1.80 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0070 | 4.510 | 0.1800 | 4.299 | 0.1060 | 0.0529 | 72 | 1.99 | 010.60 | 0 |
| 010 | Total Nitrogen (3%) | 0506 | 4.575 | 0.1100 | 4.299 | 0.1060 | 0.0529 | 72 | 2.60 | 010.99 | 0 |
| 010 | Total Nitrogen (3%) | 0498 | 4.850 | 0.1000 | 4.299 | 0.1060 | 0.0529 | 72 | 5.20 | 010.12 | 0 |
| 010 | Total Nitrogen (3%) | 0162 | 3.801* | 0.2930 | 4.299 | 0.1060 | 0.0529 | 72 | -4.70 | 010.60 | 1 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 010 | Total Nitrogen (3%) | 0042 | 4.190 | 0.3800 | 4.299 | 0.1060 | 0.0529 | 72 | -1.03 | 010.60 | 1 |
| 010 | Total Nitrogen (3%) | 0131 | 11.97 | 0.0000 | 4.299 | 0.1060 | 0.0529 | 72 | 72.37 | 010.60 | 2 |
| 020 | Total Phosphorus as P2O5 (%) | 0457 | 8.865 | 0.3500 | 12.20 | 0.3153 | 0.1489 | 45 | -10.56 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0322 | 9.235 | 0.0500 | 12.20 | 0.3153 | 0.1489 | 45 | -9.39 | 020.10 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0510 | 10.24 | 0.0300 | 12.20 | 0.3153 | 0.1489 | 45 | -6.22 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0291 | 10.31 | 0.0100 | 12.20 | 0.3153 | 0.1489 | 45 | -6.00 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0023 | 10.66 | 0.0500 | 12.20 | 0.3153 | 0.1489 | 45 | -4.89 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0260 | 10.71 | 0.2400 | 12.20 | 0.3153 | 0.1489 | 45 | -4.71 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0472 | 11.84 | 0.0700 | 12.20 | 0.3153 | 0.1489 | 45 | -1.14 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0356 | 11.85 | 0.3400 | 12.20 | 0.3153 | 0.1489 | 45 | -1.10 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0368 | 11.86 | 0.0881 | 12.20 | 0.3153 | 0.1489 | 45 | -1.07 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0481 | 11.88 | 0.1700 | 12.20 | 0.3153 | 0.1489 | 45 | -1.02 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0324 | 11.90 | 0.0000 | 12.20 | 0.3153 | 0.1489 | 45 | -0.94 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0428 | 11.93 | 0.0328 | 12.20 | 0.3153 | 0.1489 | 45 | -0.85 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0096 | 12.04 | 0.0500 | 12.20 | 0.3153 | 0.1489 | 45 | -0.51 | 020.40 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0042 | 12.05 | 0.0800 | 12.20 | 0.3153 | 0.1489 | 45 | -0.46 | 020.40 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0292 | 12.13 | 0.0400 | 12.20 | 0.3153 | 0.1489 | 45 | -0.21 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0516 | 12.13 | 0.3800 | 12.20 | 0.3153 | 0.1489 | 45 | -0.21 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0405 | 12.14 | 0.0000 | 12.20 | 0.3153 | 0.1489 | 45 | -0.18 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0487 | 12.15 | 0.1000 | 12.20 | 0.3153 | 0.1489 | 45 | -0.14 | 020.99 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0234 | 12.16 | 0.2000 | 12.20 | 0.3153 | 0.1489 | 45 | -0.11 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0444 | 12.18 | 0.3600 | 12.20 | 0.3153 | 0.1489 | 45 | -0.05 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0500 | 12.20 | 0.0000 | 12.20 | 0.3153 | 0.1489 | 45 | 0.01 | 020.10 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0513 | 12.20 | 0.0800 | 12.20 | 0.3153 | 0.1489 | 45 | 0.01 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0157 | 12.20 | 0.2000 | 12.20 | 0.3153 | 0.1489 | 45 | 0.01 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0389 | 12.20 | 0.1400 | 12.20 | 0.3153 | 0.1489 | 45 | 0.01 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0027 | 12.24 | 0.0100 | 12.20 | 0.3153 | 0.1489 | 45 | 0.13 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0394 | 12.25 | 0.1000 | 12.20 | 0.3153 | 0.1489 | 45 | 0.17 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0489 | 12.25 | 0.1000 | 12.20 | 0.3153 | 0.1489 | 45 | 0.17 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0444 | 12.27 | 0.4300 | 12.20 | 0.3153 | 0.1489 | 45 | 0.22 | 020.10 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0035 | 12.28 | 0.0200 | 12.20 | 0.3153 | 0.1489 | 45 | 0.27 | 020.40 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0422 | 12.29 | 0.1950 | 12.20 | 0.3153 | 0.1489 | 45 | 0.31 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0136 | 12.30 | 0.0300 | 12.20 | 0.3153 | 0.1489 | 45 | 0.32 | 020.10 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0105 | 12.32 | 0.0500 | 12.20 | 0.3153 | 0.1489 | 45 | 0.38 | 020.40 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0231 | 12.35 | 0.0300 | 12.20 | 0.3153 | 0.1489 | 45 | 0.47 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0157 | 12.35 | 0.1000 | 12.20 | 0.3153 | 0.1489 | 45 | 0.49 | 020.10 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0406 | 12.39 | 0.1760 | 12.20 | 0.3153 | 0.1489 | 45 | 0.61 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0105 | 12.40 | 0.0100 | 12.20 | 0.3153 | 0.1489 | 45 | 0.63 | 020.10 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0090 | 12.48 | 0.1000 | 12.20 | 0.3153 | 0.1489 | 45 | 0.90 | 020.10 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0420 | 12.73 | 0.2300 | 12.20 | 0.3153 | 0.1489 | 45 | 1.68 | 020.20 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0482 | 12.80 | 0.2000 | 12.20 | 0.3153 | 0.1489 | 45 | 1.92 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0390 | 12.85 | 0.7000 | 12.20 | 0.3153 | 0.1489 | 45 | 2.08 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0506 | 12.95 | 0.1000 | 12.20 | 0.3153 | 0.1489 | 45 | 2.39 | 020.20 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|--|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 020 | Total Phosphorus as P2O5 (%) | 0307 | 12.98 | 0.3400 | 12.20 | 0.3153 | 0.1489 | 45 | 2.48 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0456 | 13.23 | 0.1500 | 12.20 | 0.3153 | 0.1489 | 45 | 3.27 | 020.40 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0483 | 13.43 | 0.0000 | 12.20 | 0.3153 | 0.1489 | 45 | 3.92 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0451 | 13.64 | 0.5700 | 12.20 | 0.3153 | 0.1489 | 45 | 4.57 | 020.50 | 0 |
| 020 | Total Phosphorus as P2O5 (%) | 0443 | 10.77 | 1.210 | 12.20 | 0.3153 | 0.1489 | 45 | -4.54 | 020.99 | 1 |
| 030 | Citrate Insoluble Phosphorus as P2O5 (%) | 0096 | 2.360 | 0.0200 | | | 0.0200 | 1 | | | 0 |
| 040 | Indirect Available Phosphorus as P2O5 (8%) | 0394 | 6.200* | 0.0000 | 9.360 | 3.013 | 0.0400 | 3 | -1.05 | 040.20 | 0 |
| 040 | Indirect Available Phosphorus as P2O5 (8%) | 0096 | 9.680 | 0.0400 | 9.360 | 3.013 | 0.0400 | 3 | 0.11 | 040.40 | 0 |
| 040 | Indirect Available Phosphorus as P2O5 (8%) | 0513 | 12.20 | 0.0800 | 9.360 | 3.013 | 0.0400 | 3 | 0.94 | 040.20 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0325 | 5.015* | 0.0100 | 10.53 | 1.469 | 0.1047 | 43 | -3.76 | 041.50 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0095 | 5.515* | 0.0300 | 10.53 | 1.469 | 0.1047 | 43 | -3.42 | 041.40 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0498 | 7.200* | 0.2000 | 10.53 | 1.469 | 0.1047 | 43 | -2.27 | 041.20 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0025 | 7.940* | 0.3800 | 10.53 | 1.469 | 0.1047 | 43 | -1.76 | 041.51 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0055 | 8.460* | 0.0000 | 10.53 | 1.469 | 0.1047 | 43 | -1.41 | 041.21 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0007 | 8.600* | 0.0000 | 10.53 | 1.469 | 0.1047 | 43 | -1.32 | 041.50 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0506 | 8.765* | 0.1300 | 10.53 | 1.469 | 0.1047 | 43 | -1.20 | 041.99 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0452 | 8.915* | 0.0100 | 10.53 | 1.469 | 0.1047 | 43 | -1.10 | 041.50 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0117 | 9.130* | 0.1400 | 10.53 | 1.469 | 0.1047 | 43 | -0.95 | 041.21 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0200 | 9.300* | 0.0800 | 10.53 | 1.469 | 0.1047 | 43 | -0.84 | 041.21 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0043 | 9.355* | 0.0700 | 10.53 | 1.469 | 0.1047 | 43 | -0.80 | 041.50 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0220 | 9.535* | 0.0900 | 10.53 | 1.469 | 0.1047 | 43 | -0.68 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0043 | 9.605* | 0.0900 | 10.53 | 1.469 | 0.1047 | 43 | -0.63 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0368 | 9.884 | 0.0853 | 10.53 | 1.469 | 0.1047 | 43 | -0.44 | 041.50 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0472 | 9.975 | 0.1100 | 10.53 | 1.469 | 0.1047 | 43 | -0.38 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0177 | 10.04 | 0.2067 | 10.53 | 1.469 | 0.1047 | 43 | -0.33 | 041.10 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0231 | 10.16 | 0.1000 | 10.53 | 1.469 | 0.1047 | 43 | -0.25 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0131 | 10.29 | 0.0000 | 10.53 | 1.469 | 0.1047 | 43 | -0.16 | 041.51 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0037 | 10.42 | 0.0600 | 10.53 | 1.469 | 0.1047 | 43 | -0.08 | 041.50 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0073 | 10.63 | 0.0500 | 10.53 | 1.469 | 0.1047 | 43 | 0.06 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0028 | 10.67 | 0.1100 | 10.53 | 1.469 | 0.1047 | 43 | 0.09 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0185 | 10.67 | 0.1000 | 10.53 | 1.469 | 0.1047 | 43 | 0.09 | 041.11 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0029 | 10.77 | 0.0100 | 10.53 | 1.469 | 0.1047 | 43 | 0.16 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0055 | 10.98 | 0.2100 | 10.53 | 1.469 | 0.1047 | 43 | 0.30 | 041.11 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0354 | 11.00 | 0.0890 | 10.53 | 1.469 | 0.1047 | 43 | 0.32 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0493 | 11.05 | 0.1000 | 10.53 | 1.469 | 0.1047 | 43 | 0.35 | 041.11 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0494 | 11.08 | 0.0700 | 10.53 | 1.469 | 0.1047 | 43 | 0.37 | 041.10 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0105 | 11.21 | 0.0600 | 10.53 | 1.469 | 0.1047 | 43 | 0.46 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0485 | 11.30 | 0.0500 | 10.53 | 1.469 | 0.1047 | 43 | 0.52 | 041.11 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0360 | 11.45 | 0.1800 | 10.53 | 1.469 | 0.1047 | 43 | 0.63 | 041.51 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0105 | 11.47 | 0.2500 | 10.53 | 1.469 | 0.1047 | 43 | 0.64 | 041.11 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0034 | 11.48 | 0.0440 | 10.53 | 1.469 | 0.1047 | 43 | 0.65 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0486 | 11.53 | 0.1500 | 10.53 | 1.469 | 0.1047 | 43 | 0.68 | 041.51 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0018 | 11.55 | 0.1000 | 10.53 | 1.469 | 0.1047 | 43 | 0.69 | 041.40 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|--|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0040 | 11.65 | 0.1000 | 10.53 | 1.469 | 0.1047 | 43 | 0.76 | 041.10 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0351 | 11.83 | 0.3389 | 10.53 | 1.469 | 0.1047 | 43 | 0.88 | 041.60 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0070 | 12.05 | 0.1000 | 10.53 | 1.469 | 0.1047 | 43 | 1.03 | 041.50 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0513 | 12.09 | 0.0300 | 10.53 | 1.469 | 0.1047 | 43 | 1.06 | 041.21 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0102 | 12.10 | 0.0000 | 10.53 | 1.469 | 0.1047 | 43 | 1.07 | 041.10 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0049 | 12.18 | 0.1700 | 10.53 | 1.469 | 0.1047 | 43 | 1.12 | 041.10 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0377 | 12.30 | 0.0000 | 10.53 | 1.469 | 0.1047 | 43 | 1.20 | 041.51 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0421 | 12.70 | 0.2000 | 10.53 | 1.469 | 0.1047 | 43 | 1.48 | 041.51 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0230 | 14.30 | 0.2000 | 10.53 | 1.469 | 0.1047 | 43 | 2.57 | 041.99 | 0 |
| 041 | Direct Available Phosphorus as P2O5 (8%) | 0177 | 10.06 | 0.4424 | 10.53 | 1.469 | 0.1047 | 43 | -0.32 | 041.60 | 1 |
| 048 | Water Soluble Phosphorus as P2O5 (%) | 0394 | 0.1000 | 0.0000 | 0.4133 | 0.5085 | 0.0000 | 3 | -0.62 | 048.20 | 0 |
| 048 | Water Soluble Phosphorus as P2O5 (%) | 0096 | 0.1400 | 0.0000 | 0.4133 | 0.5085 | 0.0000 | 3 | -0.54 | 048.40 | 0 |
| 048 | Water Soluble Phosphorus as P2O5 (%) | 0405 | 1.000 | 0.0000 | 0.4133 | 0.5085 | 0.0000 | 3 | 1.15 | 048.20 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0498 | 2.530* | 0.1000 | 8.324 | 0.4679 | 0.1240 | 82 | -12.38 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0322 | 4.945* | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | -7.22 | 050.10 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0049 | 6.510* | 0.2400 | 8.324 | 0.4679 | 0.1240 | 82 | -3.88 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0230 | 6.995* | 0.3300 | 8.324 | 0.4679 | 0.1240 | 82 | -2.84 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0405 | 7.120* | 0.1000 | 8.324 | 0.4679 | 0.1240 | 82 | -2.57 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0494 | 7.380* | 0.2800 | 8.324 | 0.4679 | 0.1240 | 82 | -2.02 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0489 | 7.510* | 0.0200 | 8.324 | 0.4679 | 0.1240 | 82 | -1.74 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0481 | 7.635* | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | -1.47 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0325 | 7.735 | 0.2300 | 8.324 | 0.4679 | 0.1240 | 82 | -1.26 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0231 | 7.785 | 0.1100 | 8.324 | 0.4679 | 0.1240 | 82 | -1.15 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0390 | 7.830 | 0.0000 | 8.324 | 0.4679 | 0.1240 | 82 | -1.06 | 050.50 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0114 | 7.880 | 0.0600 | 8.324 | 0.4679 | 0.1240 | 82 | -0.95 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0070 | 7.905 | 0.0700 | 8.324 | 0.4679 | 0.1240 | 82 | -0.90 | 050.51 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0472 | 7.915 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | -0.87 | 050.31 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0485 | 7.920 | 0.1400 | 8.324 | 0.4679 | 0.1240 | 82 | -0.86 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0096 | 7.925 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | -0.85 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0486 | 7.930 | 0.0800 | 8.324 | 0.4679 | 0.1240 | 82 | -0.84 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0035 | 7.935 | 0.0500 | 8.324 | 0.4679 | 0.1240 | 82 | -0.83 | 050.61 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0055 | 7.945 | 0.0700 | 8.324 | 0.4679 | 0.1240 | 82 | -0.81 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0025 | 7.950 | 0.1600 | 8.324 | 0.4679 | 0.1240 | 82 | -0.80 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0042 | 7.965 | 0.3900 | 8.324 | 0.4679 | 0.1240 | 82 | -0.77 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0354 | 8.026 | 0.0020 | 8.324 | 0.4679 | 0.1240 | 82 | -0.64 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0200 | 8.030 | 0.0000 | 8.324 | 0.4679 | 0.1240 | 82 | -0.63 | 050.60 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0516 | 8.050 | 0.4400 | 8.324 | 0.4679 | 0.1240 | 82 | -0.59 | 050.30 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0506 | 8.055 | 0.1500 | 8.324 | 0.4679 | 0.1240 | 82 | -0.58 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0157 | 8.075 | 0.0700 | 8.324 | 0.4679 | 0.1240 | 82 | -0.53 | 050.50 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0211 | 8.085 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | -0.51 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0500 | 8.125 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | -0.43 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0117 | 8.130 | 0.0800 | 8.324 | 0.4679 | 0.1240 | 82 | -0.41 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0368 | 8.132 | 0.0207 | 8.324 | 0.4679 | 0.1240 | 82 | -0.41 | 050.99 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|-------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 050 | Soluble Potassium as K2O (8%) | 0444 | 8.145 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | -0.38 | 050.50 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0105 | 8.165 | 0.1300 | 8.324 | 0.4679 | 0.1240 | 82 | -0.34 | 050.62 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0105 | 8.180 | 0.0200 | 8.324 | 0.4679 | 0.1240 | 82 | -0.31 | 050.60 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0394 | 8.200 | 0.0000 | 8.324 | 0.4679 | 0.1240 | 82 | -0.27 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0220 | 8.205 | 0.0100 | 8.324 | 0.4679 | 0.1240 | 82 | -0.25 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0055 | 8.255 | 0.0700 | 8.324 | 0.4679 | 0.1240 | 82 | -0.15 | 050.50 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0029 | 8.295 | 0.1700 | 8.324 | 0.4679 | 0.1240 | 82 | -0.06 | 050.62 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0420 | 8.298 | 0.1800 | 8.324 | 0.4679 | 0.1240 | 82 | -0.06 | 050.50 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0040 | 8.300 | 0.4000 | 8.324 | 0.4679 | 0.1240 | 82 | -0.05 | 050.30 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0456 | 8.300 | 0.0200 | 8.324 | 0.4679 | 0.1240 | 82 | -0.05 | 050.61 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0457 | 8.320 | 0.3200 | 8.324 | 0.4679 | 0.1240 | 82 | -0.01 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0513 | 8.330 | 0.0600 | 8.324 | 0.4679 | 0.1240 | 82 | 0.01 | 050.61 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0136 | 8.345 | 0.0100 | 8.324 | 0.4679 | 0.1240 | 82 | 0.04 | 050.30 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0482 | 8.350 | 0.0400 | 8.324 | 0.4679 | 0.1240 | 82 | 0.06 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0037 | 8.355 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | 0.07 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0034 | 8.368 | 0.0450 | 8.324 | 0.4679 | 0.1240 | 82 | 0.09 | 050.61 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0389 | 8.390 | 0.1000 | 8.324 | 0.4679 | 0.1240 | 82 | 0.14 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0131 | 8.425 | 0.0500 | 8.324 | 0.4679 | 0.1240 | 82 | 0.22 | 050.51 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0377 | 8.440 | 0.0600 | 8.324 | 0.4679 | 0.1240 | 82 | 0.25 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0043 | 8.445 | 0.0500 | 8.324 | 0.4679 | 0.1240 | 82 | 0.26 | 050.51 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0493 | 8.450 | 0.1000 | 8.324 | 0.4679 | 0.1240 | 82 | 0.27 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0027 | 8.488 | 0.2920 | 8.324 | 0.4679 | 0.1240 | 82 | 0.35 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0234 | 8.500 | 0.4000 | 8.324 | 0.4679 | 0.1240 | 82 | 0.38 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0185 | 8.515 | 0.1100 | 8.324 | 0.4679 | 0.1240 | 82 | 0.41 | 050.32 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0028 | 8.515 | 0.2700 | 8.324 | 0.4679 | 0.1240 | 82 | 0.41 | 050.62 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0095 | 8.515 | 0.5100 | 8.324 | 0.4679 | 0.1240 | 82 | 0.41 | 050.62 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0043 | 8.550 | 0.0400 | 8.324 | 0.4679 | 0.1240 | 82 | 0.48 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0371 | 8.565 | 0.0100 | 8.324 | 0.4679 | 0.1240 | 82 | 0.51 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0292 | 8.570 | 0.0400 | 8.324 | 0.4679 | 0.1240 | 82 | 0.53 | 050.50 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0291 | 8.595 | 0.0100 | 8.324 | 0.4679 | 0.1240 | 82 | 0.58 | 050.51 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0102 | 8.600 | 0.0000 | 8.324 | 0.4679 | 0.1240 | 82 | 0.59 | 050.00 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0018 | 8.605 | 0.2100 | 8.324 | 0.4679 | 0.1240 | 82 | 0.60 | 050.62 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0157 | 8.630 | 0.0600 | 8.324 | 0.4679 | 0.1240 | 82 | 0.65 | 050.30 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0483 | 8.645 | 0.1300 | 8.324 | 0.4679 | 0.1240 | 82 | 0.69 | 050.51 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0324 | 8.650 | 0.5000 | 8.324 | 0.4679 | 0.1240 | 82 | 0.70 | 050.50 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0444 | 8.670 | 0.1400 | 8.324 | 0.4679 | 0.1240 | 82 | 0.74 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0452 | 8.695 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | 0.79 | 050.51 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0421 | 8.750 | 0.3000 | 8.324 | 0.4679 | 0.1240 | 82 | 0.91 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0360 | 8.810 | 0.0400 | 8.324 | 0.4679 | 0.1240 | 82 | 1.04 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0177 | 8.835 | 0.1221 | 8.324 | 0.4679 | 0.1240 | 82 | 1.09 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0510 | 8.855 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | 1.13 | 050.60 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0422 | 8.965 | 0.2100 | 8.324 | 0.4679 | 0.1240 | 82 | 1.37 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0275 | 8.975 | 0.0300 | 8.324 | 0.4679 | 0.1240 | 82 | 1.39 | 050.99 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|-------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 050 | Soluble Potassium as K2O (8%) | 0307 | 8.996 | 0.0070 | 8.324 | 0.4679 | 0.1240 | 82 | 1.43 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0356 | 9.005 | 0.0500 | 8.324 | 0.4679 | 0.1240 | 82 | 1.46 | 050.30 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0023 | 9.205 | 0.0500 | 8.324 | 0.4679 | 0.1240 | 82 | 1.88 | 050.52 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0451 | 9.265 | 0.1500 | 8.324 | 0.4679 | 0.1240 | 82 | 2.01 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0260 | 9.515 | 0.0900 | 8.324 | 0.4679 | 0.1240 | 82 | 2.55 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0487 | 9.800 | 0.0000 | 8.324 | 0.4679 | 0.1240 | 82 | 3.15 | 050.99 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0406 | 10.49 | 0.6040 | 8.324 | 0.4679 | 0.1240 | 82 | 4.62 | 050.50 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0428 | 10.51 | 0.2625 | 8.324 | 0.4679 | 0.1240 | 82 | 4.68 | 050.30 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0007 | 12.00 | 0.2000 | 8.324 | 0.4679 | 0.1240 | 82 | 7.86 | 050.51 | 0 |
| 050 | Soluble Potassium as K2O (8%) | 0073 | 8.505 | 1.010 | 8.324 | 0.4679 | 0.1240 | 82 | 0.39 | 050.00 | 1 |
| 050 | Soluble Potassium as K2O (8%) | 0443 | 12.23 | 1.490 | 8.324 | 0.4679 | 0.1240 | 82 | 8.34 | 050.60 | 1 |
| 050 | Soluble Potassium as K2O (8%) | 0090 | 20.87 | 0.2000 | 8.324 | 0.4679 | 0.1240 | 82 | 26.81 | 050.00 | 2 |
| 060 | Water (Free) (%) | 0456 | 3.085 | 0.0500 | 3.716 | 0.8899 | 0.0775 | 4 | -0.71 | 060.00 | 0 |
| 060 | Water (Free) (%) | 0007 | 3.220 | 0.2000 | 3.716 | 0.8899 | 0.0775 | 4 | -0.56 | 060.00 | 0 |
| 060 | Water (Free) (%) | 0096 | 3.540 | 0.0000 | 3.716 | 0.8899 | 0.0775 | 4 | -0.20 | 060.00 | 0 |
| 060 | Water (Free) (%) | 0510 | 5.020 | 0.0600 | 3.716 | 0.8899 | 0.0775 | 4 | 1.47 | 060.99 | 0 |
| 101 | Acid Soluble Calcium (%) | 0389 | 11.11 | 0.1000 | 11.64 | 0.4103 | 0.2752 | 15 | -1.30 | 101.99 | 0 |
| 101 | Acid Soluble Calcium (%) | 0041 | 11.25 | 0.1000 | 11.64 | 0.4103 | 0.2752 | 15 | -0.96 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0354 | 11.29 | 0.1220 | 11.64 | 0.4103 | 0.2752 | 15 | -0.86 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0494 | 11.33 | 0.2791 | 11.64 | 0.4103 | 0.2752 | 15 | -0.76 | 101.33 | 0 |
| 101 | Acid Soluble Calcium (%) | 0472 | 11.36 | 0.0800 | 11.64 | 0.4103 | 0.2752 | 15 | -0.69 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0420 | 11.46 | 0.0200 | 11.64 | 0.4103 | 0.2752 | 15 | -0.45 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0096 | 11.50 | 0.2100 | 11.64 | 0.4103 | 0.2752 | 15 | -0.36 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0482 | 11.60 | 0.0000 | 11.64 | 0.4103 | 0.2752 | 15 | -0.11 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0102 | 11.72 | 0.0160 | 11.64 | 0.4103 | 0.2752 | 15 | 0.18 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0421 | 11.75 | 0.3000 | 11.64 | 0.4103 | 0.2752 | 15 | 0.26 | 101.33 | 0 |
| 101 | Acid Soluble Calcium (%) | 0390 | 11.75 | 0.7000 | 11.64 | 0.4103 | 0.2752 | 15 | 0.26 | 101.99 | 0 |
| 101 | Acid Soluble Calcium (%) | 0307 | 11.96 | 0.9310 | 11.64 | 0.4103 | 0.2752 | 15 | 0.76 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0035 | 12.50 | 0.8000 | 11.64 | 0.4103 | 0.2752 | 15 | 2.09 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0049 | 12.74 | 0.3700 | 11.64 | 0.4103 | 0.2752 | 15 | 2.66 | 101.30 | 0 |
| 101 | Acid Soluble Calcium (%) | 0483 | 12.95 | 0.1000 | 11.64 | 0.4103 | 0.2752 | 15 | 3.18 | 101.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0513 | 2.795* | 0.0700 | 3.738 | 0.1995 | 0.0826 | 51 | -4.73 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0291 | 3.265* | 0.0100 | 3.738 | 0.1995 | 0.0826 | 51 | -2.37 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0515 | 3.322* | 0.1170 | 3.738 | 0.1995 | 0.0826 | 51 | -2.09 | 121.33 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0394 | 3.330* | 0.0000 | 3.738 | 0.1995 | 0.0826 | 51 | -2.04 | 121.32 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0042 | 3.420 | 0.0200 | 3.738 | 0.1995 | 0.0826 | 51 | -1.59 | 121.99 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0433 | 3.429 | 0.0080 | 3.738 | 0.1995 | 0.0826 | 51 | -1.55 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0486 | 3.445 | 0.0300 | 3.738 | 0.1995 | 0.0826 | 51 | -1.47 | 121.33 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0029 | 3.458 | 0.3620 | 3.738 | 0.1995 | 0.0826 | 51 | -1.40 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0457 | 3.525 | 0.0700 | 3.738 | 0.1995 | 0.0826 | 51 | -1.07 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0096 | 3.575 | 0.1100 | 3.738 | 0.1995 | 0.0826 | 51 | -0.82 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0506 | 3.585 | 0.0300 | 3.738 | 0.1995 | 0.0826 | 51 | -0.77 | 121.99 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0444 | 3.600 | 0.0400 | 3.738 | 0.1995 | 0.0826 | 51 | -0.69 | 121.30 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|-----------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 121 | Acid Soluble Magnesium (3%) | 0043 | 3.610 | 0.0600 | 3.738 | 0.1995 | 0.0826 | 51 | -0.64 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0157 | 3.620 | 0.0000 | 3.738 | 0.1995 | 0.0826 | 51 | -0.59 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0157 | 3.620 | 0.0200 | 3.738 | 0.1995 | 0.0826 | 51 | -0.59 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0136 | 3.660 | 0.0400 | 3.738 | 0.1995 | 0.0826 | 51 | -0.39 | 121.03 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0389 | 3.665 | 0.0300 | 3.738 | 0.1995 | 0.0826 | 51 | -0.36 | 121.99 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0368 | 3.668 | 0.0196 | 3.738 | 0.1995 | 0.0826 | 51 | -0.35 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0095 | 3.670 | 0.1000 | 3.738 | 0.1995 | 0.0826 | 51 | -0.34 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0090 | 3.675 | 0.0300 | 3.738 | 0.1995 | 0.0826 | 51 | -0.31 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0360 | 3.675 | 0.0700 | 3.738 | 0.1995 | 0.0826 | 51 | -0.31 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0117 | 3.685 | 0.0700 | 3.738 | 0.1995 | 0.0826 | 51 | -0.26 | 121.33 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0421 | 3.700 | 0.2000 | 3.738 | 0.1995 | 0.0826 | 51 | -0.19 | 121.33 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0482 | 3.710 | 0.0000 | 3.738 | 0.1995 | 0.0826 | 51 | -0.14 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0230 | 3.730 | 0.1400 | 3.738 | 0.1995 | 0.0826 | 51 | -0.04 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0516 | 3.742 | 0.2012 | 3.738 | 0.1995 | 0.0826 | 51 | 0.02 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0023 | 3.755 | 0.0170 | 3.738 | 0.1995 | 0.0826 | 51 | 0.08 | 121.33 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0354 | 3.757 | 0.1090 | 3.738 | 0.1995 | 0.0826 | 51 | 0.09 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0041 | 3.765 | 0.3500 | 3.738 | 0.1995 | 0.0826 | 51 | 0.14 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0040 | 3.785 | 0.0900 | 3.738 | 0.1995 | 0.0826 | 51 | 0.24 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0102 | 3.795 | 0.0000 | 3.738 | 0.1995 | 0.0826 | 51 | 0.29 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0512 | 3.795 | 0.0900 | 3.738 | 0.1995 | 0.0826 | 51 | 0.29 | 121.99 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0105 | 3.800 | 0.2800 | 3.738 | 0.1995 | 0.0826 | 51 | 0.31 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0220 | 3.805 | 0.0500 | 3.738 | 0.1995 | 0.0826 | 51 | 0.34 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0114 | 3.810 | 0.0200 | 3.738 | 0.1995 | 0.0826 | 51 | 0.36 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0055 | 3.825 | 0.0100 | 3.738 | 0.1995 | 0.0826 | 51 | 0.44 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0420 | 3.829 | 0.0172 | 3.738 | 0.1995 | 0.0826 | 51 | 0.46 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0324 | 3.840 | 0.1400 | 3.738 | 0.1995 | 0.0826 | 51 | 0.51 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0390 | 3.840 | 0.2800 | 3.738 | 0.1995 | 0.0826 | 51 | 0.51 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0422 | 3.880 | 0.2000 | 3.738 | 0.1995 | 0.0826 | 51 | 0.71 | 121.99 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0307 | 3.891 | 0.1160 | 3.738 | 0.1995 | 0.0826 | 51 | 0.77 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0177 | 3.917 | 0.0355 | 3.738 | 0.1995 | 0.0826 | 51 | 0.90 | 121.33 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0485 | 3.950 | 0.0800 | 3.738 | 0.1995 | 0.0826 | 51 | 1.06 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0406 | 4.011 | 0.0300 | 3.738 | 0.1995 | 0.0826 | 51 | 1.37 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0234 | 4.040 | 0.1200 | 3.738 | 0.1995 | 0.0826 | 51 | 1.52 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0231 | 4.100 | 0.0200 | 3.738 | 0.1995 | 0.0826 | 51 | 1.82 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0472 | 4.270 | 0.0000 | 3.738 | 0.1995 | 0.0826 | 51 | 2.67 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0483 | 4.270 | 0.0600 | 3.738 | 0.1995 | 0.0826 | 51 | 2.67 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0049 | 4.395 | 0.1700 | 3.738 | 0.1995 | 0.0826 | 51 | 3.30 | 121.30 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0260 | 5.090 | 0.0000 | 3.738 | 0.1995 | 0.0826 | 51 | 6.78 | 121.99 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0481 | 5.680 | 0.0800 | 3.738 | 0.1995 | 0.0826 | 51 | 9.74 | 121.00 | 0 |
| 121 | Acid Soluble Magnesium (3%) | 0494 | 3.974 | 0.6061 | 3.738 | 0.1995 | 0.0826 | 51 | 1.19 | 121.33 | 1 |
| 121 | Acid Soluble Magnesium (3%) | 0035 | 0.3410* | 0.0020 | 3.738 | 0.1995 | 0.0826 | 51 | -17.03 | 121.30 | 2 |
| 131 | Water Soluble Magnesium (%) | 0513 | 2.755 | 0.0500 | 3.387 | 0.2312 | 0.1072 | 17 | -2.74 | 131.00 | 0 |
| 131 | Water Soluble Magnesium (%) | 0029 | 2.898 | 0.2140 | 3.387 | 0.2312 | 0.1072 | 17 | -2.12 | 131.00 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|-----------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 131 | Water Soluble Magnesium (%) | 0394 | 2.910 | 0.0000 | 3.387 | 0.2312 | 0.1072 | 17 | -2.07 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0485 | 3.215 | 0.0100 | 3.387 | 0.2312 | 0.1072 | 17 | -0.75 | 131.00 | 0 |
| 131 | Water Soluble Magnesium (%) | 0027 | 3.221 | 0.0650 | 3.387 | 0.2312 | 0.1072 | 17 | -0.72 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0117 | 3.270 | 0.3200 | 3.387 | 0.2312 | 0.1072 | 17 | -0.51 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0275 | 3.325 | 0.0700 | 3.387 | 0.2312 | 0.1072 | 17 | -0.27 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0105 | 3.369 | 0.1520 | 3.387 | 0.2312 | 0.1072 | 17 | -0.08 | 131.00 | 0 |
| 131 | Water Soluble Magnesium (%) | 0220 | 3.405 | 0.0100 | 3.387 | 0.2312 | 0.1072 | 17 | 0.08 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0231 | 3.415 | 0.1300 | 3.387 | 0.2312 | 0.1072 | 17 | 0.12 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0230 | 3.438 | 0.0960 | 3.387 | 0.2312 | 0.1072 | 17 | 0.22 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0368 | 3.445 | 0.3059 | 3.387 | 0.2312 | 0.1072 | 17 | 0.25 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0444 | 3.520 | 0.0600 | 3.387 | 0.2312 | 0.1072 | 17 | 0.57 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0055 | 3.535 | 0.0100 | 3.387 | 0.2312 | 0.1072 | 17 | 0.64 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0371 | 3.775 | 0.0700 | 3.387 | 0.2312 | 0.1072 | 17 | 1.68 | 131.30 | 0 |
| 131 | Water Soluble Magnesium (%) | 0510 | 4.030 | 0.0200 | 3.387 | 0.2312 | 0.1072 | 17 | 2.78 | 131.70 | 0 |
| 131 | Water Soluble Magnesium (%) | 0200 | 4.230 | 0.2400 | 3.387 | 0.2312 | 0.1072 | 17 | 3.64 | 131.00 | 0 |
| 143 | Elemental Sulfur (%) | 0472 | 7.500 | 0.0000 | 7.927 | 0.4352 | 0.0933 | 3 | -0.98 | 143.99 | 0 |
| 143 | Elemental Sulfur (%) | 0390 | 7.910 | 0.2200 | 7.927 | 0.4352 | 0.0933 | 3 | -0.04 | 143.99 | 0 |
| 143 | Elemental Sulfur (%) | 0389 | 8.370 | 0.0600 | 7.927 | 0.4352 | 0.0933 | 3 | 1.02 | 143.99 | 0 |
| 148 | Total Sulfur (%) | 0105 | 6.700 | 0.0200 | 7.993 | 0.6911 | 0.1541 | 15 | -1.87 | 148.01 | 0 |
| 148 | Total Sulfur (%) | 0406 | 7.163 | 0.0740 | 7.993 | 0.6911 | 0.1541 | 15 | -1.20 | 148.07 | 0 |
| 148 | Total Sulfur (%) | 0421 | 7.300 | 0.2000 | 7.993 | 0.6911 | 0.1541 | 15 | -1.00 | 148.07 | 0 |
| 148 | Total Sulfur (%) | 0096 | 7.435 | 0.0900 | 7.993 | 0.6911 | 0.1541 | 15 | -0.81 | 148.99 | 0 |
| 148 | Total Sulfur (%) | 0102 | 7.710 | 0.0080 | 7.993 | 0.6911 | 0.1541 | 15 | -0.41 | 148.01 | 0 |
| 148 | Total Sulfur (%) | 0451 | 7.845 | 0.2090 | 7.993 | 0.6911 | 0.1541 | 15 | -0.21 | 148.00 | 0 |
| 148 | Total Sulfur (%) | 0390 | 7.910 | 0.2200 | 7.993 | 0.6911 | 0.1541 | 15 | -0.12 | 148.99 | 0 |
| 148 | Total Sulfur (%) | 0102 | 8.044 | 0.5070 | 7.993 | 0.6911 | 0.1541 | 15 | 0.07 | 148.07 | 0 |
| 148 | Total Sulfur (%) | 0307 | 8.045 | 0.0250 | 7.993 | 0.6911 | 0.1541 | 15 | 0.07 | 148.99 | 0 |
| 148 | Total Sulfur (%) | 0494 | 8.233 | 0.3881 | 7.993 | 0.6911 | 0.1541 | 15 | 0.35 | 148.07 | 0 |
| 148 | Total Sulfur (%) | 0354 | 8.308 | 0.1410 | 7.993 | 0.6911 | 0.1541 | 15 | 0.46 | 148.99 | 0 |
| 148 | Total Sulfur (%) | 0483 | 8.535 | 0.1700 | 7.993 | 0.6911 | 0.1541 | 15 | 0.78 | 148.07 | 0 |
| 148 | Total Sulfur (%) | 0292 | 8.560 | 0.0200 | 7.993 | 0.6911 | 0.1541 | 15 | 0.82 | 148.07 | 0 |
| 148 | Total Sulfur (%) | 0482 | 8.820 | 0.2200 | 7.993 | 0.6911 | 0.1541 | 15 | 1.20 | 148.99 | 0 |
| 148 | Total Sulfur (%) | 0131 | 11.33 | 0.0190 | 7.993 | 0.6911 | 0.1541 | 15 | 4.82 | 148.00 | 0 |
| 151 | Acid Soluble Arsenic (ppm) | 0394 | 0.1300 | 0.0200 | 0.4662 | 0.4109 | 0.0357 | 5 | -0.82 | 151.30 | 0 |
| 151 | Acid Soluble Arsenic (ppm) | 0136 | 0.1650 | 0.0300 | 0.4662 | 0.4109 | 0.0357 | 5 | -0.73 | 151.00 | 0 |
| 151 | Acid Soluble Arsenic (ppm) | 0220 | 0.2700 | 0.0200 | 0.4662 | 0.4109 | 0.0357 | 5 | -0.48 | 151.99 | 0 |
| 151 | Acid Soluble Arsenic (ppm) | 0494 | 0.6762 | 0.0687 | 0.4662 | 0.4109 | 0.0357 | 5 | 0.51 | 151.33 | 0 |
| 151 | Acid Soluble Arsenic (ppm) | 0230 | 1.090 | 0.0400 | 0.4662 | 0.4109 | 0.0357 | 5 | 1.52 | 151.30 | 0 |
| 151 | Acid Soluble Arsenic (ppm) | 0515 | 0.2854 | 0.5234 | 0.4662 | 0.4109 | 0.0357 | 5 | -0.44 | 151.99 | 1 |
| 151 | Acid Soluble Arsenic (ppm) | 0368 | 0.0000 | 0.0000 | 0.4662 | 0.4109 | 0.0357 | 5 | -1.13 | 151.30 | 4 |
| 165 | Acid Soluble Boron (%) | 0389 | 0.0014 | 0.0002 | 0.0029 | 0.0019 | 0.0010 | 3 | -0.81 | 165.30 | 0 |
| 165 | Acid Soluble Boron (%) | 0421 | 0.0024 | 0.0009 | 0.0029 | 0.0019 | 0.0010 | 3 | -0.30 | 165.99 | 0 |
| 165 | Acid Soluble Boron (%) | 0354 | 0.0050 | 0.0020 | 0.0029 | 0.0019 | 0.0010 | 3 | 1.12 | 165.30 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|-----------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 171 | Water Soluble Boron (%) | 0105 | 0.0151 | 0.0061 | | | 0.0061 | 1 | | | 0 |
| 181 | Acid Soluble Cadmium (ppm) | 0494 | 0.0338 | 0.0004 | 0.5290 | 0.9309 | 0.2616 | 4 | -0.53 | 181.33 | 0 |
| 181 | Acid Soluble Cadmium (ppm) | 0102 | 0.0525 | 0.0010 | 0.5290 | 0.9309 | 0.2616 | 4 | -0.51 | 181.30 | 0 |
| 181 | Acid Soluble Cadmium (ppm) | 0389 | 0.1050 | 0.0100 | 0.5290 | 0.9309 | 0.2616 | 4 | -0.46 | 181.30 | 0 |
| 181 | Acid Soluble Cadmium (ppm) | 0515 | 1.925 | 1.035 | 0.5290 | 0.9309 | 0.2616 | 4 | 1.50 | 181.33 | 0 |
| 181 | Acid Soluble Cadmium (ppm) | 0230 | 0.0000 | 0.0000 | 0.5290 | 0.9309 | 0.2616 | 4 | -0.57 | 181.30 | 4 |
| 181 | Acid Soluble Cadmium (ppm) | 0368 | 0.0000 | 0.0000 | 0.5290 | 0.9309 | 0.2616 | 4 | -0.57 | 181.30 | 4 |
| 181 | Acid Soluble Cadmium (ppm) | 0515 | 0.0000 | 0.0000 | 0.5290 | 0.9309 | 0.2616 | 4 | -0.57 | 181.34 | 4 |
| 190 | Water Soluble Chlorine (%) | 0105 | 0.4850 | 0.0100 | | | 0.0100 | 1 | | | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0512 | 44.30 | 16.00 | 104.3 | 10.99 | 4.984 | 18 | -5.46 | 191.99 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0035 | 47.15 | 5.500 | 104.3 | 10.99 | 4.984 | 18 | -5.20 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0394 | 86.90 | 1.800 | 104.3 | 10.99 | 4.984 | 18 | -1.58 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0482 | 86.90 | 2.000 | 104.3 | 10.99 | 4.984 | 18 | -1.58 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0444 | 91.22 | 4.730 | 104.3 | 10.99 | 4.984 | 18 | -1.19 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0515 | 98.46 | 17.83 | 104.3 | 10.99 | 4.984 | 18 | -0.53 | 191.34 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0389 | 100.5 | 1.000 | 104.3 | 10.99 | 4.984 | 18 | -0.34 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0220 | 104.0 | 18.00 | 104.3 | 10.99 | 4.984 | 18 | -0.02 | 191.99 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0368 | 105.0 | 0.0000 | 104.3 | 10.99 | 4.984 | 18 | 0.07 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0494 | 106.4 | 3.580 | 104.3 | 10.99 | 4.984 | 18 | 0.20 | 191.33 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0102 | 106.5 | 4.129 | 104.3 | 10.99 | 4.984 | 18 | 0.20 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0230 | 109.5 | 1.000 | 104.3 | 10.99 | 4.984 | 18 | 0.48 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0481 | 110.0 | 4.000 | 104.3 | 10.99 | 4.984 | 18 | 0.52 | 191.99 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0027 | 110.1 | 0.1990 | 104.3 | 10.99 | 4.984 | 18 | 0.53 | 191.33 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0096 | 110.9 | 6.500 | 104.3 | 10.99 | 4.984 | 18 | 0.60 | 191.30 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0037 | 118.0 | 0.5100 | 104.3 | 10.99 | 4.984 | 18 | 1.25 | 191.33 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0506 | 118.5 | 1.000 | 104.3 | 10.99 | 4.984 | 18 | 1.30 | 191.99 | 0 |
| 191 | Acid Soluble Chromium (ppm) | 0515 | 121.4 | 1.930 | 104.3 | 10.99 | 4.984 | 18 | 1.56 | 191.33 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0515 | 1.284 | 0.2513 | 2.231 | 0.4601 | 0.1670 | 13 | -2.06 | 202.33 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0035 | 1.455 | 0.0300 | 2.231 | 0.4601 | 0.1670 | 13 | -1.69 | 202.30 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0515 | 1.510 | 0.1910 | 2.231 | 0.4601 | 0.1670 | 13 | -1.57 | 202.34 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0102 | 1.975 | 0.0300 | 2.231 | 0.4601 | 0.1670 | 13 | -0.56 | 202.30 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0482 | 2.200 | 0.2000 | 2.231 | 0.4601 | 0.1670 | 13 | -0.07 | 202.30 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0368 | 2.250 | 0.1000 | 2.231 | 0.4601 | 0.1670 | 13 | 0.04 | 202.30 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0220 | 2.250 | 0.1000 | 2.231 | 0.4601 | 0.1670 | 13 | 0.04 | 202.99 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0389 | 2.300 | 0.0000 | 2.231 | 0.4601 | 0.1670 | 13 | 0.15 | 202.30 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0494 | 2.490 | 0.1183 | 2.231 | 0.4601 | 0.1670 | 13 | 0.56 | 202.33 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0230 | 2.520 | 0.0000 | 2.231 | 0.4601 | 0.1670 | 13 | 0.63 | 202.30 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0096 | 2.585 | 0.0700 | 2.231 | 0.4601 | 0.1670 | 13 | 0.77 | 202.30 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0037 | 2.650 | 0.0800 | 2.231 | 0.4601 | 0.1670 | 13 | 0.91 | 202.33 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0506 | 6.000 | 1.000 | 2.231 | 0.4601 | 0.1670 | 13 | 8.19 | 202.99 | 0 |
| 202 | Acid Soluble Cobalt (ppm) | 0512 | 10.05 | 15.90 | 2.231 | 0.4601 | 0.1670 | 13 | 16.99 | 202.99 | 1 |
| 221 | Acid Soluble Copper (%) | 0102 | 0.0004 | 0.0000 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.95 | 221.30 | 0 |
| 221 | Acid Soluble Copper (%) | 0096 | 0.0005 | 0.0001 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.85 | 221.30 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|-------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 221 | Acid Soluble Copper (%) | 0220 | 0.0005 | 0.0001 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.85 | 221.99 | 0 |
| 221 | Acid Soluble Copper (%) | 0515 | 0.0005 | 0.0003 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.85 | 221.99 | 0 |
| 221 | Acid Soluble Copper (%) | 0230 | 0.0005 | 0.0000 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.75 | 221.30 | 0 |
| 221 | Acid Soluble Copper (%) | 0368 | 0.0005 | 0.0000 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.75 | 221.30 | 0 |
| 221 | Acid Soluble Copper (%) | 0494 | 0.0005 | 0.0000 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.75 | 221.33 | 0 |
| 221 | Acid Soluble Copper (%) | 0389 | 0.0005 | 0.0000 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.75 | 221.99 | 0 |
| 221 | Acid Soluble Copper (%) | 0105 | 0.0007 | 0.0000 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.35 | 221.00 | 0 |
| 221 | Acid Soluble Copper (%) | 0043 | 0.0009 | 0.0001 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.05 | 221.00 | 0 |
| 221 | Acid Soluble Copper (%) | 0515 | 0.0009 | 0.0001 | 0.0009 | 0.0005 | 0.0019 | 18 | -0.05 | 221.33 | 0 |
| 221 | Acid Soluble Copper (%) | 0506 | 0.0010 | 0.0000 | 0.0009 | 0.0005 | 0.0019 | 18 | 0.24 | 221.99 | 0 |
| 221 | Acid Soluble Copper (%) | 0324 | 0.0013 | 0.0003 | 0.0009 | 0.0005 | 0.0019 | 18 | 0.74 | 221.30 | 0 |
| 221 | Acid Soluble Copper (%) | 0433 | 0.0014 | 0.0004 | 0.0009 | 0.0005 | 0.0019 | 18 | 1.04 | 221.30 | 0 |
| 221 | Acid Soluble Copper (%) | 0512 | 0.0015 | 0.0010 | 0.0009 | 0.0005 | 0.0019 | 18 | 1.24 | 221.99 | 0 |
| 221 | Acid Soluble Copper (%) | 0035 | 0.0024 | 0.0002 | 0.0009 | 0.0005 | 0.0019 | 18 | 3.03 | 221.30 | 0 |
| 221 | Acid Soluble Copper (%) | 0354 | 0.0040 | 0.0020 | 0.0009 | 0.0005 | 0.0019 | 18 | 6.21 | 221.30 | 0 |
| 221 | Acid Soluble Copper (%) | 0131 | 0.8450 | 0.0300 | 0.0009 | 0.0005 | 0.0019 | 18 | 1677.86 | 221.31 | 0 |
| 221 | Acid Soluble Copper (%) | 0037 | 4.315 | 0.1100 | 0.0009 | 0.0005 | 0.0019 | 18 | 8575.16 | 221.33 | 3 |
| 221 | Acid Soluble Copper (%) | 0055 | 5.000 | 2.000 | 0.0009 | 0.0005 | 0.0019 | 18 | 9936.73 | 221.30 | 3 |
| 221 | Acid Soluble Copper (%) | 0394 | 5.915 | 0.1500 | 0.0009 | 0.0005 | 0.0019 | 18 | 11755.47 | 221.32 | 3 |
| 221 | Acid Soluble Copper (%) | 0041 | 0.0000 | 0.0000 | 0.0009 | 0.0005 | 0.0019 | 18 | -1.74 | 221.30 | 4 |
| 241 | Acid Soluble Iron (%) | 0512 | 0.0260 | 0.0000 | 0.0679 | 0.0117 | 0.0028 | 16 | -3.57 | 241.99 | 0 |
| 241 | Acid Soluble Iron (%) | 0035 | 0.0410 | 0.0080 | 0.0679 | 0.0117 | 0.0028 | 16 | -2.29 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0472 | 0.0600 | 0.0000 | 0.0679 | 0.0117 | 0.0028 | 16 | -0.67 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0483 | 0.0603 | 0.0020 | 0.0679 | 0.0117 | 0.0028 | 16 | -0.65 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0102 | 0.0605 | 0.0010 | 0.0679 | 0.0117 | 0.0028 | 16 | -0.63 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0389 | 0.0610 | 0.0011 | 0.0679 | 0.0117 | 0.0028 | 16 | -0.59 | 241.99 | 0 |
| 241 | Acid Soluble Iron (%) | 0420 | 0.0647 | 0.0003 | 0.0679 | 0.0117 | 0.0028 | 16 | -0.28 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0041 | 0.0685 | 0.0030 | 0.0679 | 0.0117 | 0.0028 | 16 | 0.05 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0421 | 0.0692 | 0.0089 | 0.0679 | 0.0117 | 0.0028 | 16 | 0.11 | 241.33 | 0 |
| 241 | Acid Soluble Iron (%) | 0096 | 0.0700 | 0.0000 | 0.0679 | 0.0117 | 0.0028 | 16 | 0.18 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0494 | 0.0743 | 0.0041 | 0.0679 | 0.0117 | 0.0028 | 16 | 0.54 | 241.33 | 0 |
| 241 | Acid Soluble Iron (%) | 0354 | 0.0760 | 0.0040 | 0.0679 | 0.0117 | 0.0028 | 16 | 0.69 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0049 | 0.0770 | 0.0080 | 0.0679 | 0.0117 | 0.0028 | 16 | 0.78 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0105 | 0.0785 | 0.0018 | 0.0679 | 0.0117 | 0.0028 | 16 | 0.90 | 241.00 | 0 |
| 241 | Acid Soluble Iron (%) | 0482 | 0.0800 | 0.0000 | 0.0679 | 0.0117 | 0.0028 | 16 | 1.03 | 241.30 | 0 |
| 241 | Acid Soluble Iron (%) | 0043 | 0.0860 | 0.0020 | 0.0679 | 0.0117 | 0.0028 | 16 | 1.54 | 241.00 | 0 |
| 241 | Acid Soluble Iron (%) | 0131 | 0.4250 | 0.0100 | 0.0679 | 0.0117 | 0.0028 | 16 | 30.45 | 241.31 | 2 |
| 251 | Acid Soluble Lead (ppm) | 0230 | 0.1745 | 0.1050 | 13.92 | 27.25 | 8.218 | 4 | -0.50 | 251.30 | 0 |
| 251 | Acid Soluble Lead (ppm) | 0494 | 0.2561 | 0.0405 | 13.92 | 27.25 | 8.218 | 4 | -0.50 | 251.33 | 0 |
| 251 | Acid Soluble Lead (ppm) | 0515 | 0.4635 | 0.3258 | 13.92 | 27.25 | 8.218 | 4 | -0.49 | 251.33 | 0 |
| 251 | Acid Soluble Lead (ppm) | 0512 | 54.80 | 32.40 | 13.92 | 27.25 | 8.218 | 4 | 1.50 | 251.99 | 0 |
| 251 | Acid Soluble Lead (ppm) | 0368 | 0.0000 | 0.0000 | 13.92 | 27.25 | 8.218 | 4 | -0.51 | 251.30 | 4 |
| 251 | Acid Soluble Lead (ppm) | 0515 | 0.2133 | 0.4265 | 13.92 | 27.25 | 8.218 | 4 | -0.50 | 251.34 | 4 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|-------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 261 | Acid Soluble Manganese (%) | 0420 | 0.0026 | 0.0001 | 0.0029 | 0.0003 | 0.0002 | 10 | -1.09 | 261.30 | 0 |
| 261 | Acid Soluble Manganese (%) | 0421 | 0.0026 | 0.0002 | 0.0029 | 0.0003 | 0.0002 | 10 | -0.92 | 261.35 | 0 |
| 261 | Acid Soluble Manganese (%) | 0389 | 0.0026 | 0.0004 | 0.0029 | 0.0003 | 0.0002 | 10 | -0.92 | 261.99 | 0 |
| 261 | Acid Soluble Manganese (%) | 0102 | 0.0027 | 0.0000 | 0.0029 | 0.0003 | 0.0002 | 10 | -0.58 | 261.30 | 0 |
| 261 | Acid Soluble Manganese (%) | 0096 | 0.0028 | 0.0001 | 0.0029 | 0.0003 | 0.0002 | 10 | -0.41 | 261.30 | 0 |
| 261 | Acid Soluble Manganese (%) | 0041 | 0.0030 | 0.0000 | 0.0029 | 0.0003 | 0.0002 | 10 | 0.44 | 261.30 | 0 |
| 261 | Acid Soluble Manganese (%) | 0354 | 0.0030 | 0.0000 | 0.0029 | 0.0003 | 0.0002 | 10 | 0.44 | 261.30 | 0 |
| 261 | Acid Soluble Manganese (%) | 0043 | 0.0031 | 0.0002 | 0.0029 | 0.0003 | 0.0002 | 10 | 0.78 | 261.00 | 0 |
| 261 | Acid Soluble Manganese (%) | 0494 | 0.0032 | 0.0001 | 0.0029 | 0.0003 | 0.0002 | 10 | 0.96 | 261.35 | 0 |
| 261 | Acid Soluble Manganese (%) | 0105 | 0.0033 | 0.0005 | 0.0029 | 0.0003 | 0.0002 | 10 | 1.30 | 261.12 | 0 |
| 281 | Acid Soluble Mercury (ppm) | 0230 | 0.0040 | 0.0000 | 0.0313 | 0.0385 | 0.0085 | 2 | -0.71 | 281.00 | 0 |
| 281 | Acid Soluble Mercury (ppm) | 0394 | 0.0585 | 0.0170 | 0.0313 | 0.0385 | 0.0085 | 2 | 0.71 | 281.30 | 0 |
| 281 | Acid Soluble Mercury (ppm) | 0515 | 0.0000 | 0.0000 | 0.0313 | 0.0385 | 0.0085 | 2 | -0.81 | 281.30 | 4 |
| 281 | Acid Soluble Mercury (ppm) | 0009 | 0.0000 | 0.0000 | 0.0313 | 0.0385 | 0.0085 | 2 | -0.81 | 281.99 | 4 |
| 289 | Acid Soluble Molybdenum (ppm) | 0035 | 4.605 | 0.8300 | 8.798 | 1.302 | 0.5209 | 13 | -3.22 | 289.30 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0515 | 7.647 | 0.6790 | 8.798 | 1.302 | 0.5209 | 13 | -0.88 | 289.99 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0506 | 7.750 | 0.5000 | 8.798 | 1.302 | 0.5209 | 13 | -0.81 | 289.99 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0515 | 7.784 | 0.2705 | 8.798 | 1.302 | 0.5209 | 13 | -0.78 | 289.33 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0096 | 7.950 | 1.900 | 8.798 | 1.302 | 0.5209 | 13 | -0.65 | 289.30 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0037 | 8.800 | 0.2800 | 8.798 | 1.302 | 0.5209 | 13 | 0.00 | 289.33 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0433 | 8.853 | 0.2340 | 8.798 | 1.302 | 0.5209 | 13 | 0.04 | 289.30 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0220 | 9.150 | 1.300 | 8.798 | 1.302 | 0.5209 | 13 | 0.27 | 289.99 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0494 | 9.177 | 0.3245 | 8.798 | 1.302 | 0.5209 | 13 | 0.29 | 289.33 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0102 | 9.418 | 0.2540 | 8.798 | 1.302 | 0.5209 | 13 | 0.48 | 289.30 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0230 | 10.10 | 0.0000 | 8.798 | 1.302 | 0.5209 | 13 | 1.00 | 289.30 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0368 | 10.35 | 0.1000 | 8.798 | 1.302 | 0.5209 | 13 | 1.19 | 289.30 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0394 | 10.55 | 0.1000 | 8.798 | 1.302 | 0.5209 | 13 | 1.35 | 289.30 | 0 |
| 289 | Acid Soluble Molybdenum (ppm) | 0234 | 78.50 | 5.000 | 8.798 | 1.302 | 0.5209 | 13 | 53.55 | 289.30 | 2 |
| 291 | Acid Soluble Nickel (ppm) | 0035 | 21.15 | 9.100 | 57.58 | 5.413 | 2.587 | 19 | -6.73 | 291.30 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0512 | 23.20 | 0.2000 | 57.58 | 5.413 | 2.587 | 19 | -6.35 | 291.99 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0482 | 43.85 | 1.300 | 57.58 | 5.413 | 2.587 | 19 | -2.54 | 291.30 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0394 | 47.80 | 0.8000 | 57.58 | 5.413 | 2.587 | 19 | -1.81 | 291.30 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0220 | 54.50 | 5.000 | 57.58 | 5.413 | 2.587 | 19 | -0.57 | 291.99 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0515 | 54.83 | 6.416 | 57.58 | 5.413 | 2.587 | 19 | -0.51 | 291.34 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0481 | 55.25 | 4.100 | 57.58 | 5.413 | 2.587 | 19 | -0.43 | 291.99 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0027 | 55.78 | 1.158 | 57.58 | 5.413 | 2.587 | 19 | -0.33 | 291.33 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0494 | 57.47 | 2.179 | 57.58 | 5.413 | 2.587 | 19 | -0.02 | 291.33 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0102 | 58.07 | 2.485 | 57.58 | 5.413 | 2.587 | 19 | 0.09 | 291.30 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0368 | 58.45 | 0.3000 | 57.58 | 5.413 | 2.587 | 19 | 0.16 | 291.30 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0095 | 58.50 | 1.000 | 57.58 | 5.413 | 2.587 | 19 | 0.17 | 291.30 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0515 | 59.77 | 1.976 | 57.58 | 5.413 | 2.587 | 19 | 0.41 | 291.33 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0096 | 60.45 | 3.500 | 57.58 | 5.413 | 2.587 | 19 | 0.53 | 291.30 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0230 | 61.10 | 0.4000 | 57.58 | 5.413 | 2.587 | 19 | 0.65 | 291.30 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|-----------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 291 | Acid Soluble Nickel (ppm) | 0037 | 61.82 | 0.2900 | 57.58 | 5.413 | 2.587 | 19 | 0.78 | 291.33 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0506 | 63.95 | 1.900 | 57.58 | 5.413 | 2.587 | 19 | 1.18 | 291.99 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0444 | 67.57 | 6.040 | 57.58 | 5.413 | 2.587 | 19 | 1.85 | 291.30 | 0 |
| 291 | Acid Soluble Nickel (ppm) | 0136 | 69.50 | 1.000 | 57.58 | 5.413 | 2.587 | 19 | 2.20 | 291.00 | 0 |
| 301 | Acid Soluble Selenium (ppm) | 0515 | 0.6356 | 1.187 | 57.58 | 5.413 | 1.187 | 1 | -10.52 | 301.33 | 0 |
| 301 | Acid Soluble Selenium (ppm) | 0230 | 0.0000 | 0.0000 | 57.58 | 5.413 | 1.187 | 1 | -10.64 | 301.30 | 4 |
| 301 | Acid Soluble Selenium (ppm) | 0368 | 0.0000 | 0.0000 | 57.58 | 5.413 | 1.187 | 1 | -10.64 | 301.30 | 4 |
| 301 | Acid Soluble Selenium (ppm) | 0515 | 0.5340 | 1.068 | 57.58 | 5.413 | 1.187 | 1 | -10.54 | 301.34 | 4 |
| 311 | Sodium (%) | 0035 | 0.4585 | 0.0150 | 0.5238 | 0.0264 | 0.0077 | 6 | -2.47 | 311.99 | 0 |
| 311 | Sodium (%) | 0494 | 0.5072 | 0.0020 | 0.5238 | 0.0264 | 0.0077 | 6 | -0.63 | 311.33 | 0 |
| 311 | Sodium (%) | 0482 | 0.5200 | 0.0000 | 0.5238 | 0.0264 | 0.0077 | 6 | -0.14 | 311.99 | 0 |
| 311 | Sodium (%) | 0096 | 0.5350 | 0.0100 | 0.5238 | 0.0264 | 0.0077 | 6 | 0.42 | 311.99 | 0 |
| 311 | Sodium (%) | 0354 | 0.5425 | 0.0130 | 0.5238 | 0.0264 | 0.0077 | 6 | 0.71 | 311.99 | 0 |
| 311 | Sodium (%) | 0102 | 0.5500 | 0.0060 | 0.5238 | 0.0264 | 0.0077 | 6 | 0.99 | 311.33 | 0 |
| 321 | Acid Soluble Zinc (%) | 0444 | 0.0048 | 0.0001 | 0.0072 | 0.0019 | 0.0017 | 30 | -1.30 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0049 | 0.0049 | 0.0011 | 0.0072 | 0.0019 | 0.0017 | 30 | -1.25 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0389 | 0.0052 | 0.0001 | 0.0072 | 0.0019 | 0.0017 | 30 | -1.09 | 321.99 | 0 |
| 321 | Acid Soluble Zinc (%) | 0027 | 0.0054 | 0.0000 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.96 | 321.33 | 0 |
| 321 | Acid Soluble Zinc (%) | 0354 | 0.0055 | 0.0090 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.90 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0230 | 0.0056 | 0.0000 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.85 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0420 | 0.0057 | 0.0002 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.80 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0220 | 0.0059 | 0.0004 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.69 | 321.99 | 0 |
| 321 | Acid Soluble Zinc (%) | 0102 | 0.0060 | 0.0001 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.66 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0421 | 0.0061 | 0.0002 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.58 | 321.33 | 0 |
| 321 | Acid Soluble Zinc (%) | 0515 | 0.0063 | 0.0012 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.48 | 321.99 | 0 |
| 321 | Acid Soluble Zinc (%) | 0515 | 0.0064 | 0.0001 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.45 | 321.33 | 0 |
| 321 | Acid Soluble Zinc (%) | 0105 | 0.0067 | 0.0001 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.29 | 321.00 | 0 |
| 321 | Acid Soluble Zinc (%) | 0390 | 0.0068 | 0.0005 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.24 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0037 | 0.0070 | 0.0003 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.13 | 321.33 | 0 |
| 321 | Acid Soluble Zinc (%) | 0041 | 0.0070 | 0.0000 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.11 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0512 | 0.0070 | 0.0000 | 0.0072 | 0.0019 | 0.0017 | 30 | -0.11 | 321.99 | 0 |
| 321 | Acid Soluble Zinc (%) | 0494 | 0.0074 | 0.0005 | 0.0072 | 0.0019 | 0.0017 | 30 | 0.08 | 321.33 | 0 |
| 321 | Acid Soluble Zinc (%) | 0043 | 0.0075 | 0.0015 | 0.0072 | 0.0019 | 0.0017 | 30 | 0.13 | 321.00 | 0 |
| 321 | Acid Soluble Zinc (%) | 0035 | 0.0075 | 0.0004 | 0.0072 | 0.0019 | 0.0017 | 30 | 0.16 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0324 | 0.0075 | 0.0010 | 0.0072 | 0.0019 | 0.0017 | 30 | 0.16 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0506 | 0.0075 | 0.0010 | 0.0072 | 0.0019 | 0.0017 | 30 | 0.16 | 321.99 | 0 |
| 321 | Acid Soluble Zinc (%) | 0096 | 0.0097 | 0.0003 | 0.0072 | 0.0019 | 0.0017 | 30 | 1.31 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0095 | 0.0100 | 0.0000 | 0.0072 | 0.0019 | 0.0017 | 30 | 1.49 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0292 | 0.0100 | 0.0000 | 0.0072 | 0.0019 | 0.0017 | 30 | 1.49 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0472 | 0.0100 | 0.0000 | 0.0072 | 0.0019 | 0.0017 | 30 | 1.49 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0482 | 0.0100 | 0.0000 | 0.0072 | 0.0019 | 0.0017 | 30 | 1.49 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0433 | 0.0108 | 0.0006 | 0.0072 | 0.0019 | 0.0017 | 30 | 1.92 | 321.30 | 0 |
| 321 | Acid Soluble Zinc (%) | 0368 | 0.0619 | 0.0010 | 0.0072 | 0.0019 | 0.0017 | 30 | 29.17 | 321.30 | 0 |

| Analyte Group | Analyte (Units) | Lab Code | Lab Data | | Method Values | | | # Tests | Magruder CS Z Score | Your Method | Flag |
|---------------|------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|-------------|------|
| | | | Value | Range | Rob Mean | Rob SD | R-bar | | | | |
| 321 | Acid Soluble Zinc (%) | 0131 | 0.9150 | 0.0300 | 0.0072 | 0.0019 | 0.0017 | 30 | 484.06 | 321.31 | 0 |
| 321 | Acid Soluble Zinc (%) | 0055 | 42.95 | 3.300 | 0.0072 | 0.0019 | 0.0017 | 30 | 22898.03 | 321.30 | 3 |
| 321 | Acid Soluble Zinc (%) | 0481 | 52.35 | 0.1000 | 0.0072 | 0.0019 | 0.0017 | 30 | 27910.32 | 321.00 | 3 |
| 321 | Acid Soluble Zinc (%) | 0394 | 64.65 | 1.500 | 0.0072 | 0.0019 | 0.0017 | 30 | 34468.94 | 321.32 | 3 |
| 325 | Water Soluble Zinc (%) | 0406 | 0.0000 | 0.0000 | | | 0.0000 | 0 | | | 4 |

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier and a 4 flag indicates rejected due to 0 value submitted. Robust statistics not used if < 6 labs reporting, in this case the Z Scores are included for information only (Grey). An offset lab value with an astrix indicates that the value is lower than the Analyte value less the IA. Method or Analyte codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.