

Method PT For All Labs

## Magruder Fertilizer Proficiency Testing Program

# Methods: 144

Sample # 221111

Regular PT Scheme

# Labs Reporting: 90

7-12-27 w/S&Mg

Statistical Summary

Issue Date : 12/31/2022

| Method Code | Analyte & Method<br>Sample # 221111                          | # Tests<br>Submitted | # Tests in Robust<br>Calculations | Raw Mean | Raw SD | Assigned Value<br>Robust Mean | IA at Method<br>Value | Robust sd | Robust<br>Uncertainty (U) | Robust % RSD | Method IA Ratio | Average Range<br>(R-bar) | Horwitz %RSD |
|-------------|--------------------------------------------------------------|----------------------|-----------------------------------|----------|--------|-------------------------------|-----------------------|-----------|---------------------------|--------------|-----------------|--------------------------|--------------|
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%)                     | 7                    | 7                                 | 0.7729   | 0.1155 | 0.7729                        |                       | 0.1310    | 0.0619                    | 16.95%       |                 | 0.0771                   | 4.16%        |
| 001.99      | Ammoniacal N, Other (%)                                      | 21                   | 20                                | 0.7206   | 0.1614 | 0.7087                        |                       | 0.1768    | 0.0494                    | 24.94%       |                 | 0.0233                   | 4.21%        |
| 002.20      | Nitrate N, Jones Modified (%)                                | 2                    | 2                                 | 6.550    | 0.0569 |                               |                       |           |                           |              |                 |                          |              |
| 002.99      | Nitrate N, Other (%)                                         | 20                   | 19                                | 6.731    | 0.3948 | 6.693                         |                       | 0.2926    | 0.0839                    | 4.37%        |                 | 0.0721                   | 3.00%        |
| 005.99      | Urea N, Other (%)                                            | 1                    |                                   | 0.0170   |        |                               |                       |           |                           |              |                 |                          |              |
| 009.10      | Ammoniacal Plus Nitrate N, Devarda (%)                       | 1                    |                                   | 7.750    |        |                               |                       |           |                           |              |                 |                          |              |
| 010.11      | Total N, Modified Comprehensive (7%)                         | 2                    | 2                                 | 7.316    | 0.4393 |                               |                       |           |                           |              |                 |                          |              |
| 010.12      | Total N, Salicylic (7%)                                      | 5                    | 5                                 | 7.221    | 0.1980 | 7.221                         | 0.5422                | 0.1980    | 0.1107                    | 2.74%        | 0.85            | 0.0804                   | 2.97%        |
| 010.60      | Total N, Combustion (7%)                                     | 55                   | 53                                | 7.423    | 0.6786 | 7.520                         | 0.5452                | 0.4435    | 0.0761                    | 5.90%        | 1.90            | 0.1292                   | 2.95%        |
| 010.99      | Total N, Other (7%)                                          | 15                   | 14                                | 7.211    | 0.4525 | 7.234                         | 0.5423                | 0.2563    | 0.0856                    | 3.54%        | 1.10            | 0.0872                   | 2.97%        |
| 020.10      | Total P2O5, Gravimetric Quinolinium MolybdoP (%)             | 2                    | 2                                 | 12.47    | 0.1096 |                               |                       |           |                           |              |                 |                          |              |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%)            | 15                   | 15                                | 12.29    | 0.4280 | 12.34                         |                       | 0.3366    | 0.1086                    | 2.73%        |                 | 0.0709                   | 2.74%        |
| 020.40      | Total P2O5, Automated (%)                                    | 1                    |                                   | 12.20    |        |                               |                       |           |                           |              |                 |                          |              |
| 020.50      | Total P2O5, ICP (%)                                          | 22                   | 22                                | 11.93    | 2.684  | 12.45                         |                       | 0.7122    | 0.1898                    | 5.72%        |                 | 0.2048                   | 2.74%        |
| 020.99      | Total P2O5, Other (%)                                        | 6                    | 6                                 | 12.06    | 0.3293 | 12.08                         |                       | 0.3186    | 0.1626                    | 2.64%        |                 | 0.0760                   | 2.75%        |
| 030.20      | Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP    | 1                    |                                   | 0.0000   |        |                               |                       |           |                           |              |                 |                          |              |
| 040.20      | Indirect Available P2O5, Spectrophotometric (12%)            | 1                    |                                   | 12.60    |        |                               |                       |           |                           |              |                 |                          |              |
| 040.99      | Indirect Available P2O5, Other (12%)                         | 1                    |                                   | 12.40    |        |                               |                       |           |                           |              |                 |                          |              |
| 041.10      | Direct Available P2O5, Gravimetric Quinolinium (12%)         | 4                    | 4                                 | 12.36    | 0.2828 | 12.36                         | 0.6918                | 0.2828    | 0.1767                    | 2.29%        | 0.95            | 0.1734                   | 2.74%        |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA | 7                    | 7                                 | 12.35    | 0.2045 | 12.35                         | 0.6918                | 0.2319    | 0.1096                    | 1.88%        | 0.78            | 0.1814                   | 2.74%        |
| 041.20      | Direct Available P2O5, Spectrophotometric (12%)              | 4                    | 4                                 | 12.37    | 0.3325 | 12.37                         | 0.6918                | 0.3325    | 0.2078                    | 2.69%        | 1.12            | 0.4080                   | 2.74%        |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 11                   | 11                                | 12.30    | 0.7460 | 12.31                         | 0.6915                | 0.5273    | 0.1987                    | 4.28%        | 1.78            | 0.1487                   | 2.74%        |
| 041.40      | Direct Available P2O5, Automated, Citrate-EDTA Ext. (12%)    | 1                    |                                   | 12.43    |        |                               |                       |           |                           |              |                 |                          |              |
| 041.50      | Direct Available P2O5, ICP (12%)                             | 3                    | 3                                 | 12.45    | 0.4626 | 12.45                         | 0.6922                | 0.4626    | 0.3339                    | 3.72%        | 1.56            | 0.3200                   | 2.74%        |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)          | 11                   | 11                                | 12.53    | 0.4450 | 12.55                         | 0.6928                | 0.4605    | 0.1736                    | 3.67%        | 1.55            | 0.2080                   | 2.73%        |
| 041.99      | Direct Available P2O5, Other (12%)                           | 7                    | 7                                 | 12.29    | 0.2608 | 12.28                         | 0.6914                | 0.2863    | 0.1353                    | 2.33%        | 0.96            | 0.2714                   | 2.74%        |
| 048.10      | Water Soluble P2O5, Gravimetric Quinolinium (%)              | 1                    |                                   | 12.55    |        |                               |                       |           |                           |              |                 |                          |              |
| 048.20      | Water Soluble P2O5, Spectrophotometric (%)                   | 2                    | 2                                 | 12.28    | 0.2008 |                               |                       |           |                           |              |                 |                          |              |
| 048.50      | Water Soluble P2O5, ICP (%)                                  | 2                    | 2                                 | 12.45    | 0.1485 |                               |                       |           |                           |              |                 |                          |              |

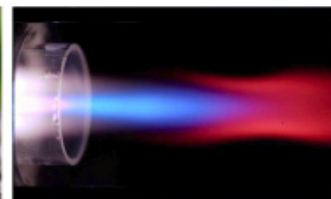
| Method Code | Analyte & Method<br>Sample # 221111                                  | # Tests<br>Submitted | # Tests in Robust<br>Calculations | Raw Mean | Raw SD | Assigned Value<br>Robust Mean | IA at Method<br>Value | Robust sd | Robust<br>Uncertainty (U) | Robust % RSD | Method IA Ratio | Average Range<br>(R-bar) | Howitz %RSD |
|-------------|----------------------------------------------------------------------|----------------------|-----------------------------------|----------|--------|-------------------------------|-----------------------|-----------|---------------------------|--------------|-----------------|--------------------------|-------------|
| 048.99      | Water Soluble P2O5, Other (%)                                        | 2                    | 2                                 | 12.23    | 0.0990 |                               |                       |           |                           |              |                 |                          |             |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                                      | 9                    | 9                                 | 27.63    | 0.3495 | 27.60                         | 1.3179                | 0.3222    | 0.1343                    | 1.17%        | 0.57            | 0.4122                   | 1.90%       |
| 050.30      | Soluble K2O, AA (Oxalate) (27%)                                      | 3                    | 3                                 | 27.67    | 0.9659 | 27.67                         | 1.3202                | 0.9659    | 0.6971                    | 3.49%        | 1.70            | 0.2767                   | 1.90%       |
| 050.31      | Soluble K2O, AA (Citrate) (27%)                                      | 1                    |                                   | 27.64    |        |                               |                       |           |                           |              |                 |                          |             |
| 050.32      | Soluble K2O, AA (Citrate-EDTA) (27%)                                 | 1                    |                                   | 21.50    |        |                               |                       |           |                           |              |                 |                          |             |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                                     | 10                   | 10                                | 27.93    | 1.127  | 27.87                         | 1.3261                | 1.136     | 0.4492                    | 4.08%        | 2.00            | 0.6552                   | 1.89%       |
| 050.51      | Soluble K2O, ICP (Citrate) (27%)                                     | 5                    | 5                                 | 26.86    | 2.763  | 26.86                         | 1.2958                | 2.763     | 1.544                     | 10.28%       | 4.97            | 0.1761                   | 1.93%       |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)                                | 12                   | 12                                | 27.27    | 0.9368 | 27.32                         | 1.3095                | 0.9600    | 0.3464                    | 3.51%        | 1.71            | 0.4057                   | 1.91%       |
| 050.60      | Soluble K2O, Flame Photometric (Oxalate) (27%)                       | 3                    | 3                                 | 27.76    | 0.3279 | 27.76                         | 1.3227                | 0.3279    | 0.2367                    | 1.18%        | 0.58            | 0.9069                   | 1.90%       |
| 050.61      | Soluble K2O, Flame Photometric (Citrate) (27%)                       | 1                    |                                   | 28.15    |        |                               |                       |           |                           |              |                 |                          |             |
| 050.62      | Soluble K2O, Flame Photometric (Citrate-EDTA) (27%)                  | 4                    | 4                                 | 27.38    | 0.3333 | 27.38                         | 1.3113                | 0.3333    | 0.2083                    | 1.22%        | 0.59            | 0.4843                   | 1.91%       |
| 050.99      | Soluble K2O, Other (27%)                                             | 37                   | 36                                | 28.12    | 5.229  | 27.24                         | 1.3073                | 0.6374    | 0.1328                    | 2.34%        | 1.14            | 0.3018                   | 1.92%       |
| 060.99      | Water (Free), Other (%)                                              | 2                    | 2                                 | 1.196    | 1.278  |                               |                       |           |                           |              |                 |                          |             |
| 101.00      | Acid Soluble Ca, AA, inorganic 965.09 (%)                            | 1                    |                                   | 0.0050   |        |                               |                       |           |                           |              |                 |                          |             |
| 101.30      | Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)              | 3                    | 3                                 | 0.0550   | 0.0349 | 0.0550                        | 0.2028                | 0.0349    | 0.0252                    | 63.40%       | 0.40            | 0.0040                   | 6.19%       |
| 101.32      | Acid Soluble Ca, ICP, test portion 2006.03A-C (%)                    | 1                    |                                   | 0.0355   |        |                               |                       |           |                           |              |                 |                          |             |
| 101.33      | Acid Soluble Ca, ICP, 2017.02 (%)                                    | 4                    | 3                                 | 0.0780   | 0.0977 | 0.1006                        | 0.2050                | 0.1060    | 0.0765                    | 105.36%      | 1.20            | 0.0142                   | 5.65%       |
| 101.99      | Acid Soluble Ca, Other (%)                                           | 1                    |                                   | 0.4200   |        |                               |                       |           |                           |              |                 |                          |             |
| 121.00      | Acid Soluble Mg, AA, inorganic 965.09 (5%)                           | 6                    | 6                                 | 4.698    | 1.003  | 4.928                         | 0.4464                | 0.5513    | 0.2814                    | 11.19%       | 2.88            | 0.1333                   | 3.15%       |
| 121.03      | Acid Soluble Mg, AA, 965.09, test portion 2006.03A-C w/dual acid     | 1                    |                                   | 5.190    |        |                               |                       |           |                           |              |                 |                          |             |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)             | 19                   | 19                                | 5.259    | 0.5234 | 5.347                         | 0.4673                | 0.2870    | 0.0823                    | 5.37%        | 1.43            | 0.1097                   | 3.11%       |
| 121.32      | Acid Soluble Mg, ICP, test portion 2006.03A-C (5%)                   | 6                    | 6                                 | 5.261    | 0.2801 | 5.261                         | 0.4631                | 0.3177    | 0.1621                    | 6.04%        | 1.60            | 0.1316                   | 3.12%       |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                                   | 15                   | 14                                | 5.301    | 0.4173 | 5.279                         | 0.4640                | 0.3481    | 0.1163                    | 6.59%        | 1.75            | 0.0833                   | 3.11%       |
| 121.70      | Acid Soluble Mg, Titrimetric (EDTA) (5%)                             | 2                    | 2                                 | 5.479    | 0.1240 |                               |                       |           |                           |              |                 |                          |             |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 12                   | 11                                | 5.778    | 1.945  | 5.214                         | 0.4607                | 0.1990    | 0.0750                    | 3.82%        | 1.01            | 0.1597                   | 3.12%       |
| 131.30      | Water Soluble Mg, ICP (%)                                            | 1                    |                                   | 5.190    |        |                               |                       |           |                           |              |                 |                          |             |
| 131.99      | Water Soluble Mg, Other (%)                                          | 2                    | 2                                 | 5.078    | 0.1167 |                               |                       |           |                           |              |                 |                          |             |
| 143.00      | Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur    | 1                    |                                   | 0.0125   |        |                               |                       |           |                           |              |                 |                          |             |
| 143.99      | Elemental S, Other (%)                                               | 5                    | 5                                 | 7.083    | 0.4291 | 7.083                         |                       | 0.4291    | 0.2399                    | 6.06%        |                 | 0.5401                   | 2.98%       |
| 145.00      | Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)        | 5                    | 5                                 | 6.843    | 0.1748 | 6.843                         |                       | 0.1748    | 0.0977                    | 2.55%        |                 | 0.1414                   | 2.99%       |
| 145.99      | Sulfate S, HCl soluble, Other (%)                                    | 1                    |                                   | 6.995    |        |                               |                       |           |                           |              |                 |                          |             |
| 146.00      | Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... | 1                    |                                   | 6.850    |        |                               |                       |           |                           |              |                 |                          |             |
| 148.00      | Total S, Combustion (6.5%)                                           | 5                    | 5                                 | 6.640    | 0.6994 | 6.640                         | 0.5320                | 0.6994    | 0.3910                    | 10.53%       | 3.06            | 0.3975                   | 3.01%       |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%)                  | 10                   | 10                                | 6.731    | 0.3223 | 6.701                         | 0.5351                | 0.2921    | 0.1155                    | 4.36%        | 1.27            | 0.1120                   | 3.00%       |
| 148.04      | Total S, ICP, w/Br digestion (6.5%)                                  | 1                    |                                   | 6.570    |        |                               |                       |           |                           |              |                 |                          |             |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)                      | 18                   | 18                                | 7.013    | 0.9603 | 6.897                         | 0.5449                | 0.5476    | 0.1613                    | 7.94%        | 2.34            | 0.1343                   | 2.99%       |
| 148.99      | Total S, Other (6.5%)                                                | 18                   | 18                                | 6.133    | 1.924  | 6.710                         | 0.5355                | 0.3874    | 0.1141                    | 5.77%        | 1.69            | 0.1438                   | 3.00%       |
| 149.04      | S - HNO3 soluble, ICP (%)                                            | 5                    | 5                                 | 6.741    | 0.1791 | 6.741                         |                       | 0.1791    | 0.1001                    | 2.66%        |                 | 0.0526                   | 3.00%       |
| 151.00      | Acid Soluble As, AA, test portion 2006.03 modified w/dual acid       | 1                    |                                   | 0.2000   |        |                               |                       |           |                           |              |                 |                          |             |
| 151.30      | Acid Soluble As, ICP (ppm)                                           | 3                    | 2                                 | 0.0824   | 0.0754 | 0.1236                        |                       | 0.0345    | 0.0305                    | 27.88%       |                 | 0.0104                   | 21.91%      |

| Method Code | Analyte & Method<br>Sample # 221111                            | # Tests<br>Submitted | # Tests in Robust<br>Calculations | Raw Mean | Raw SD | Assigned Value<br>Robust Mean | IA at Method<br>Value | Robust sd | Robust<br>Uncertainty (U) | Robust % RSD | Method IA Ratio | Average Range<br>(R-bar) | Horwitz %RSD |
|-------------|----------------------------------------------------------------|----------------------|-----------------------------------|----------|--------|-------------------------------|-----------------------|-----------|---------------------------|--------------|-----------------|--------------------------|--------------|
| 151.32      | Acid Soluble As, ICP, 2006.03 (ppm)                            | 2                    | 0                                 | 2.000    | 1.414  |                               |                       |           |                           |              |                 |                          |              |
| 151.33      | Acid Soluble As, ICP, 2017.02 (ppm)                            | 4                    | 2                                 | 2.477    | 2.196  | 1.954                         |                       | 2.319     | 2.050                     | 118.66%      |                 | 0.2436                   | 14.46%       |
| 151.34      | Acid Soluble As, ICP, EPA 3050B/6010C (ppm)                    | 1                    |                                   | 0.3000   |        |                               |                       |           |                           |              |                 |                          |              |
| 151.99      | Acid Soluble As, Other (ppm)                                   | 2                    | 0                                 | 0.5650   | 0.0919 |                               |                       |           |                           |              |                 |                          |              |
| 165.00      | Acid Soluble B, Spectrophotometric (%)                         | 1                    |                                   | 0.0030   |        |                               |                       |           |                           |              |                 |                          |              |
| 165.30      | Acid Soluble B, ICP, test portion in 982.01 (%)                | 1                    |                                   | 0.0100   |        |                               |                       |           |                           |              |                 |                          |              |
| 165.99      | Acid Soluble B, Other (%)                                      | 6                    | 5                                 | 0.0142   | 0.0212 | 0.0165                        | 0.0055                | 0.0228    | 0.0128                    | 138.00%      | 9.70            | 0.0100                   | 7.42%        |
| 181.00      | Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acic | 2                    | 0                                 | 0.3000   | 0.2828 |                               |                       |           |                           |              |                 |                          |              |
| 181.30      | Acid Soluble Cd, ICP (ppm)                                     | 5                    | 4                                 | 1.124    | 2.478  | 1.405                         |                       | 2.768     | 1.730                     | 197.09%      |                 | 1.789                    | 15.20%       |
| 181.32      | Acid Soluble Cd, ICP, 2006.03 (ppm)                            | 2                    | 0                                 | 0.5500   | 0.6364 |                               |                       |           |                           |              |                 |                          |              |
| 181.33      | Acid Soluble Cd, ICP, 2017.02 (ppm)                            | 4                    | 1                                 | 0.7564   | 0.9508 | 1.405                         |                       | 2.768     | 3.460                     | 197.09%      |                 | 0.0050                   | 15.20%       |
| 181.34      | Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)                    | 1                    |                                   | 0.1000   |        |                               |                       |           |                           |              |                 |                          |              |
| 181.99      | Acid Soluble Cd, Other (ppm)                                   | 2                    | 0                                 | 0.3150   | 0.2616 |                               |                       |           |                           |              |                 |                          |              |
| 190.00      | Water Soluble Cl, Titrimetric (%)                              | 1                    |                                   | 0.1000   |        |                               |                       |           |                           |              |                 |                          |              |
| 191.00      | Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid | 1                    |                                   | 1.900    |        |                               |                       |           |                           |              |                 |                          |              |
| 191.30      | Acid Soluble Cr, ICP (ppm)                                     | 6                    | 6                                 | 1.684    | 0.7010 | 1.684                         |                       | 0.7949    | 0.4056                    | 47.20%       |                 | 0.0431                   | 14.79%       |
| 191.32      | Acid Soluble Cr, ICP, 2006.03 (ppm)                            | 2                    | 1                                 | 2.075    | 1.520  |                               |                       |           |                           |              |                 |                          |              |
| 191.33      | Acid Soluble Cr, ICP, 2017.02 (ppm)                            | 4                    | 2                                 | 6.728    | 10.20  | 1.206                         |                       | 0.0162    | 0.0143                    | 1.35%        |                 | 0.1366                   | 15.55%       |
| 191.34      | Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)                    | 1                    |                                   | 0.3500   |        |                               |                       |           |                           |              |                 |                          |              |
| 191.99      | Acid Soluble Cr, Other (ppm)                                   | 3                    | 1                                 | 9.783    | 8.996  | 1.206                         |                       | 0.0162    | 0.0203                    | 1.35%        |                 | 0.1000                   | 15.55%       |
| 202.00      | Acid Soluble Co, AA, test portion 2006.03 modified w/dual acic | 1                    |                                   | 20.00    |        |                               |                       |           |                           |              |                 |                          |              |
| 202.30      | Acid Soluble Co, ICP (ppm)                                     | 2                    | 2                                 | 0.1589   | 0.1328 |                               |                       |           |                           |              |                 |                          |              |
| 202.32      | Acid Soluble Co, ICP, 2006.03 (ppm)                            | 2                    | 0                                 | 0.5500   | 0.6364 |                               |                       |           |                           |              |                 |                          |              |
| 202.33      | Acid Soluble Co, ICP, 2017.02 (ppm)                            | 4                    | 1                                 | 1.138    | 1.301  | 0.1589                        | 1.0477                | 0.1328    | 0.1660                    | 83.57%       | 0.30            | 0.0030                   | 21.10%       |
| 202.34      | Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)                    | 2                    | 2                                 | 0.4168   | 0.4713 |                               |                       |           |                           |              |                 |                          |              |
| 202.99      | Acid Soluble Co, Other (ppm)                                   | 2                    | 1                                 | 13.42    | 18.08  |                               |                       |           |                           |              |                 |                          |              |
| 221.00      | Acid Soluble Cu, AA, inorganic 965.09 (%)                      | 1                    |                                   | 0.0050   |        |                               |                       |           |                           |              |                 |                          |              |
| 221.03      | Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C w/dual ε  | 1                    |                                   | 0.0020   |        |                               |                       |           |                           |              |                 |                          |              |
| 221.30      | Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)        | 5                    | 4                                 | 0.0150   | 0.0254 | 0.0162                        | 0.0066                | 0.0292    | 0.0182                    | 179.95%      | 10.27           | 0.0058                   | 7.44%        |
| 221.32      | Acid Soluble Cu, ICP, test portion 2006.03A-C (%)              | 2                    | 1                                 | 0.0002   | 0.0000 |                               |                       |           |                           |              |                 |                          |              |
| 221.33      | Acid Soluble Cu, ICP, 2017.02 (%)                              | 5                    | 3                                 | 0.0067   | 0.0131 | 0.0102                        | 0.0060                | 0.0171    | 0.0124                    | 167.28%      | 6.62            | 0.0000                   | 7.97%        |
| 221.99      | Acid Soluble Cu, Other (%)                                     | 6                    | 4                                 | 0.4431   | 1.081  | 0.6638                        | 0.0714                | 1.324     | 0.8276                    | 199.46%      | 43.22           | 0.2263                   | 4.25%        |
| 241.00      | Acid Soluble Fe, AA, inorganic 965.09 (%)                      | 1                    |                                   | 0.0050   |        |                               |                       |           |                           |              |                 |                          |              |
| 241.30      | Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)        | 3                    | 2                                 | 0.0395   | 0.0568 | 0.0543                        | 0.0104                | 0.0718    | 0.0634                    | 132.30%      | 16.04           | 0.0355                   | 6.20%        |
| 241.32      | Acid Soluble Fe, ICP, test portion 2006.03A-C (%)              | 1                    |                                   | 0.0030   |        |                               |                       |           |                           |              |                 |                          |              |
| 241.33      | Acid Soluble Fe, ICP, 2017.02 (%)                              | 3                    | 3                                 | 0.0110   | 0.0121 | 0.0110                        | 0.0061                | 0.0121    | 0.0087                    | 109.63%      | 4.62            | 0.0034                   | 7.88%        |
| 241.99      | Acid Soluble Fe, Other (%)                                     | 1                    |                                   | 0.0017   |        |                               |                       |           |                           |              |                 |                          |              |
| 251.00      | Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid | 2                    | 0                                 | 1.250    | 1.061  |                               |                       |           |                           |              |                 |                          |              |
| 251.30      | Acid Soluble Pb, ICP (ppm)                                     | 5                    | 4                                 | 0.1520   | 0.1723 | 0.0753                        |                       | 0.0205    | 0.0128                    | 27.20%       |                 | 0.0572                   | 22.00%       |
| 251.32      | Acid Soluble Pb, ICP, 2006.03 (ppm)                            | 2                    | 1                                 | 2.200    | 2.546  |                               |                       |           |                           |              |                 |                          |              |

| Method Code | Analyte & Method<br>Sample # 221111                           | # Tests<br>Submitted | # Tests in Robust<br>Calculations | Raw Mean | Raw SD | Assigned Value<br>Robust Mean | IA at Method<br>Value | Robust sd | Robust<br>Uncertainty (U) | Robust % RSD | Method IA Ratio | Average Range<br>(R-bar) | Horwitz %RSD |
|-------------|---------------------------------------------------------------|----------------------|-----------------------------------|----------|--------|-------------------------------|-----------------------|-----------|---------------------------|--------------|-----------------|--------------------------|--------------|
| 251.33      | Acid Soluble Pb, ICP, 2017.02 (ppm)                           | 3                    | 0                                 | 3.000    | 3.000  | 0.0753                        |                       | 0.0205    |                           | 27.20%       |                 | 0.0000                   | 22.00%       |
| 251.34      | Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)                   | 1                    |                                   | 0.6000   |        |                               |                       |           |                           |              |                 |                          |              |
| 251.99      | Acid Soluble Pb, Other (ppm)                                  | 3                    | 1                                 | 1.183    | 1.141  | 0.0753                        |                       | 0.0205    | 0.0256                    | 27.20%       |                 | 0.3000                   | 22.00%       |
| 261.00      | Acid Soluble Mn, AA, Mn2+ only (%)                            | 1                    |                                   | 0.0050   |        |                               |                       |           |                           |              |                 |                          |              |
| 261.30      | Acid Soluble Mn, ICP, test portion 972.02a (%)                | 2                    | 1                                 | 0.0054   | 0.0065 |                               |                       |           |                           |              |                 |                          |              |
| 261.32      | Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)       | 1                    |                                   | 0.0600   |        |                               |                       |           |                           |              |                 |                          |              |
| 261.35      | Acid Soluble Mn, ICP, 2017.02 (%)                             | 4                    | 4                                 | 0.0069   | 0.0121 | 0.0069                        | 0.0057                | 0.0121    | 0.0075                    | 174.02%      | 4.93            | 0.0025                   | 8.45%        |
| 261.99      | Acid Soluble Mn, Other (%)                                    | 1                    |                                   | 0.0006   |        |                               |                       |           |                           |              |                 |                          |              |
| 281.00      | Acid Soluble Hg, AA (ppm)                                     | 1                    |                                   | 0.5000   |        |                               |                       |           |                           |              |                 |                          |              |
| 281.30      | Acid Soluble Hg, ICP (ppm)                                    | 4                    | 1                                 | 0.5057   | 0.9962 | 0.0069                        |                       | 0.0121    | 0.0151                    | 174.02%      |                 | 0.0005                   | 22.00%       |
| 281.99      | Acid Soluble Hg, Other (ppm)                                  | 4                    | 3                                 | 0.0058   | 0.0049 | 0.0044                        |                       | 0.0049    | 0.0036                    | 113.55%      |                 | 0.0007                   | 22.00%       |
| 289.30      | Acid Soluble Mo, ICP (ppm)                                    | 3                    | 3                                 | 0.6384   | 0.7231 | 0.6384                        | 1.1915                | 0.7231    | 0.5218                    | 113.27%      | 1.41            | 0.1911                   | 17.11%       |
| 289.32      | Acid Soluble Mo, ICP, 2006.03 (ppm)                           | 2                    | 1                                 | 0.8000   | 0.2828 |                               |                       |           |                           |              |                 |                          |              |
| 289.33      | Acid Soluble Mo, ICP, 2017.02 (ppm)                           | 5                    | 2                                 | 1.637    | 1.566  | 0.5923                        | 1.1777                | 0.0683    | 0.0603                    | 11.53%       | 0.14            | 0.0660                   | 17.31%       |
| 289.34      | Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)                   | 2                    | 1                                 | 0.5300   | 0.0424 |                               |                       |           |                           |              |                 |                          |              |
| 289.99      | Acid Soluble Mo, Other (ppm)                                  | 2                    | 1                                 | 1.525    | 1.379  |                               |                       |           |                           |              |                 |                          |              |
| 291.30      | Acid Soluble Ni, ICP (ppm)                                    | 3                    | 3                                 | 0.5508   | 0.0990 | 0.5508                        |                       | 0.0990    | 0.0715                    | 17.98%       |                 | 0.0303                   | 17.50%       |
| 291.32      | Acid Soluble Ni, ICP, 2006.03 (ppm)                           | 2                    | 1                                 | 1.150    | 0.2121 |                               |                       |           |                           |              |                 |                          |              |
| 291.33      | Acid Soluble Ni, ICP, 2017.02 (ppm)                           | 3                    | 1                                 | 2.109    | 1.139  | 0.5508                        |                       | 0.0990    | 0.1238                    | 17.98%       |                 | 0.1618                   | 17.50%       |
| 291.34      | Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)                   | 2                    | 2                                 | 0.9125   | 0.0530 |                               |                       |           |                           |              |                 |                          |              |
| 291.99      | Acid Soluble Ni, Other (ppm)                                  | 3                    | 2                                 | 12.87    | 15.81  | 16.15                         |                       | 20.86     | 18.44                     | 129.16%      |                 | 7.740                    | 10.52%       |
| 301.30      | Acid Soluble Se, ICP (ppm)                                    | 3                    | 3                                 | 0.0666   | 0.0594 | 0.0666                        |                       | 0.0594    | 0.0429                    | 89.22%       |                 | 0.0400                   | 22.00%       |
| 301.32      | Acid Soluble Se, ICP, 2006.03 (ppm)                           | 2                    | 0                                 | 5.150    | 6.859  |                               |                       |           |                           |              |                 |                          |              |
| 301.33      | Acid Soluble Se, ICP, 2017.02 (ppm)                           | 3                    | 1                                 | 7.713    | 12.39  | 0.0666                        |                       | 0.0594    | 0.0742                    | 89.22%       |                 | 0.1610                   | 22.00%       |
| 301.34      | Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)                   | 1                    |                                   | 1.100    |        |                               |                       |           |                           |              |                 |                          |              |
| 301.99      | Acid Soluble Se, Other (ppm)                                  | 3                    | 0                                 | 0.3767   | 0.3326 | 0.0666                        |                       | 0.0594    |                           | 89.22%       |                 | 0.0000                   | 22.00%       |
| 311.00      | Sodium, AA (%)                                                | 1                    |                                   | 0.0715   |        |                               |                       |           |                           |              |                 |                          |              |
| 311.33      | Sodium, ICP, test portion as in 2017.02 (%)                   | 5                    | 5                                 | 0.0623   | 0.0079 | 0.0623                        | 0.0112                | 0.0079    | 0.0044                    | 12.64%       | 1.63            | 0.0022                   | 6.07%        |
| 311.99      | Sodium, Other (%)                                             | 2                    | 2                                 | 0.0781   | 0.0239 |                               |                       |           |                           |              |                 |                          |              |
| 321.00      | Acid Soluble Zn, AA, inorganic 965.09 (%)                     | 1                    |                                   | 0.0020   |        |                               |                       |           |                           |              |                 |                          |              |
| 321.03      | Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual a | 1                    |                                   | 0.0100   |        |                               |                       |           |                           |              |                 |                          |              |
| 321.30      | Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)       | 4                    | 2                                 | 0.1373   | 0.2652 | 0.2685                        | 0.0319                | 0.3769    | 0.3331                    | 140.37%      | 27.57           | 0.0050                   | 4.87%        |
| 321.32      | Acid Soluble Zn, ICP, test portion 2006.03A-C (%)             | 1                    |                                   | 0.0006   |        |                               |                       |           |                           |              |                 |                          |              |
| 321.33      | Acid Soluble Zn, ICP, 2017.02 (%)                             | 4                    | 2                                 | 0.0008   | 0.0012 | 0.0003                        | 0.0050                | 0.0001    | 0.0001                    | 38.57%       | 0.05            | 0.0001                   | 13.74%       |
| 321.99      | Acid Soluble Zn, Other (%)                                    | 6                    | 3                                 | 6.867    | 16.82  | 13.73                         | 1.0000                | 23.79     | 17.17                     | 173.20%      | 55.42           | 0.0000                   | 2.70%        |

The Method IA Ratio = 2.33 \* Robust SD / IA at the Method Assigned Value. IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting. The Horwitz %RSD is calculated using the Thompson Modification, Analyst,2000,125,385-386.

|                                     |
|-------------------------------------|
| Horwitz %RSD                        |
| Average Range<br>(R-bar)            |
| Method IA Ratio                     |
| Robust % RSD                        |
| Robust<br>Uncertainty (U)           |
| Robust sd                           |
| IA at Method<br>Value               |
| Assigned Value<br>Robust Mean       |
| Raw SD                              |
| Raw Mean                            |
| # Tests in Robust<br>Calculations   |
| # Tests<br>Submitted                |
| Analyte & Method<br>Sample # 221111 |
| Method Code                         |



Method PT For All Labs

## Magruder Fertilizer Proficiency Testing Program

Sample # 221111

Regular PT Scheme

7-12-27 w/S&Mg

### Method Precision Report

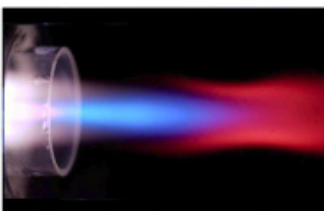
Issue Date : 12/31/2022

| Method Code | Analyte & Method                                               | # Tests Submitted | # Tests Used in Precision Calcs | Mean   | SD     | Between Labs sL | Within Labs sr | Reproducibility sR | Between Labs %RSD | Within Labs %rsd | Reproducibility %RSD | sR/sr |
|-------------|----------------------------------------------------------------|-------------------|---------------------------------|--------|--------|-----------------|----------------|--------------------|-------------------|------------------|----------------------|-------|
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%)                       | 7                 | 7                               | 0.7729 | 0.1155 | 0.0983          | 0.0857         | 0.1304             | 12.72%            | 11.09%           | 16.88%               | 1.522 |
| 001.99      | Ammoniacal N, Other (%)                                        | 21                | 20                              | 0.7087 | 0.1559 | 0.1553          | 0.0196         | 0.1565             | 21.91%            | 2.77%            | 22.08%               | 7.974 |
| 002.99      | Nitrate N, Other (%)                                           | 20                | 17                              | 6.689  | 0.3081 | 0.3059          | 0.0511         | 0.3102             | 4.57%             | 0.76%            | 4.64%                | 6.066 |
| 010.60      | Total N, Combustion (7%)                                       | 55                | 49                              | 7.570  | 0.4019 | 0.3941          | 0.1118         | 0.4096             | 5.21%             | 1.48%            | 5.41%                | 3.664 |
| 010.99      | Total N, Other (7%)                                            | 15                | 14                              | 7.280  | 0.3767 | 0.3726          | 0.0782         | 0.3808             | 5.12%             | 1.07%            | 5.23%                | 4.868 |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%)              | 15                | 14                              | 12.38  | 0.2718 | 0.2675          | 0.0683         | 0.2761             | 2.16%             | 0.55%            | 2.23%                | 4.042 |
| 020.50      | Total P2O5, ICP (%)                                            | 22                | 21                              | 12.38  | 1.692  | 1.685           | 0.2034         | 1.698              | 13.62%            | 1.64%            | 13.71%               | 8.345 |
| 020.99      | Total P2O5, Other (%)                                          | 6                 | 6                               | 12.06  | 0.3293 | 0.3252          | 0.0735         | 0.3334             | 2.70%             | 0.61%            | 2.76%                | 4.535 |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA E | 7                 | 7                               | 12.35  | 0.2045 | 0.1558          | 0.1873         | 0.2437             | 1.26%             | 1.52%            | 1.97%                | 1.301 |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. ( | 11                | 11                              | 12.30  | 0.7460 | 0.7378          | 0.1555         | 0.7540             | 6.00%             | 1.26%            | 6.13%                | 4.849 |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)            | 11                | 11                              | 12.53  | 0.4450 | 0.4198          | 0.2087         | 0.4688             | 3.35%             | 1.67%            | 3.74%                | 2.246 |
| 041.99      | Direct Available P2O5, Other (12%)                             | 7                 | 7                               | 12.29  | 0.2608 | 0.1815          | 0.2649         | 0.3211             | 1.48%             | 2.16%            | 2.61%                | 1.212 |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                                | 9                 | 9                               | 27.63  | 0.3495 | 0.1193          | 0.4645         | 0.4796             | 0.43%             | 1.68%            | 1.74%                | 1.032 |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                               | 10                | 10                              | 27.93  | 1.127  | 1.058           | 0.5486         | 1.192              | 3.79%             | 1.96%            | 4.27%                | 2.173 |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)                          | 12                | 12                              | 27.27  | 0.9368 | 0.8969          | 0.3827         | 0.9751             | 3.29%             | 1.40%            | 3.58%                | 2.548 |
| 050.99      | Soluble K2O, Other (27%)                                       | 37                | 34                              | 27.29  | 0.7025 | 0.6818          | 0.2391         | 0.7226             | 2.50%             | 0.88%            | 2.65%                | 3.021 |
| 121.00      | Acid Soluble Mg, AA, inorganic 965.09 (5%)                     | 6                 | 5                               | 5.093  | 0.3005 | 0.2856          | 0.1319         | 0.3146             | 5.61%             | 2.59%            | 6.18%                | 2.385 |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)       | 19                | 18                              | 5.365  | 0.2479 | 0.2355          | 0.1093         | 0.2597             | 4.39%             | 2.04%            | 4.84%                | 2.375 |
| 121.32      | Acid Soluble Mg, ICP, test portion 2006.03A-C (5%)             | 6                 | 6                               | 5.261  | 0.2801 | 0.2663          | 0.1227         | 0.2932             | 5.06%             | 2.33%            | 5.57%                | 2.390 |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                             | 15                | 13                              | 5.213  | 0.3378 | 0.3330          | 0.0803         | 0.3425             | 6.39%             | 1.54%            | 6.57%                | 4.266 |
| 121.99      | Acid Soluble Mg, Other (5%)                                    | 12                | 10                              | 5.185  | 0.1527 | 0.1313          | 0.1103         | 0.1715             | 2.53%             | 2.13%            | 3.31%                | 1.554 |
| 145.00      | Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)  | 5                 | 5                               | 6.843  | 0.1748 | 0.1530          | 0.1195         | 0.1941             | 2.24%             | 1.75%            | 2.84%                | 1.625 |
| 148.00      | Total S, Combustion (6.5%)                                     | 5                 | 5                               | 6.640  | 0.6994 | 0.6623          | 0.3176         | 0.7345             | 9.97%             | 4.78%            | 11.06%               | 2.313 |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%)            | 10                | 9                               | 6.653  | 0.2191 | 0.2094          | 0.0911         | 0.2283             | 3.15%             | 1.37%            | 3.43%                | 2.507 |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)                | 18                | 17                              | 6.845  | 0.6661 | 0.6598          | 0.1295         | 0.6724             | 9.64%             | 1.89%            | 9.82%                | 5.193 |
| 148.99      | Total S, Other (6.5%)                                          | 18                | 16                              | 6.786  | 0.2934 | 0.2760          | 0.1407         | 0.3098             | 4.07%             | 2.07%            | 4.56%                | 2.202 |

| Method Code | Analyte & Method           | # Tests Submitted | # Tests Used in Precision Calcs | Mean  | SD     | Between Labs sL | Within Labs sr | Reproducibility sR | Between Labs %RSD | Within Labs %rsd | Reproducibility %RSD | sR/sr |
|-------------|----------------------------|-------------------|---------------------------------|-------|--------|-----------------|----------------|--------------------|-------------------|------------------|----------------------|-------|
| 149.04      | S - HNO3 soluble, ICP (%)  | 5                 | 5                               | 6.741 | 0.1791 | 0.1768          | 0.0403         | 0.1814             | 2.62%             | 0.60%            | 2.69%                | 4.495 |
| 191.30      | Acid Soluble Cr, ICP (ppm) | 6                 | 6                               | 1.684 | 0.7010 | 0.7002          | 0.0449         | 0.7017             | 41.58%            | 2.66%            | 41.67%               | 15.64 |

Notes: Precision data calculated when 5 or more Tests included.





Method PT For All Labs

## Magruder Fertilizer Proficiency Testing Program

# Methods: 144

Sample # 221111

Regular PT Scheme

# Labs Reporting: 90

7-12-27 w/S&Mg

Lab Values

Issue Date : 12/31/2022

| Method Code | Analyte Name and Method (Units)          | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                          |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%) | 0230     | 0.6100   | 0.0000 | 0.7729        | 0.1310 | 0.0771 | 7       | -1.12               | NA               | 0    |
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%) | 0587     | 0.6200   | 0.2400 | 0.7729        | 0.1310 | 0.0771 | 7       | -1.06               | NA               | 0    |
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%) | 0389     | 0.7750   | 0.0100 | 0.7729        | 0.1310 | 0.0771 | 7       | 0.01                | NA               | 0    |
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%) | 0451     | 0.8150   | 0.0100 | 0.7729        | 0.1310 | 0.0771 | 7       | 0.29                | NA               | 0    |
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%) | 0580     | 0.8150   | 0.0700 | 0.7729        | 0.1310 | 0.0771 | 7       | 0.29                | NA               | 0    |
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%) | 0498     | 0.8750   | 0.0100 | 0.7729        | 0.1310 | 0.0771 | 7       | 0.71                | NA               | 0    |
| 001.10      | Ammoniacal N, Magnesium Oxide Method (%) | 0444     | 0.9000   | 0.2000 | 0.7729        | 0.1310 | 0.0771 | 7       | 0.88                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0540     | 0.4985   | 0.0070 | 0.7087        | 0.1768 | 0.0233 | 20      | -1.19               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0532     | 0.5250   | 0.0300 | 0.7087        | 0.1768 | 0.0233 | 20      | -1.04               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0558     | 0.5477   | 0.0089 | 0.7087        | 0.1768 | 0.0233 | 20      | -0.91               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0220     | 0.5550   | 0.0300 | 0.7087        | 0.1768 | 0.0233 | 20      | -0.87               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0559     | 0.5550   | 0.0100 | 0.7087        | 0.1768 | 0.0233 | 20      | -0.87               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0560     | 0.5600   | 0.0200 | 0.7087        | 0.1768 | 0.0233 | 20      | -0.84               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0600     | 0.5750   | 0.0500 | 0.7087        | 0.1768 | 0.0233 | 20      | -0.76               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0565     | 0.5850   | 0.0100 | 0.7087        | 0.1768 | 0.0233 | 20      | -0.70               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0564     | 0.5900   | 0.0200 | 0.7087        | 0.1768 | 0.0233 | 20      | -0.67               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0368     | 0.6720   | 0.0200 | 0.7087        | 0.1768 | 0.0233 | 20      | -0.21               | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0553     | 0.7200   | 0.0200 | 0.7087        | 0.1768 | 0.0233 | 20      | 0.06                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0513     | 0.7900   | 0.0200 | 0.7087        | 0.1768 | 0.0233 | 20      | 0.46                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0394     | 0.8290   | 0.0120 | 0.7087        | 0.1768 | 0.0233 | 20      | 0.68                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0027     | 0.8300   | 0.0200 | 0.7087        | 0.1768 | 0.0233 | 20      | 0.69                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0545     | 0.8350   | 0.0100 | 0.7087        | 0.1768 | 0.0233 | 20      | 0.71                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0255     | 0.8745   | 0.0330 | 0.7087        | 0.1768 | 0.0233 | 20      | 0.94                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0300     | 0.8950   | 0.0500 | 0.7087        | 0.1768 | 0.0233 | 20      | 1.05                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0510     | 0.8979   | 0.0543 | 0.7087        | 0.1768 | 0.0233 | 20      | 1.07                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0405     | 0.9000   | 0.0000 | 0.7087        | 0.1768 | 0.0233 | 20      | 1.08                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0563     | 0.9400   | 0.0400 | 0.7087        | 0.1768 | 0.0233 | 20      | 1.31                | NA               | 0    |
| 001.99      | Ammoniacal N, Other (%)                  | 0524     | 0.9580   | 0.2240 | 0.7087        | 0.1768 | 0.0233 | 20      | 1.41                | NA               | 1    |
| 002.20      | Nitrate N, Jones Modified (%)            | 0563     | 6.510    | 0.0200 |               |        |        | 2       |                     |                  | 0    |
| 002.20      | Nitrate N, Jones Modified (%)            | 0029     | 6.591    | 0.0210 |               |        |        | 2       |                     |                  | 0    |
| 002.99      | Nitrate N, Other (%)                     | 0368     | 6.055    | 0.0120 | 6.693         | 0.2926 | 0.0721 | 19      | -2.18               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                     | 0553     | 6.435    | 0.3500 | 6.693         | 0.2926 | 0.0721 | 19      | -0.88               | NA               | 0    |



| Method Code | Analyte Name and Method (Units)        | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|----------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                        |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 002.99      | Nitrate N, Other (%)                   | 0533     | 6.485    | 0.0700 | 6.693         | 0.2926 | 0.0721 | 19      | -0.71               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0540     | 6.490    | 0.0200 | 6.693         | 0.2926 | 0.0721 | 19      | -0.70               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0532     | 6.515    | 0.0700 | 6.693         | 0.2926 | 0.0721 | 19      | -0.61               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0560     | 6.520    | 0.0200 | 6.693         | 0.2926 | 0.0721 | 19      | -0.59               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0394     | 6.554    | 0.0250 | 6.693         | 0.2926 | 0.0721 | 19      | -0.48               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0558     | 6.563    | 0.0429 | 6.693         | 0.2926 | 0.0721 | 19      | -0.45               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0230     | 6.600    | 0.0000 | 6.693         | 0.2926 | 0.0721 | 19      | -0.32               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0564     | 6.620    | 0.0600 | 6.693         | 0.2926 | 0.0721 | 19      | -0.25               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0565     | 6.640    | 0.0400 | 6.693         | 0.2926 | 0.0721 | 19      | -0.18               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0600     | 6.650    | 0.1000 | 6.693         | 0.2926 | 0.0721 | 19      | -0.15               | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0559     | 6.695    | 0.0100 | 6.693         | 0.2926 | 0.0721 | 19      | 0.01                | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0444     | 6.850    | 0.1000 | 6.693         | 0.2926 | 0.0721 | 19      | 0.53                | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0423     | 6.900    | 0.1200 | 6.693         | 0.2926 | 0.0721 | 19      | 0.71                | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0587     | 7.050    | 0.1600 | 6.693         | 0.2926 | 0.0721 | 19      | 1.22                | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0027     | 7.090    | 0.1000 | 6.693         | 0.2926 | 0.0721 | 19      | 1.36                | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0513     | 7.440    | 0.0200 | 6.693         | 0.2926 | 0.0721 | 19      | 2.55                | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0545     | 7.875    | 0.0500 | 6.693         | 0.2926 | 0.0721 | 19      | 4.04                | NA               | 0    |
| 002.99      | Nitrate N, Other (%)                   | 0498     | 6.600    | 0.4000 | 6.693         | 0.2926 | 0.0721 | 19      | -0.32               | NA               | 1    |
| 005.99      | Urea N, Other (%)                      | 0524     | 0.0170   | 0.0060 |               |        |        | 1       |                     |                  | 0    |
| 009.10      | Ammoniacal Plus Nitrate N, Devarda (%) | 0444     | 7.750    | 0.1000 |               |        |        | 1       |                     |                  | 0    |
| 010.11      | Total N, Modified Comprehensive (7%)   | 0540     | 7.005    | 0.0300 |               |        |        | 2       |                     |                  | 0    |
| 010.11      | Total N, Modified Comprehensive (7%)   | 0510     | 7.626    | 0.1943 |               |        |        | 2       |                     |                  | 0    |
| 010.12      | Total N, Salicylic (7%)                | 0415     | 7.015    | 0.0021 | 7.221         | 0.1980 | 0.0804 | 5       | -1.04               |                  | 0    |
| 010.12      | Total N, Salicylic (7%)                | 0498     | 7.050    | 0.3000 | 7.221         | 0.1980 | 0.0804 | 5       | -0.86               |                  | 0    |
| 010.12      | Total N, Salicylic (7%)                | 0481     | 7.235    | 0.0700 | 7.221         | 0.1980 | 0.0804 | 5       | 0.07                |                  | 0    |
| 010.12      | Total N, Salicylic (7%)                | 0580     | 7.305    | 0.0300 | 7.221         | 0.1980 | 0.0804 | 5       | 0.42                |                  | 0    |
| 010.12      | Total N, Salicylic (7%)                | 0568     | 7.500    | 0.0000 | 7.221         | 0.1980 | 0.0804 | 5       | 1.41                |                  | 0    |
| 010.60      | Total N, Combustion (7%)               | 0422     | 4.195    | 0.1700 | 7.520         | 0.4435 | 0.1292 | 53      | -7.50               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0042     | 5.400    | 0.2000 | 7.520         | 0.4435 | 0.1292 | 53      | -4.78               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0035     | 6.500    | 0.0000 | 7.520         | 0.4435 | 0.1292 | 53      | -2.30               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0501     | 6.502    | 0.7170 | 7.520         | 0.4435 | 0.1292 | 53      | -2.30               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0360     | 6.630    | 0.5800 | 7.520         | 0.4435 | 0.1292 | 53      | -2.01               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0324     | 6.690    | 0.0200 | 7.520         | 0.4435 | 0.1292 | 53      | -1.87               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0234     | 6.775    | 0.1900 | 7.520         | 0.4435 | 0.1292 | 53      | -1.68               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0073     | 6.960    | 0.1200 | 7.520         | 0.4435 | 0.1292 | 53      | -1.26               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0534     | 6.970    | 0.0000 | 7.520         | 0.4435 | 0.1292 | 53      | -1.24               | Low              | 0    |
| 010.60      | Total N, Combustion (7%)               | 0423     | 6.995    | 0.0700 | 7.520         | 0.4435 | 0.1292 | 53      | -1.18               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)               | 0588     | 7.015    | 0.2900 | 7.520         | 0.4435 | 0.1292 | 53      | -1.14               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)               | 0086     | 7.085    | 0.2398 | 7.520         | 0.4435 | 0.1292 | 53      | -0.98               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)               | 0095     | 7.215    | 0.3300 | 7.520         | 0.4435 | 0.1292 | 53      | -0.69               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)               | 0472     | 7.265    | 0.2900 | 7.520         | 0.4435 | 0.1292 | 53      | -0.57               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)               | 0356     | 7.272    | 0.2660 | 7.520         | 0.4435 | 0.1292 | 53      | -0.56               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)               | 0230     | 7.300    | 0.0000 | 7.520         | 0.4435 | 0.1292 | 53      | -0.50               | OK               | 0    |

| Method Code | Analyte Name and Method (Units) | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|---------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                 |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 010.60      | Total N, Combustion (7%)        | 0255     | 7.386    | 0.0120 | 7.520         | 0.4435 | 0.1292 | 53      | -0.30               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0402     | 7.422    | 0.0270 | 7.520         | 0.4435 | 0.1292 | 53      | -0.22               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0527     | 7.428    | 0.0351 | 7.520         | 0.4435 | 0.1292 | 53      | -0.21               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0169     | 7.435    | 0.0100 | 7.520         | 0.4435 | 0.1292 | 53      | -0.19               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0354     | 7.455    | 0.0700 | 7.520         | 0.4435 | 0.1292 | 53      | -0.15               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0029     | 7.457    | 0.0940 | 7.520         | 0.4435 | 0.1292 | 53      | -0.14               | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0481     | 7.575    | 0.0500 | 7.520         | 0.4435 | 0.1292 | 53      | 0.12                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0389     | 7.615    | 0.0100 | 7.520         | 0.4435 | 0.1292 | 53      | 0.21                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0055     | 7.660    | 0.0600 | 7.520         | 0.4435 | 0.1292 | 53      | 0.32                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0523     | 7.660    | 0.0200 | 7.520         | 0.4435 | 0.1292 | 53      | 0.32                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0587     | 7.685    | 0.0500 | 7.520         | 0.4435 | 0.1292 | 53      | 0.37                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0405     | 7.695    | 0.0100 | 7.520         | 0.4435 | 0.1292 | 53      | 0.40                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0325     | 7.700    | 0.2000 | 7.520         | 0.4435 | 0.1292 | 53      | 0.41                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0292     | 7.705    | 0.0100 | 7.520         | 0.4435 | 0.1292 | 53      | 0.42                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0106     | 7.715    | 0.0700 | 7.520         | 0.4435 | 0.1292 | 53      | 0.44                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0231     | 7.715    | 0.0700 | 7.520         | 0.4435 | 0.1292 | 53      | 0.44                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0561     | 7.715    | 0.1900 | 7.520         | 0.4435 | 0.1292 | 53      | 0.44                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0368     | 7.737    | 0.1060 | 7.520         | 0.4435 | 0.1292 | 53      | 0.49                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0049     | 7.739    | 0.0288 | 7.520         | 0.4435 | 0.1292 | 53      | 0.49                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0291     | 7.745    | 0.0100 | 7.520         | 0.4435 | 0.1292 | 53      | 0.51                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0233     | 7.749    | 0.0200 | 7.520         | 0.4435 | 0.1292 | 53      | 0.52                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0027     | 7.785    | 0.1100 | 7.520         | 0.4435 | 0.1292 | 53      | 0.60                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0220     | 7.785    | 0.0500 | 7.520         | 0.4435 | 0.1292 | 53      | 0.60                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0451     | 7.789    | 0.2270 | 7.520         | 0.4435 | 0.1292 | 53      | 0.61                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0390     | 7.795    | 0.1100 | 7.520         | 0.4435 | 0.1292 | 53      | 0.62                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0043     | 7.800    | 0.0600 | 7.520         | 0.4435 | 0.1292 | 53      | 0.63                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0260     | 7.800    | 0.0000 | 7.520         | 0.4435 | 0.1292 | 53      | 0.63                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0177     | 7.812    | 0.0420 | 7.520         | 0.4435 | 0.1292 | 53      | 0.66                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0114     | 7.815    | 0.1900 | 7.520         | 0.4435 | 0.1292 | 53      | 0.67                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0494     | 7.830    | 0.0400 | 7.520         | 0.4435 | 0.1292 | 53      | 0.70                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0040     | 7.850    | 0.1000 | 7.520         | 0.4435 | 0.1292 | 53      | 0.74                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0037     | 7.874    | 0.0500 | 7.520         | 0.4435 | 0.1292 | 53      | 0.80                | OK               | 0    |
| 010.60      | Total N, Combustion (7%)        | 0377     | 8.065    | 0.3900 | 7.520         | 0.4435 | 0.1292 | 53      | 1.23                | High             | 0    |
| 010.60      | Total N, Combustion (7%)        | 0136     | 8.090    | 0.0000 | 7.520         | 0.4435 | 0.1292 | 53      | 1.29                | High             | 0    |
| 010.60      | Total N, Combustion (7%)        | 0485     | 8.090    | 0.3200 | 7.520         | 0.4435 | 0.1292 | 53      | 1.29                | High             | 0    |
| 010.60      | Total N, Combustion (7%)        | 0023     | 8.131    | 0.0230 | 7.520         | 0.4435 | 0.1292 | 53      | 1.38                | High             | 0    |
| 010.60      | Total N, Combustion (7%)        | 0041     | 8.608    | 0.5010 | 7.520         | 0.4435 | 0.1292 | 53      | 2.45                | High             | 0    |
| 010.60      | Total N, Combustion (7%)        | 0521     | 7.190    | 1.157  | 7.520         | 0.4435 | 0.1292 | 53      | -0.74               | OK               | 1    |
| 010.60      | Total N, Combustion (7%)        | 0131     | 7.396    | 1.114  | 7.520         | 0.4435 | 0.1292 | 53      | -0.28               | OK               | 1    |
| 010.99      | Total N, Other (7%)             | 0577     | 6.680    | 0.2000 | 7.234         | 0.2563 | 0.0872 | 14      | -2.16               | Low              | 0    |
| 010.99      | Total N, Other (7%)             | 0559     | 7.045    | 0.0100 | 7.234         | 0.2563 | 0.0872 | 14      | -0.74               | OK               | 0    |
| 010.99      | Total N, Other (7%)             | 0532     | 7.085    | 0.0500 | 7.234         | 0.2563 | 0.0872 | 14      | -0.58               | OK               | 0    |
| 010.99      | Total N, Other (7%)             | 0558     | 7.110    | 0.0340 | 7.234         | 0.2563 | 0.0872 | 14      | -0.48               | OK               | 0    |

| Method Code | Analyte Name and Method (Units)                   | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|---------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                   |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 010.99      | Total N, Other (7%)                               | 0560     | 7.115    | 0.0700 | 7.234         | 0.2563 | 0.0872 | 14      | -0.46               | OK               | 0    |
| 010.99      | Total N, Other (7%)                               | 0565     | 7.115    | 0.0300 | 7.234         | 0.2563 | 0.0872 | 14      | -0.46               | OK               | 0    |
| 010.99      | Total N, Other (7%)                               | 0518     | 7.135    | 0.1300 | 7.234         | 0.2563 | 0.0872 | 14      | -0.38               | OK               | 0    |
| 010.99      | Total N, Other (7%)                               | 0564     | 7.160    | 0.0200 | 7.234         | 0.2563 | 0.0872 | 14      | -0.29               | OK               | 0    |
| 010.99      | Total N, Other (7%)                               | 0600     | 7.175    | 0.1500 | 7.234         | 0.2563 | 0.0872 | 14      | -0.23               | OK               | 0    |
| 010.99      | Total N, Other (7%)                               | 0394     | 7.383    | 0.0130 | 7.234         | 0.2563 | 0.0872 | 14      | 0.58                | OK               | 0    |
| 010.99      | Total N, Other (7%)                               | 0476     | 7.413    | 0.1738 | 7.234         | 0.2563 | 0.0872 | 14      | 0.70                | OK               | 0    |
| 010.99      | Total N, Other (7%)                               | 0563     | 7.450    | 0.2000 | 7.234         | 0.2563 | 0.0872 | 14      | 0.84                | OK               | 0    |
| 010.99      | Total N, Other (7%)                               | 0300     | 7.830    | 0.1000 | 7.234         | 0.2563 | 0.0872 | 14      | 2.33                | High             | 0    |
| 010.99      | Total N, Other (7%)                               | 0513     | 8.230    | 0.0400 | 7.234         | 0.2563 | 0.0872 | 14      | 3.89                | High             | 0    |
| 010.99      | Total N, Other (7%)                               | 0524     | 6.234    | 2.245  | 7.234         | 0.2563 | 0.0872 | 14      | -3.90               | Low              | 1    |
| 020.10      | Total P2O5, Gravimetric Quinolinium MolybdoP (%)  | 0049     | 12.40    | 0.0300 |               |        |        | 2       |                     |                  | 0    |
| 020.10      | Total P2O5, Gravimetric Quinolinium MolybdoP (%)  | 0444     | 12.55    | 0.3000 |               |        |        | 2       |                     |                  | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0563     | 11.07    | 0.0700 | 12.34         | 0.3366 | 0.0709 | 15      | -3.79               | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0510     | 11.86    | 0.0097 | 12.34         | 0.3366 | 0.0709 | 15      | -1.44               | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0534     | 12.06    | 0.0400 | 12.34         | 0.3366 | 0.0709 | 15      | -0.83               | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0415     | 12.12    | 0.1640 | 12.34         | 0.3366 | 0.0709 | 15      | -0.66               | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0481     | 12.13    | 0.0100 | 12.34         | 0.3366 | 0.0709 | 15      | -0.64               | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0324     | 12.20    | 0.0000 | 12.34         | 0.3366 | 0.0709 | 15      | -0.42               | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0498     | 12.35    | 0.1000 | 12.34         | 0.3366 | 0.0709 | 15      | 0.03                | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0394     | 12.40    | 0.0520 | 12.34         | 0.3366 | 0.0709 | 15      | 0.18                | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0405     | 12.41    | 0.0100 | 12.34         | 0.3366 | 0.0709 | 15      | 0.19                | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0356     | 12.44    | 0.0880 | 12.34         | 0.3366 | 0.0709 | 15      | 0.29                | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0231     | 12.58    | 0.0100 | 12.34         | 0.3366 | 0.0709 | 15      | 0.70                | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0300     | 12.65    | 0.1400 | 12.34         | 0.3366 | 0.0709 | 15      | 0.92                | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0580     | 12.66    | 0.1800 | 12.34         | 0.3366 | 0.0709 | 15      | 0.95                | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0292     | 12.68    | 0.0200 | 12.34         | 0.3366 | 0.0709 | 15      | 1.01                | NA               | 0    |
| 020.20      | Total P2O5, Spectrophotometric MolybdovanadoP (%) | 0561     | 12.75    | 0.1700 | 12.34         | 0.3366 | 0.0709 | 15      | 1.20                | NA               | 0    |
| 020.40      | Total P2O5, Automated (%)                         | 0035     | 12.20    | 0.2000 |               |        |        | 1       |                     |                  | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0523     | 2.450    | 0.1000 | 12.45         | 0.7122 | 0.2048 | 22      | -14.05              | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0042     | 6.190    | 0.3000 | 12.45         | 0.7122 | 0.2048 | 22      | -8.79               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0389     | 11.56    | 0.0000 | 12.45         | 0.7122 | 0.2048 | 22      | -1.25               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0472     | 11.71    | 0.0100 | 12.45         | 0.7122 | 0.2048 | 22      | -1.05               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0524     | 11.94    | 0.3736 | 12.45         | 0.7122 | 0.2048 | 22      | -0.72               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0588     | 12.14    | 0.2400 | 12.45         | 0.7122 | 0.2048 | 22      | -0.44               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0521     | 12.15    | 0.0000 | 12.45         | 0.7122 | 0.2048 | 22      | -0.42               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0169     | 12.21    | 0.0700 | 12.45         | 0.7122 | 0.2048 | 22      | -0.35               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0260     | 12.30    | 0.5800 | 12.45         | 0.7122 | 0.2048 | 22      | -0.21               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0255     | 12.31    | 0.1550 | 12.45         | 0.7122 | 0.2048 | 22      | -0.21               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0390     | 12.35    | 0.3000 | 12.45         | 0.7122 | 0.2048 | 22      | -0.14               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0423     | 12.38    | 0.0300 | 12.45         | 0.7122 | 0.2048 | 22      | -0.11               | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0402     | 12.59    | 0.0060 | 12.45         | 0.7122 | 0.2048 | 22      | 0.19                | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                               | 0451     | 12.63    | 0.3500 | 12.45         | 0.7122 | 0.2048 | 22      | 0.24                | NA               | 0    |

| Method Code | Analyte Name and Method (Units)                              | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|--------------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                              |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 020.50      | Total P2O5, ICP (%)                                          | 0444     | 12.73    | 0.0100 | 12.45         | 0.7122 | 0.2048 | 22      | 0.38                | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                                          | 0291     | 12.90    | 0.0600 | 12.45         | 0.7122 | 0.2048 | 22      | 0.63                | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                                          | 0422     | 12.97    | 0.6691 | 12.45         | 0.7122 | 0.2048 | 22      | 0.73                | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                                          | 0234     | 13.03    | 0.2500 | 12.45         | 0.7122 | 0.2048 | 22      | 0.80                | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                                          | 0368     | 13.18    | 0.0513 | 12.45         | 0.7122 | 0.2048 | 22      | 1.02                | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                                          | 0527     | 13.27    | 0.1597 | 12.45         | 0.7122 | 0.2048 | 22      | 1.15                | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                                          | 0433     | 13.35    | 0.3000 | 12.45         | 0.7122 | 0.2048 | 22      | 1.26                | NA               | 0    |
| 020.50      | Total P2O5, ICP (%)                                          | 0552     | 16.10    | 0.4900 | 12.45         | 0.7122 | 0.2048 | 22      | 5.11                | NA               | 0    |
| 020.99      | Total P2O5, Other (%)                                        | 0476     | 11.47    | 0.1961 | 12.08         | 0.3186 | 0.0760 | 6       | -1.72               | NA               | 0    |
| 020.99      | Total P2O5, Other (%)                                        | 0587     | 11.89    | 0.1500 | 12.08         | 0.3186 | 0.0760 | 6       | -0.55               | NA               | 0    |
| 020.99      | Total P2O5, Other (%)                                        | 0513     | 12.20    | 0.0100 | 12.08         | 0.3186 | 0.0760 | 6       | 0.31                | NA               | 0    |
| 020.99      | Total P2O5, Other (%)                                        | 0560     | 12.20    | 0.0500 | 12.08         | 0.3186 | 0.0760 | 6       | 0.31                | NA               | 0    |
| 020.99      | Total P2O5, Other (%)                                        | 0565     | 12.29    | 0.0200 | 12.08         | 0.3186 | 0.0760 | 6       | 0.58                | NA               | 0    |
| 020.99      | Total P2O5, Other (%)                                        | 0564     | 12.33    | 0.0300 | 12.08         | 0.3186 | 0.0760 | 6       | 0.68                | NA               | 0    |
| 030.20      | Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (  | 0405     | 0.0000   | 0.0000 |               |        |        | 0       |                     |                  | 4    |
| 040.20      | Indirect Available P2O5, Spectrophotometric (12%)            | 0300     | 12.60    | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 040.99      | Indirect Available P2O5, Other (12%)                         | 0394     | 12.40    | 0.0520 |               |        |        | 1       |                     |                  | 0    |
| 041.10      | Direct Available P2O5, Gravimetric Quinolinium (12%)         | 0009     | 12.00    | 0.0000 | 12.36         | 0.2828 | 0.1734 | 4       | -1.27               |                  | 0    |
| 041.10      | Direct Available P2O5, Gravimetric Quinolinium (12%)         | 0041     | 12.32    | 0.6700 | 12.36         | 0.2828 | 0.1734 | 4       | -0.15               |                  | 0    |
| 041.10      | Direct Available P2O5, Gravimetric Quinolinium (12%)         | 0177     | 12.44    | 0.0036 | 12.36         | 0.2828 | 0.1734 | 4       | 0.28                |                  | 0    |
| 041.10      | Direct Available P2O5, Gravimetric Quinolinium (12%)         | 0494     | 12.68    | 0.0200 | 12.36         | 0.2828 | 0.1734 | 4       | 1.14                |                  | 0    |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA | 0405     | 12.14    | 0.0600 | 12.35         | 0.2319 | 0.1814 | 7       | -0.83               | OK               | 0    |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA | 0513     | 12.16    | 0.0400 | 12.35         | 0.2319 | 0.1814 | 7       | -0.75               | OK               | 0    |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA | 0073     | 12.20    | 0.0200 | 12.35         | 0.2319 | 0.1814 | 7       | -0.60               | OK               | 0    |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA | 0185     | 12.34    | 0.3900 | 12.35         | 0.2319 | 0.1814 | 7       | -0.07               | OK               | 0    |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA | 0485     | 12.45    | 0.1000 | 12.35         | 0.2319 | 0.1814 | 7       | 0.38                | OK               | 0    |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA | 0220     | 12.50    | 0.1000 | 12.35         | 0.2319 | 0.1814 | 7       | 0.57                | OK               | 0    |
| 041.11      | Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA | 0055     | 12.69    | 0.5600 | 12.35         | 0.2319 | 0.1814 | 7       | 1.31                | OK               | 0    |
| 041.20      | Direct Available P2O5, Spectrophotometric (12%)              | 0558     | 12.10    | 0.0519 | 12.37         | 0.3325 | 0.4080 | 4       | -0.82               |                  | 0    |
| 041.20      | Direct Available P2O5, Spectrophotometric (12%)              | 0553     | 12.10    | 0.6000 | 12.37         | 0.3325 | 0.4080 | 4       | -0.81               |                  | 0    |
| 041.20      | Direct Available P2O5, Spectrophotometric (12%)              | 0577     | 12.50    | 0.2800 | 12.37         | 0.3325 | 0.4080 | 4       | 0.39                |                  | 0    |
| 041.20      | Direct Available P2O5, Spectrophotometric (12%)              | 0027     | 12.78    | 0.7000 | 12.37         | 0.3325 | 0.4080 | 4       | 1.23                |                  | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0230     | 10.75    | 0.5000 | 12.31         | 0.5273 | 0.1487 | 11      | -2.77               | Low              | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0397     | 11.73    | 0.1313 | 12.31         | 0.5273 | 0.1487 | 11      | -1.04               | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0106     | 11.89    | 0.1600 | 12.31         | 0.5273 | 0.1487 | 11      | -0.74               | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0405     | 12.12    | 0.0100 | 12.31         | 0.5273 | 0.1487 | 11      | -0.35               | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0177     | 12.42    | 0.2082 | 12.31         | 0.5273 | 0.1487 | 11      | 0.20                | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0095     | 12.43    | 0.4200 | 12.31         | 0.5273 | 0.1487 | 11      | 0.21                | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0055     | 12.45    | 0.0100 | 12.31         | 0.5273 | 0.1487 | 11      | 0.24                | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0354     | 12.45    | 0.1000 | 12.31         | 0.5273 | 0.1487 | 11      | 0.25                | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0394     | 12.48    | 0.0960 | 12.31         | 0.5273 | 0.1487 | 11      | 0.31                | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0472     | 12.82    | 0.0000 | 12.31         | 0.5273 | 0.1487 | 11      | 0.91                | OK               | 0    |
| 041.21      | Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. | 0568     | 13.80    | 0.0000 | 12.31         | 0.5273 | 0.1487 | 11      | 2.65                | High             | 0    |



| Method Code | Analyte Name and Method (Units)                           | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|-----------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                           |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 041.40      | Direct Available P2O5, Automated, Citrate-EDTA Ext. (12%) | 0029     | 12.43    | 0.0500 |               |        |        | 1       |                     |                  | 0    |
| 041.50      | Direct Available P2O5, ICP (12%)                          | 0131     | 12.04    | 0.1600 | 12.45         | 0.4626 | 0.3200 | 3       | -0.88               |                  | 0    |
| 041.50      | Direct Available P2O5, ICP (12%)                          | 0325     | 12.35    | 0.7000 | 12.45         | 0.4626 | 0.3200 | 3       | -0.21               |                  | 0    |
| 041.50      | Direct Available P2O5, ICP (12%)                          | 0421     | 12.95    | 0.1000 | 12.45         | 0.4626 | 0.3200 | 3       | 1.09                |                  | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0025     | 11.65    | 0.1000 | 12.55         | 0.4605 | 0.2080 | 11      | -1.83               | Low              | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0040     | 12.05    | 0.5000 | 12.55         | 0.4605 | 0.2080 | 11      | -1.02               | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0423     | 12.06    | 0.0400 | 12.55         | 0.4605 | 0.2080 | 11      | -1.00               | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0136     | 12.32    | 0.3800 | 12.55         | 0.4605 | 0.2080 | 11      | -0.47               | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0377     | 12.62    | 0.4400 | 12.55         | 0.4605 | 0.2080 | 11      | 0.14                | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0037     | 12.71    | 0.0580 | 12.55         | 0.4605 | 0.2080 | 11      | 0.32                | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0023     | 12.80    | 0.0000 | 12.55         | 0.4605 | 0.2080 | 11      | 0.51                | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0233     | 12.86    | 0.0700 | 12.55         | 0.4605 | 0.2080 | 11      | 0.62                | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0043     | 12.88    | 0.1200 | 12.55         | 0.4605 | 0.2080 | 11      | 0.67                | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0360     | 12.89    | 0.5800 | 12.55         | 0.4605 | 0.2080 | 11      | 0.69                | OK               | 0    |
| 041.51      | Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)       | 0494     | 13.02    | 0.0000 | 12.55         | 0.4605 | 0.2080 | 11      | 0.95                | OK               | 0    |
| 041.99      | Direct Available P2O5, Other (12%)                        | 0540     | 12.00    | 0.0200 | 12.28         | 0.2863 | 0.2714 | 7       | -0.89               | OK               | 0    |
| 041.99      | Direct Available P2O5, Other (12%)                        | 0600     | 12.08    | 0.2500 | 12.28         | 0.2863 | 0.2714 | 7       | -0.65               | OK               | 0    |
| 041.99      | Direct Available P2O5, Other (12%)                        | 0532     | 12.13    | 0.0700 | 12.28         | 0.2863 | 0.2714 | 7       | -0.49               | OK               | 0    |
| 041.99      | Direct Available P2O5, Other (12%)                        | 0518     | 12.20    | 0.8000 | 12.28         | 0.2863 | 0.2714 | 7       | -0.26               | OK               | 0    |
| 041.99      | Direct Available P2O5, Other (12%)                        | 0405     | 12.41    | 0.0200 | 12.28         | 0.2863 | 0.2714 | 7       | 0.41                | OK               | 0    |
| 041.99      | Direct Available P2O5, Other (12%)                        | 0545     | 12.45    | 0.3800 | 12.28         | 0.2863 | 0.2714 | 7       | 0.53                | OK               | 0    |
| 041.99      | Direct Available P2O5, Other (12%)                        | 0533     | 12.74    | 0.3600 | 12.28         | 0.2863 | 0.2714 | 7       | 1.45                | OK               | 0    |
| 048.10      | Water Soluble P2O5, Gravimetric Quinolinium (%)           | 0444     | 12.55    | 0.1000 |               |        |        | 1       |                     |                  | 0    |
| 048.20      | Water Soluble P2O5, Spectrophotometric (%)                | 0472     | 12.14    | 0.0000 |               |        |        | 2       |                     |                  | 0    |
| 048.20      | Water Soluble P2O5, Spectrophotometric (%)                | 0394     | 12.42    | 0.0360 |               |        |        | 2       |                     |                  | 0    |
| 048.50      | Water Soluble P2O5, ICP (%)                               | 0501     | 12.34    | 0.7400 |               |        |        | 2       |                     |                  | 0    |
| 048.50      | Water Soluble P2O5, ICP (%)                               | 0444     | 12.55    | 0.1000 |               |        |        | 2       |                     |                  | 0    |
| 048.99      | Water Soluble P2O5, Other (%)                             | 0513     | 12.16    | 0.0700 |               |        |        | 2       |                     |                  | 0    |
| 048.99      | Water Soluble P2O5, Other (%)                             | 0559     | 12.30    | 0.0100 |               |        |        | 2       |                     |                  | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0114     | 27.21    | 1.030  | 27.60         | 0.3222 | 0.4122 | 9       | -1.13               | OK               | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0494     | 27.24    | 1.250  | 27.60         | 0.3222 | 0.4122 | 9       | -1.04               | OK               | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0055     | 27.45    | 0.1200 | 27.60         | 0.3222 | 0.4122 | 9       | -0.42               | OK               | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0561     | 27.56    | 0.0000 | 27.60         | 0.3222 | 0.4122 | 9       | -0.11               | OK               | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0405     | 27.57    | 0.0100 | 27.60         | 0.3222 | 0.4122 | 9       | -0.09               | OK               | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0049     | 27.69    | 0.0600 | 27.60         | 0.3222 | 0.4122 | 9       | 0.26                | OK               | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0220     | 27.72    | 0.0300 | 27.60         | 0.3222 | 0.4122 | 9       | 0.34                | OK               | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0231     | 27.88    | 0.1000 | 27.60         | 0.3222 | 0.4122 | 9       | 0.81                | OK               | 0    |
| 050.00      | Soluble K2O, STPB Oxalate (27%)                           | 0444     | 28.36    | 1.110  | 27.60         | 0.3222 | 0.4122 | 9       | 2.17                | OK               | 0    |
| 050.30      | Soluble K2O, AA (Oxalate) (27%)                           | 0356     | 27.04    | 0.3200 | 27.67         | 0.9659 | 0.2767 | 3       | -0.66               |                  | 0    |
| 050.30      | Soluble K2O, AA (Oxalate) (27%)                           | 0040     | 27.20    | 0.0000 | 27.67         | 0.9659 | 0.2767 | 3       | -0.49               |                  | 0    |
| 050.30      | Soluble K2O, AA (Oxalate) (27%)                           | 0073     | 28.79    | 0.5100 | 27.67         | 0.9659 | 0.2767 | 3       | 1.15                |                  | 0    |
| 050.31      | Soluble K2O, AA (Citrate) (27%)                           | 0577     | 27.64    | 0.3100 |               |        |        | 1       |                     |                  | 0    |
| 050.32      | Soluble K2O, AA (Citrate-EDTA) (27%)                      | 0472     | 21.50    | 0.0000 |               |        |        | 1       |                     |                  | 0    |

| Method Code | Analyte Name and Method (Units)                     | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|-----------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                     |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0106     | 26.80    | 1.060  | 27.87         | 1.136  | 0.6552 | 10      | -0.87               | OK               | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0390     | 26.85    | 0.9000 | 27.87         | 1.136  | 0.6552 | 10      | -0.83               | OK               | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0055     | 27.20    | 1.540  | 27.87         | 1.136  | 0.6552 | 10      | -0.55               | OK               | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0444     | 27.45    | 0.3800 | 27.87         | 1.136  | 0.6552 | 10      | -0.34               | OK               | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0230     | 27.50    | 0.4000 | 27.87         | 1.136  | 0.6552 | 10      | -0.30               | OK               | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0117     | 27.51    | 0.8415 | 27.87         | 1.136  | 0.6552 | 10      | -0.29               | OK               | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0169     | 27.75    | 0.0600 | 27.87         | 1.136  | 0.6552 | 10      | -0.10               | OK               | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0324     | 28.60    | 0.6000 | 27.87         | 1.136  | 0.6552 | 10      | 0.60                | OK               | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0422     | 29.45    | 0.5300 | 27.87         | 1.136  | 0.6552 | 10      | 1.30                | High             | 0    |
| 050.50      | Soluble K2O, ICP (Oxalate) (27%)                    | 0292     | 30.18    | 0.2400 | 27.87         | 1.136  | 0.6552 | 10      | 1.89                | High             | 0    |
| 050.51      | Soluble K2O, ICP (Citrate) (27%)                    | 0131     | 22.29    | 0.7400 | 26.86         | 2.763  | 0.1761 | 5       | -1.65               |                  | 0    |
| 050.51      | Soluble K2O, ICP (Citrate) (27%)                    | 0397     | 27.16    | 0.0022 | 26.86         | 2.763  | 0.1761 | 5       | 0.11                |                  | 0    |
| 050.51      | Soluble K2O, ICP (Citrate) (27%)                    | 0291     | 27.45    | 0.0200 | 26.86         | 2.763  | 0.1761 | 5       | 0.21                |                  | 0    |
| 050.51      | Soluble K2O, ICP (Citrate) (27%)                    | 0368     | 27.61    | 0.1183 | 26.86         | 2.763  | 0.1761 | 5       | 0.27                |                  | 0    |
| 050.51      | Soluble K2O, ICP (Citrate) (27%)                    | 0568     | 29.80    | 0.0000 | 26.86         | 2.763  | 0.1761 | 5       | 1.06                |                  | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0025     | 25.35    | 0.9000 | 27.32         | 0.9600 | 0.4057 | 12      | -2.05               | Low              | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0485     | 26.30    | 0.8000 | 27.32         | 0.9600 | 0.4057 | 12      | -1.06               | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0117     | 26.33    | 1.028  | 27.32         | 0.9600 | 0.4057 | 12      | -1.03               | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0423     | 27.04    | 0.0100 | 27.32         | 0.9600 | 0.4057 | 12      | -0.29               | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0377     | 27.19    | 0.3300 | 27.32         | 0.9600 | 0.4057 | 12      | -0.14               | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0043     | 27.20    | 0.1300 | 27.32         | 0.9600 | 0.4057 | 12      | -0.13               | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0354     | 27.50    | 0.0000 | 27.32         | 0.9600 | 0.4057 | 12      | 0.19                | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0136     | 27.57    | 0.0700 | 27.32         | 0.9600 | 0.4057 | 12      | 0.26                | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0233     | 27.69    | 0.6100 | 27.32         | 0.9600 | 0.4057 | 12      | 0.38                | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0494     | 28.15    | 0.0100 | 27.32         | 0.9600 | 0.4057 | 12      | 0.86                | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0360     | 28.38    | 0.3800 | 27.32         | 0.9600 | 0.4057 | 12      | 1.11                | OK               | 0    |
| 050.52      | Soluble K2O, ICP (Citrate-EDTA) (27%)               | 0023     | 28.60    | 0.6000 | 27.32         | 0.9600 | 0.4057 | 12      | 1.34                | OK               | 0    |
| 050.60      | Soluble K2O, Flame Photometric (Oxalate) (27%)      | 0510     | 27.39    | 0.6107 | 27.76         | 0.3279 | 0.9069 | 3       | -1.13               |                  | 0    |
| 050.60      | Soluble K2O, Flame Photometric (Oxalate) (27%)      | 0580     | 27.88    | 2.070  | 27.76         | 0.3279 | 0.9069 | 3       | 0.36                |                  | 0    |
| 050.60      | Soluble K2O, Flame Photometric (Oxalate) (27%)      | 0041     | 28.01    | 0.0400 | 27.76         | 0.3279 | 0.9069 | 3       | 0.77                |                  | 0    |
| 050.61      | Soluble K2O, Flame Photometric (Citrate) (27%)      | 0035     | 28.15    | 0.1000 |               |        |        | 1       |                     |                  | 0    |
| 050.62      | Soluble K2O, Flame Photometric (Citrate-EDTA) (27%) | 0029     | 26.98    | 0.7000 | 27.38         | 0.3333 | 0.4843 | 4       | -1.19               |                  | 0    |
| 050.62      | Soluble K2O, Flame Photometric (Citrate-EDTA) (27%) | 0037     | 27.30    | 0.2870 | 27.38         | 0.3333 | 0.4843 | 4       | -0.22               |                  | 0    |
| 050.62      | Soluble K2O, Flame Photometric (Citrate-EDTA) (27%) | 0513     | 27.44    | 0.0600 | 27.38         | 0.3333 | 0.4843 | 4       | 0.19                |                  | 0    |
| 050.62      | Soluble K2O, Flame Photometric (Citrate-EDTA) (27%) | 0095     | 27.79    | 0.8900 | 27.38         | 0.3333 | 0.4843 | 4       | 1.22                |                  | 0    |
| 050.99      | Soluble K2O, Other (27%)                            | 0476     | 25.92    | 0.1446 | 27.24         | 0.6374 | 0.3018 | 36      | -2.08               | Low              | 0    |
| 050.99      | Soluble K2O, Other (27%)                            | 0552     | 26.01    | 0.3800 | 27.24         | 0.6374 | 0.3018 | 36      | -1.93               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                            | 0501     | 26.37    | 0.5700 | 27.24         | 0.6374 | 0.3018 | 36      | -1.38               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                            | 0451     | 26.37    | 0.1000 | 27.24         | 0.6374 | 0.3018 | 36      | -1.37               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                            | 0260     | 26.39    | 1.380  | 27.24         | 0.6374 | 0.3018 | 36      | -1.34               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                            | 0563     | 26.57    | 0.1680 | 27.24         | 0.6374 | 0.3018 | 36      | -1.06               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                            | 0553     | 26.60    | 0.0000 | 27.24         | 0.6374 | 0.3018 | 36      | -1.01               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                            | 0325     | 26.85    | 0.1000 | 27.24         | 0.6374 | 0.3018 | 36      | -0.61               | OK               | 0    |



| Method Code | Analyte Name and Method (Units)                         | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|---------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                         |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 050.99      | Soluble K2O, Other (27%)                                | 0587     | 26.86    | 0.0200 | 27.24         | 0.6374 | 0.3018 | 36      | -0.60               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0533     | 26.95    | 0.0300 | 27.24         | 0.6374 | 0.3018 | 36      | -0.47               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0540     | 26.98    | 0.4800 | 27.24         | 0.6374 | 0.3018 | 36      | -0.41               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0255     | 27.01    | 0.2650 | 27.24         | 0.6374 | 0.3018 | 36      | -0.37               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0560     | 27.08    | 0.1650 | 27.24         | 0.6374 | 0.3018 | 36      | -0.25               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0600     | 27.10    | 0.1000 | 27.24         | 0.6374 | 0.3018 | 36      | -0.22               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0481     | 27.14    | 0.1500 | 27.24         | 0.6374 | 0.3018 | 36      | -0.17               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0559     | 27.18    | 0.0100 | 27.24         | 0.6374 | 0.3018 | 36      | -0.10               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0402     | 27.18    | 0.4940 | 27.24         | 0.6374 | 0.3018 | 36      | -0.10               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0565     | 27.20    | 0.0400 | 27.24         | 0.6374 | 0.3018 | 36      | -0.07               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0558     | 27.20    | 0.0993 | 27.24         | 0.6374 | 0.3018 | 36      | -0.06               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0564     | 27.24    | 0.0100 | 27.24         | 0.6374 | 0.3018 | 36      | -0.01               | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0532     | 27.27    | 0.1200 | 27.24         | 0.6374 | 0.3018 | 36      | 0.04                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0545     | 27.29    | 0.0700 | 27.24         | 0.6374 | 0.3018 | 36      | 0.07                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0521     | 27.38    | 0.0000 | 27.24         | 0.6374 | 0.3018 | 36      | 0.22                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0518     | 27.40    | 0.4000 | 27.24         | 0.6374 | 0.3018 | 36      | 0.25                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0042     | 27.60    | 1.040  | 27.24         | 0.6374 | 0.3018 | 36      | 0.56                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0389     | 27.61    | 0.0500 | 27.24         | 0.6374 | 0.3018 | 36      | 0.57                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0027     | 27.65    | 1.300  | 27.24         | 0.6374 | 0.3018 | 36      | 0.64                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0234     | 27.73    | 0.4400 | 27.24         | 0.6374 | 0.3018 | 36      | 0.77                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0300     | 27.74    | 0.1800 | 27.24         | 0.6374 | 0.3018 | 36      | 0.78                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0394     | 27.76    | 0.2940 | 27.24         | 0.6374 | 0.3018 | 36      | 0.81                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0524     | 27.90    | 0.8233 | 27.24         | 0.6374 | 0.3018 | 36      | 1.04                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0498     | 27.95    | 0.3000 | 27.24         | 0.6374 | 0.3018 | 36      | 1.11                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0177     | 28.03    | 0.1887 | 27.24         | 0.6374 | 0.3018 | 36      | 1.23                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0433     | 28.23    | 0.5000 | 27.24         | 0.6374 | 0.3018 | 36      | 1.55                | OK               | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0527     | 28.99    | 0.2528 | 27.24         | 0.6374 | 0.3018 | 36      | 2.74                | High             | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0421     | 29.10    | 0.2000 | 27.24         | 0.6374 | 0.3018 | 36      | 2.92                | High             | 0    |
| 050.99      | Soluble K2O, Other (27%)                                | 0523     | 58.80    | 2.600  | 27.24         | 0.6374 | 0.3018 | 36      | 49.51               | High             | 2    |
| 060.99      | Water (Free), Other (%)                                 | 0510     | 0.2920   | 0.0611 |               |        |        | 2       |                     |                  | 0    |
| 060.99      | Water (Free), Other (%)                                 | 0009     | 2.100    | 0.0000 |               |        |        | 2       |                     |                  | 0    |
| 101.00      | Acid Soluble Ca, AA, inorganic 965.09 (%)               | 0553     | < 0.005  |        |               |        |        | 0       |                     |                  | 5    |
| 101.30      | Acid Soluble Ca, ICP, test portion inorganic 965.09 (%) | 0568     | 0.0310   | 0.0000 | 0.0550        | 0.0349 | 0.0040 | 3       | -0.69               |                  | 0    |
| 101.30      | Acid Soluble Ca, ICP, test portion inorganic 965.09 (%) | 0035     | 0.0390   | 0.0020 | 0.0550        | 0.0349 | 0.0040 | 3       | -0.46               |                  | 0    |
| 101.30      | Acid Soluble Ca, ICP, test portion inorganic 965.09 (%) | 0354     | 0.0950   | 0.0100 | 0.0550        | 0.0349 | 0.0040 | 3       | 1.15                |                  | 0    |
| 101.32      | Acid Soluble Ca, ICP, test portion 2006.03A-C (%)       | 0423     | 0.0355   | 0.0010 |               |        |        | 1       |                     |                  | 0    |
| 101.33      | Acid Soluble Ca, ICP, 2017.02 (%)                       | 0009     | 0.0340   | 0.0020 | 0.1006        | 0.1060 | 0.0142 | 3       | -0.63               |                  | 0    |
| 101.33      | Acid Soluble Ca, ICP, 2017.02 (%)                       | 0472     | 0.0450   | 0.0100 | 0.1006        | 0.1060 | 0.0142 | 3       | -0.52               |                  | 0    |
| 101.33      | Acid Soluble Ca, ICP, 2017.02 (%)                       | 0515     | 0.2229   | 0.0306 | 0.1006        | 0.1060 | 0.0142 | 3       | 1.15                |                  | 0    |
| 101.33      | Acid Soluble Ca, ICP, 2017.02 (%)                       | 0527     | < 0.01   |        | 0.1006        | 0.1060 | 0.0142 | 3       |                     |                  | 5    |
| 101.99      | Acid Soluble Ca, Other (%)                              | 0552     | 0.4200   | 0.0200 |               |        |        | 1       |                     |                  | 0    |
| 121.00      | Acid Soluble Mg, AA, inorganic 965.09 (5%)              | 0580     | 2.725    | 0.0700 | 4.928         | 0.5513 | 0.1333 | 6       | -3.56               | Low              | 0    |
| 121.00      | Acid Soluble Mg, AA, inorganic 965.09 (5%)              | 0073     | 4.640    | 0.0600 | 4.928         | 0.5513 | 0.1333 | 6       | -0.46               | OK               | 0    |

| Method Code | Analyte Name and Method (Units)                               | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|---------------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                               |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 121.00      | Acid Soluble Mg, AA, inorganic 965.09 (5%)                    | 0040     | 5.100    | 0.0800 | 4.928         | 0.5513 | 0.1333 | 6       | 0.28                | OK               | 0    |
| 121.00      | Acid Soluble Mg, AA, inorganic 965.09 (5%)                    | 0553     | 5.100    | 0.2000 | 4.928         | 0.5513 | 0.1333 | 6       | 0.28                | OK               | 0    |
| 121.00      | Acid Soluble Mg, AA, inorganic 965.09 (5%)                    | 0157     | 5.140    | 0.0400 | 4.928         | 0.5513 | 0.1333 | 6       | 0.34                | OK               | 0    |
| 121.00      | Acid Soluble Mg, AA, inorganic 965.09 (5%)                    | 0485     | 5.485    | 0.3500 | 4.928         | 0.5513 | 0.1333 | 6       | 0.90                | High             | 0    |
| 121.03      | Acid Soluble Mg, AA, 965.09, test portion 2006.03A-C w/dual a | 0534     | 5.190    | 0.2200 |               |        |        | 1       |                     |                  | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0568     | 3.340    | 0.0000 | 5.347         | 0.2870 | 0.1097 | 19      | -6.99               | Low              | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0377     | 4.865    | 0.0700 | 5.347         | 0.2870 | 0.1097 | 19      | -1.68               | Low              | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0234     | 4.875    | 0.2500 | 5.347         | 0.2870 | 0.1097 | 19      | -1.64               | Low              | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0231     | 5.100    | 0.1200 | 5.347         | 0.2870 | 0.1097 | 19      | -0.86               | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0397     | 5.167    | 0.0401 | 5.347         | 0.2870 | 0.1097 | 19      | -0.63               | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0035     | 5.250    | 0.0400 | 5.347         | 0.2870 | 0.1097 | 19      | -0.34               | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0255     | 5.255    | 0.1250 | 5.347         | 0.2870 | 0.1097 | 19      | -0.32               | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0402     | 5.298    | 0.0120 | 5.347         | 0.2870 | 0.1097 | 19      | -0.17               | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0444     | 5.320    | 0.0400 | 5.347         | 0.2870 | 0.1097 | 19      | -0.09               | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0324     | 5.440    | 0.3600 | 5.347         | 0.2870 | 0.1097 | 19      | 0.33                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0390     | 5.440    | 0.1400 | 5.347         | 0.2870 | 0.1097 | 19      | 0.33                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0023     | 5.445    | 0.0100 | 5.347         | 0.2870 | 0.1097 | 19      | 0.34                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0451     | 5.463    | 0.3170 | 5.347         | 0.2870 | 0.1097 | 19      | 0.40                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0360     | 5.530    | 0.0000 | 5.347         | 0.2870 | 0.1097 | 19      | 0.64                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0513     | 5.540    | 0.0800 | 5.347         | 0.2870 | 0.1097 | 19      | 0.67                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0433     | 5.564    | 0.2010 | 5.347         | 0.2870 | 0.1097 | 19      | 0.76                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0354     | 5.665    | 0.1500 | 5.347         | 0.2870 | 0.1097 | 19      | 1.11                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0049     | 5.670    | 0.0487 | 5.347         | 0.2870 | 0.1097 | 19      | 1.13                | OK               | 0    |
| 121.30      | Acid Soluble Mg, ICP, test portion inorganic 965.09 (5%)      | 0291     | 5.690    | 0.0800 | 5.347         | 0.2870 | 0.1097 | 19      | 1.20                | OK               | 0    |
| 121.32      | Acid Soluble Mg, ICP, test portion 2006.03A-C (5%)            | 0405     | 4.897    | 0.1516 | 5.261         | 0.3177 | 0.1316 | 6       | -1.02               | OK               | 0    |
| 121.32      | Acid Soluble Mg, ICP, test portion 2006.03A-C (5%)            | 0220     | 5.085    | 0.1100 | 5.261         | 0.3177 | 0.1316 | 6       | -0.49               | OK               | 0    |
| 121.32      | Acid Soluble Mg, ICP, test portion 2006.03A-C (5%)            | 0423     | 5.130    | 0.0400 | 5.261         | 0.3177 | 0.1316 | 6       | -0.37               | OK               | 0    |
| 121.32      | Acid Soluble Mg, ICP, test portion 2006.03A-C (5%)            | 0095     | 5.285    | 0.3700 | 5.261         | 0.3177 | 0.1316 | 6       | 0.07                | OK               | 0    |
| 121.32      | Acid Soluble Mg, ICP, test portion 2006.03A-C (5%)            | 0292     | 5.565    | 0.0500 | 5.261         | 0.3177 | 0.1316 | 6       | 0.85                | OK               | 0    |
| 121.32      | Acid Soluble Mg, ICP, test portion 2006.03A-C (5%)            | 0394     | 5.605    | 0.0680 | 5.261         | 0.3177 | 0.1316 | 6       | 0.96                | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0515     | 4.415    | 0.0677 | 5.279         | 0.3481 | 0.0833 | 14      | -2.48               | Low              | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0009     | 5.000    | 0.0000 | 5.279         | 0.3481 | 0.0833 | 14      | -0.80               | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0055     | 5.030    | 0.1000 | 5.279         | 0.3481 | 0.0833 | 14      | -0.72               | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0106     | 5.034    | 0.0140 | 5.279         | 0.3481 | 0.0833 | 14      | -0.70               | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0561     | 5.115    | 0.1100 | 5.279         | 0.3481 | 0.0833 | 14      | -0.47               | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0260     | 5.183    | 0.2550 | 5.279         | 0.3481 | 0.0833 | 14      | -0.28               | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0563     | 5.209    | 0.1440 | 5.279         | 0.3481 | 0.0833 | 14      | -0.20               | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0136     | 5.280    | 0.1200 | 5.279         | 0.3481 | 0.0833 | 14      | 0.00                | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0177     | 5.286    | 0.0213 | 5.279         | 0.3481 | 0.0833 | 14      | 0.02                | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0494     | 5.345    | 0.0100 | 5.279         | 0.3481 | 0.0833 | 14      | 0.19                | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0043     | 5.400    | 0.1600 | 5.279         | 0.3481 | 0.0833 | 14      | 0.35                | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0421     | 5.690    | 0.1200 | 5.279         | 0.3481 | 0.0833 | 14      | 1.18                | OK               | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                            | 0527     | 5.780    | 0.0047 | 5.279         | 0.3481 | 0.0833 | 14      | 1.44                | High             | 0    |

| Method Code | Analyte Name and Method (Units)                                      | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|----------------------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                                      |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                                   | 0472     | 6.270    | 0.0400 | 5.279         | 0.3481 | 0.0833 | 14      | 2.85                | High             | 0    |
| 121.33      | Acid Soluble Mg, ICP, 2017.02 (5%)                                   | 0233     | 5.473    | 0.5030 | 5.279         | 0.3481 | 0.0833 | 14      | 0.56                | OK               | 1    |
| 121.70      | Acid Soluble Mg, Titrimetric (EDTA) (5%)                             | 0510     | 5.392    | 0.0486 |               |        |        | 2       |                     |                  | 0    |
| 121.70      | Acid Soluble Mg, Titrimetric (EDTA) (5%)                             | 0476     | 5.567    | 0.1418 |               |        |        | 2       |                     |                  | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0481     | 4.945    | 0.1300 | 5.214         | 0.1990 | 0.1597 | 11      | -1.35               | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0515     | 4.980    | 0.3988 | 5.214         | 0.1990 | 0.1597 | 11      | -1.18               | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0524     | 5.043    | 0.0401 | 5.214         | 0.1990 | 0.1597 | 11      | -0.86               | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0521     | 5.164    | 0.0000 | 5.214         | 0.1990 | 0.1597 | 11      | -0.25               | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0552     | 5.200    | 0.1400 | 5.214         | 0.1990 | 0.1597 | 11      | -0.07               | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0042     | 5.245    | 0.0700 | 5.214         | 0.1990 | 0.1597 | 11      | 0.15                | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0368     | 5.269    | 0.0274 | 5.214         | 0.1990 | 0.1597 | 11      | 0.28                | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0587     | 5.285    | 0.0900 | 5.214         | 0.1990 | 0.1597 | 11      | 0.35                | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0027     | 5.290    | 0.1800 | 5.214         | 0.1990 | 0.1597 | 11      | 0.38                | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0389     | 5.425    | 0.0100 | 5.214         | 0.1990 | 0.1597 | 11      | 1.06                | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0501     | 5.555    | 0.6700 | 5.214         | 0.1990 | 0.1597 | 11      | 1.71                | OK               | 0    |
| 121.99      | Acid Soluble Mg, Other (5%)                                          | 0523     | 11.93    | 1.120  | 5.214         | 0.1990 | 0.1597 | 11      | 33.75               | High             | 2    |
| 131.30      | Water Soluble Mg, ICP (%)                                            | 0444     | 5.190    | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 131.99      | Water Soluble Mg, Other (%)                                          | 0532     | 4.995    | 0.1700 |               |        |        | 2       |                     |                  | 0    |
| 131.99      | Water Soluble Mg, Other (%)                                          | 0560     | 5.160    | 0.0400 |               |        |        | 2       |                     |                  | 0    |
| 143.00      | Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfu     | 0405     | 0.0125   | 0.0050 |               |        |        | 1       |                     |                  | 0    |
| 143.99      | Elemental S, Other (%)                                               | 0255     | 6.652    | 0.1470 | 7.083         | 0.4291 | 0.5401 | 5       | -1.00               |                  | 0    |
| 143.99      | Elemental S, Other (%)                                               | 0291     | 6.795    | 0.0100 | 7.083         | 0.4291 | 0.5401 | 5       | -0.67               |                  | 0    |
| 143.99      | Elemental S, Other (%)                                               | 0368     | 6.947    | 0.0036 | 7.083         | 0.4291 | 0.5401 | 5       | -0.32               |                  | 0    |
| 143.99      | Elemental S, Other (%)                                               | 0390     | 7.305    | 2.410  | 7.083         | 0.4291 | 0.5401 | 5       | 0.52                |                  | 0    |
| 143.99      | Elemental S, Other (%)                                               | 0389     | 7.715    | 0.1300 | 7.083         | 0.4291 | 0.5401 | 5       | 1.47                |                  | 0    |
| 145.00      | Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)        | 0405     | 6.675    | 0.0100 | 6.843         | 0.1748 | 0.1414 | 5       | -0.96               |                  | 0    |
| 145.00      | Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)        | 0494     | 6.707    | 0.1270 | 6.843         | 0.1748 | 0.1414 | 5       | -0.78               |                  | 0    |
| 145.00      | Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)        | 0561     | 6.775    | 0.1300 | 6.843         | 0.1748 | 0.1414 | 5       | -0.39               |                  | 0    |
| 145.00      | Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)        | 0027     | 7.010    | 0.1400 | 6.843         | 0.1748 | 0.1414 | 5       | 0.95                |                  | 0    |
| 145.00      | Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)        | 0498     | 7.050    | 0.3000 | 6.843         | 0.1748 | 0.1414 | 5       | 1.18                |                  | 0    |
| 145.99      | Sulfate S, HCl soluble, Other (%)                                    | 0553     | 6.995    | 0.2300 |               |        |        | 1       |                     |                  | 0    |
| 146.00      | Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... | 0580     | 6.850    | 0.4800 |               |        |        | 1       |                     |                  | 0    |
| 148.00      | Total S, Combustion (6.5%)                                           | 0073     | 5.800    | 0.4000 | 6.640         | 0.6994 | 0.3975 | 5       | -1.20               |                  | 0    |
| 148.00      | Total S, Combustion (6.5%)                                           | 0131     | 6.339    | 0.4290 | 6.640         | 0.6994 | 0.3975 | 5       | -0.43               |                  | 0    |
| 148.00      | Total S, Combustion (6.5%)                                           | 0029     | 6.482    | 0.7350 | 6.640         | 0.6994 | 0.3975 | 5       | -0.23               |                  | 0    |
| 148.00      | Total S, Combustion (6.5%)                                           | 0049     | 6.912    | 0.3436 | 6.640         | 0.6994 | 0.3975 | 5       | 0.39                |                  | 0    |
| 148.00      | Total S, Combustion (6.5%)                                           | 0451     | 7.670    | 0.0800 | 6.640         | 0.6994 | 0.3975 | 5       | 1.47                |                  | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%)                  | 0095     | 6.310    | 0.3400 | 6.701         | 0.2921 | 0.1120 | 10      | -1.25               | OK               | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%)                  | 0565     | 6.515    | 0.0300 | 6.701         | 0.2921 | 0.1120 | 10      | -0.59               | OK               | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%)                  | 0534     | 6.520    | 0.0200 | 6.701         | 0.2921 | 0.1120 | 10      | -0.58               | OK               | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%)                  | 0564     | 6.530    | 0.0200 | 6.701         | 0.2921 | 0.1120 | 10      | -0.55               | OK               | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%)                  | 0540     | 6.580    | 0.1400 | 6.701         | 0.2921 | 0.1120 | 10      | -0.39               | OK               | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%)                  | 0405     | 6.690    | 0.0200 | 6.701         | 0.2921 | 0.1120 | 10      | -0.04               | OK               | 0    |

| Method Code | Analyte Name and Method (Units)                     | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|-----------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                     |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%) | 0485     | 6.830    | 0.0400 | 6.701         | 0.2921 | 0.1120 | 10      | 0.41                | OK               | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%) | 0055     | 6.950    | 0.0200 | 6.701         | 0.2921 | 0.1120 | 10      | 0.79                | OK               | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%) | 0230     | 6.950    | 0.1000 | 6.701         | 0.2921 | 0.1120 | 10      | 0.79                | OK               | 0    |
| 148.01      | Total S, Gravimetric - sulfate and elemental (6.5%) | 0324     | 7.435    | 0.3900 | 6.701         | 0.2921 | 0.1120 | 10      | 2.34                | High             | 0    |
| 148.04      | Total S, ICP, w/Br digestion (6.5%)                 | 0169     | 6.570    | 0.0800 |               |        |        | 1       |                     |                  | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0515     | 5.254    | 0.3431 | 6.897         | 0.5476 | 0.1343 | 18      | -3.00               | Low              | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0233     | 6.365    | 0.1500 | 6.897         | 0.5476 | 0.1343 | 18      | -0.97               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0444     | 6.385    | 0.0900 | 6.897         | 0.5476 | 0.1343 | 18      | -0.94               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0037     | 6.505    | 0.0990 | 6.897         | 0.5476 | 0.1343 | 18      | -0.72               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0472     | 6.520    | 0.0200 | 6.897         | 0.5476 | 0.1343 | 18      | -0.69               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0043     | 6.530    | 0.0200 | 6.897         | 0.5476 | 0.1343 | 18      | -0.67               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0260     | 6.630    | 0.2000 | 6.897         | 0.5476 | 0.1343 | 18      | -0.49               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0394     | 6.761    | 0.1200 | 6.897         | 0.5476 | 0.1343 | 18      | -0.25               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0040     | 6.850    | 0.1000 | 6.897         | 0.5476 | 0.1343 | 18      | -0.09               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0106     | 6.870    | 0.4200 | 6.897         | 0.5476 | 0.1343 | 18      | -0.05               | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0292     | 6.920    | 0.0000 | 6.897         | 0.5476 | 0.1343 | 18      | 0.04                | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0494     | 6.935    | 0.0100 | 6.897         | 0.5476 | 0.1343 | 18      | 0.07                | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0513     | 7.120    | 0.0400 | 6.897         | 0.5476 | 0.1343 | 18      | 0.41                | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0177     | 7.347    | 0.0912 | 6.897         | 0.5476 | 0.1343 | 18      | 0.82                | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0421     | 7.405    | 0.1300 | 6.897         | 0.5476 | 0.1343 | 18      | 0.93                | OK               | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0402     | 7.496    | 0.0710 | 6.897         | 0.5476 | 0.1343 | 18      | 1.09                | High             | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0563     | 8.480    | 0.3720 | 6.897         | 0.5476 | 0.1343 | 18      | 2.89                | High             | 0    |
| 148.07      | Total S, ICP, test portion as in 2017.02 (6.5%)     | 0527     | 9.859    | 0.1407 | 6.897         | 0.5476 | 0.1343 | 18      | 5.41                | High             | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0220     | 0.6400   | 0.0200 | 6.710         | 0.3874 | 0.1438 | 18      | -15.67              | Low              | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0523     | 1.170    | 0.0000 | 6.710         | 0.3874 | 0.1438 | 18      | -14.30              | Low              | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0521     | 6.402    | 0.0000 | 6.710         | 0.3874 | 0.1438 | 18      | -0.79               | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0558     | 6.460    | 0.0171 | 6.710         | 0.3874 | 0.1438 | 18      | -0.64               | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0559     | 6.535    | 0.0300 | 6.710         | 0.3874 | 0.1438 | 18      | -0.45               | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0560     | 6.565    | 0.0500 | 6.710         | 0.3874 | 0.1438 | 18      | -0.37               | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0532     | 6.575    | 0.1300 | 6.710         | 0.3874 | 0.1438 | 18      | -0.35               | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0600     | 6.575    | 0.1500 | 6.710         | 0.3874 | 0.1438 | 18      | -0.35               | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0577     | 6.630    | 0.1000 | 6.710         | 0.3874 | 0.1438 | 18      | -0.21               | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0136     | 6.680    | 0.2200 | 6.710         | 0.3874 | 0.1438 | 18      | -0.08               | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0481     | 6.740    | 0.1200 | 6.710         | 0.3874 | 0.1438 | 18      | 0.08                | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0433     | 6.821    | 0.3190 | 6.710         | 0.3874 | 0.1438 | 18      | 0.29                | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0035     | 6.835    | 0.2100 | 6.710         | 0.3874 | 0.1438 | 18      | 0.32                | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0377     | 6.915    | 0.0300 | 6.710         | 0.3874 | 0.1438 | 18      | 0.53                | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0023     | 7.035    | 0.2100 | 6.710         | 0.3874 | 0.1438 | 18      | 0.84                | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0354     | 7.210    | 0.2800 | 6.710         | 0.3874 | 0.1438 | 18      | 1.29                | OK               | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0501     | 7.250    | 0.3800 | 6.710         | 0.3874 | 0.1438 | 18      | 1.39                | High             | 0    |
| 148.99      | Total S, Other (6.5%)                               | 0422     | 7.353    | 0.3220 | 6.710         | 0.3874 | 0.1438 | 18      | 1.66                | High             | 0    |
| 149.04      | S - HNO3 soluble, ICP (%)                           | 0588     | 6.550    | 0.0800 | 6.741         | 0.1791 | 0.0526 | 5       | -1.07               |                  | 0    |
| 149.04      | S - HNO3 soluble, ICP (%)                           | 0524     | 6.583    | 0.0161 | 6.741         | 0.1791 | 0.0526 | 5       | -0.88               |                  | 0    |



| Method Code | Analyte Name and Method (Units)                                | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|----------------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                                |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 149.04      | S - HNO3 soluble, ICP (%)                                      | 0423     | 6.725    | 0.0500 | 6.741         | 0.1791 | 0.0526 | 5       | -0.09               |                  | 0    |
| 149.04      | S - HNO3 soluble, ICP (%)                                      | 0231     | 6.905    | 0.0700 | 6.741         | 0.1791 | 0.0526 | 5       | 0.92                |                  | 0    |
| 149.04      | S - HNO3 soluble, ICP (%)                                      | 0397     | 6.941    | 0.0471 | 6.741         | 0.1791 | 0.0526 | 5       | 1.12                |                  | 0    |
| 151.00      | Acid Soluble As, AA, test portion 2006.03 modified w/dual acid | 0498     | < 0.2    |        |               |        |        | 0       |                     |                  | 5    |
| 151.30      | Acid Soluble As, ICP (ppm)                                     | 0524     | 0.0993   | 0.0087 |               |        |        | 2       |                     |                  | 0    |
| 151.30      | Acid Soluble As, ICP (ppm)                                     | 0523     | 0.1480   | 0.0120 |               |        |        | 2       |                     |                  | 0    |
| 151.30      | Acid Soluble As, ICP (ppm)                                     | 0255     | 0.0000   | 0.0000 |               |        |        | 2       |                     |                  | 4    |
| 151.32      | Acid Soluble As, ICP, 2006.03 (ppm)                            | 0220     | < 1      |        |               |        |        | 0       |                     |                  | 5    |
| 151.32      | Acid Soluble As, ICP, 2006.03 (ppm)                            | 0405     | < 3      |        |               |        |        | 0       |                     |                  | 5    |
| 151.33      | Acid Soluble As, ICP, 2017.02 (ppm)                            | 0563     | 0.3145   | 0.0790 |               |        |        | 2       |                     |                  | 0    |
| 151.33      | Acid Soluble As, ICP, 2017.02 (ppm)                            | 0527     | 3.594    | 0.4081 |               |        |        | 2       |                     |                  | 0    |
| 151.33      | Acid Soluble As, ICP, 2017.02 (ppm)                            | 0136     | < 1      |        |               |        |        | 2       |                     |                  | 5    |
| 151.33      | Acid Soluble As, ICP, 2017.02 (ppm)                            | 0009     | < 5      |        |               |        |        | 2       |                     |                  | 5    |
| 151.34      | Acid Soluble As, ICP, EPA 3050B/6010C (ppm)                    | 0368     | < 0.3    |        |               |        |        | 0       |                     |                  | 5    |
| 151.99      | Acid Soluble As, Other (ppm)                                   | 0481     | < 0.5    |        |               |        |        | 0       |                     |                  | 5    |
| 151.99      | Acid Soluble As, Other (ppm)                                   | 0009     | < 0.63   |        |               |        |        | 0       |                     |                  | 5    |
| 165.00      | Acid Soluble B, Spectrophotometric (%)                         | 0553     | 0.0030   | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 165.30      | Acid Soluble B, ICP, test portion in 982.01 (%)                | 0354     | < 0.01   |        |               |        |        | 0       |                     |                  | 5    |
| 165.99      | Acid Soluble B, Other (%)                                      | 0524     | 0.0016   | 0.0000 | 0.0165        | 0.0228 | 0.0100 | 5       | -0.57               |                  | 0    |
| 165.99      | Acid Soluble B, Other (%)                                      | 0527     | 0.0021   | 0.0001 | 0.0165        | 0.0228 | 0.0100 | 5       | -0.55               |                  | 0    |
| 165.99      | Acid Soluble B, Other (%)                                      | 0423     | 0.0040   | 0.0000 | 0.0165        | 0.0228 | 0.0100 | 5       | -0.48               |                  | 0    |
| 165.99      | Acid Soluble B, Other (%)                                      | 0472     | 0.0200   | 0.0000 | 0.0165        | 0.0228 | 0.0100 | 5       | 0.13                |                  | 0    |
| 165.99      | Acid Soluble B, Other (%)                                      | 0552     | 0.0550   | 0.0500 | 0.0165        | 0.0228 | 0.0100 | 5       | 1.47                |                  | 0    |
| 165.99      | Acid Soluble B, Other (%)                                      | 0009     | < 0.0025 |        | 0.0165        | 0.0228 | 0.0100 | 5       |                     |                  | 5    |
| 181.00      | Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid | 0498     | < 0.1    |        |               |        |        | 0       |                     |                  | 5    |
| 181.00      | Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid | 0534     | < 0.5    |        |               |        |        | 0       |                     |                  | 5    |
| 181.30      | Acid Soluble Cd, ICP (ppm)                                     | 0523     | 0.0075   | 0.0130 | 1.405         | 2.768  | 1.789  | 4       | -0.50               |                  | 0    |
| 181.30      | Acid Soluble Cd, ICP (ppm)                                     | 0524     | 0.0099   | 0.0019 | 1.405         | 2.768  | 1.789  | 4       | -0.50               |                  | 0    |
| 181.30      | Acid Soluble Cd, ICP (ppm)                                     | 0394     | 0.0440   | 0.0020 | 1.405         | 2.768  | 1.789  | 4       | -0.49               |                  | 0    |
| 181.30      | Acid Soluble Cd, ICP (ppm)                                     | 0255     | 5.557    | 7.140  | 1.405         | 2.768  | 1.789  | 4       | 1.50                |                  | 0    |
| 181.30      | Acid Soluble Cd, ICP (ppm)                                     | 0501     | < 0.001  |        | 1.405         | 2.768  | 1.789  | 4       |                     |                  | 5    |
| 181.32      | Acid Soluble Cd, ICP, 2006.03 (ppm)                            | 0220     | < 0.1    |        |               |        |        | 0       |                     |                  | 5    |
| 181.32      | Acid Soluble Cd, ICP, 2006.03 (ppm)                            | 0405     | < 1      |        |               |        |        | 0       |                     |                  | 5    |
| 181.33      | Acid Soluble Cd, ICP, 2017.02 (ppm)                            | 0563     | 0.0255   | 0.0050 |               |        |        | 1       |                     |                  | 0    |
| 181.33      | Acid Soluble Cd, ICP, 2017.02 (ppm)                            | 0527     | < 0.0001 |        |               |        |        | 1       |                     |                  | 5    |
| 181.33      | Acid Soluble Cd, ICP, 2017.02 (ppm)                            | 0136     | < 1      |        |               |        |        | 1       |                     |                  | 5    |
| 181.33      | Acid Soluble Cd, ICP, 2017.02 (ppm)                            | 0009     | < 2      |        |               |        |        | 1       |                     |                  | 5    |
| 181.34      | Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)                    | 0368     | < 0.1    |        |               |        |        | 0       |                     |                  | 5    |
| 181.99      | Acid Soluble Cd, Other (ppm)                                   | 0009     | < 0.13   |        |               |        |        | 0       |                     |                  | 5    |
| 181.99      | Acid Soluble Cd, Other (ppm)                                   | 0481     | < 0.5    |        |               |        |        | 0       |                     |                  | 5    |
| 190.00      | Water Soluble Cl, Titrimetric (%)                              | 0553     | < 0.1    |        |               |        |        | 0       |                     |                  | 5    |
| 191.00      | Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid | 0498     | 1.900    | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 191.30      | Acid Soluble Cr, ICP (ppm)                                     | 0501     | 0.8550   | 0.0300 | 1.684         | 0.7949 | 0.0431 | 6       | -0.93               | NA               | 0    |



| Method Code | Analyte Name and Method (Units)                                | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|----------------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                                |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 191.30      | Acid Soluble Cr, ICP (ppm)                                     | 0523     | 1.136    | 0.0960 | 1.684         | 0.7949 | 0.0431 | 6       | -0.61               | NA               | 0    |
| 191.30      | Acid Soluble Cr, ICP (ppm)                                     | 0035     | 1.440    | 0.0000 | 1.684         | 0.7949 | 0.0431 | 6       | -0.27               | NA               | 0    |
| 191.30      | Acid Soluble Cr, ICP (ppm)                                     | 0394     | 1.856    | 0.1180 | 1.684         | 0.7949 | 0.0431 | 6       | 0.19                | NA               | 0    |
| 191.30      | Acid Soluble Cr, ICP (ppm)                                     | 0524     | 2.002    | 0.0044 | 1.684         | 0.7949 | 0.0431 | 6       | 0.36                | NA               | 0    |
| 191.30      | Acid Soluble Cr, ICP (ppm)                                     | 0389     | 2.815    | 0.0100 | 1.684         | 0.7949 | 0.0431 | 6       | 1.27                | NA               | 0    |
| 191.32      | Acid Soluble Cr, ICP, 2006.03 (ppm)                            | 0220     | 3.150    | 0.3000 |               |        |        | 1       |                     |                  | 0    |
| 191.32      | Acid Soluble Cr, ICP, 2006.03 (ppm)                            | 0405     | < 1      |        |               |        |        | 1       |                     |                  | 5    |
| 191.33      | Acid Soluble Cr, ICP, 2017.02 (ppm)                            | 0563     | 1.195    | 0.0200 |               |        |        | 2       |                     |                  | 0    |
| 191.33      | Acid Soluble Cr, ICP, 2017.02 (ppm)                            | 0527     | 1.218    | 0.2531 |               |        |        | 2       |                     |                  | 0    |
| 191.33      | Acid Soluble Cr, ICP, 2017.02 (ppm)                            | 0136     | < 2.5    |        |               |        |        | 2       |                     |                  | 5    |
| 191.33      | Acid Soluble Cr, ICP, 2017.02 (ppm)                            | 0009     | < 22     |        |               |        |        | 2       |                     |                  | 5    |
| 191.34      | Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)                    | 0368     | 0.3500   | 0.1000 |               |        |        | 1       |                     |                  | 0    |
| 191.99      | Acid Soluble Cr, Other (ppm)                                   | 0220     | 3.050    | 0.1000 |               |        |        | 1       |                     |                  | 0    |
| 191.99      | Acid Soluble Cr, Other (ppm)                                   | 0009     | < 6.3    |        |               |        |        | 1       |                     |                  | 5    |
| 191.99      | Acid Soluble Cr, Other (ppm)                                   | 0481     | < 20     |        |               |        |        | 1       |                     |                  | 5    |
| 202.00      | Acid Soluble Co, AA, test portion 2006.03 modified w/dual acid | 0498     | < 20     |        |               |        |        | 0       |                     |                  | 5    |
| 202.30      | Acid Soluble Co, ICP (ppm)                                     | 0523     | 0.0650   | 0.0000 |               |        |        | 2       |                     |                  | 0    |
| 202.30      | Acid Soluble Co, ICP (ppm)                                     | 0524     | 0.2528   | 0.0486 |               |        |        | 2       |                     |                  | 0    |
| 202.32      | Acid Soluble Co, ICP, 2006.03 (ppm)                            | 0220     | < 0.1    |        |               |        |        | 0       |                     |                  | 5    |
| 202.32      | Acid Soluble Co, ICP, 2006.03 (ppm)                            | 0405     | < 1      |        |               |        |        | 0       |                     |                  | 5    |
| 202.33      | Acid Soluble Co, ICP, 2017.02 (ppm)                            | 0563     | 0.0505   | 0.0030 |               |        |        | 1       |                     |                  | 0    |
| 202.33      | Acid Soluble Co, ICP, 2017.02 (ppm)                            | 0527     | < 0.0001 |        |               |        |        | 1       |                     |                  | 5    |
| 202.33      | Acid Soluble Co, ICP, 2017.02 (ppm)                            | 0009     | < 2      |        |               |        |        | 1       |                     |                  | 5    |
| 202.33      | Acid Soluble Co, ICP, 2017.02 (ppm)                            | 0136     | < 2.5    |        |               |        |        | 1       |                     |                  | 5    |
| 202.34      | Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)                    | 0501     | 0.0835   | 0.0030 |               |        |        | 2       |                     |                  | 0    |
| 202.34      | Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)                    | 0368     | 0.7500   | 1.300  |               |        |        | 2       |                     |                  | 0    |
| 202.99      | Acid Soluble Co, Other (ppm)                                   | 0255     | 26.21    | 13.57  |               |        |        | 1       |                     |                  | 0    |
| 202.99      | Acid Soluble Co, Other (ppm)                                   | 0009     | < 0.63   |        |               |        |        | 1       |                     |                  | 5    |
| 221.00      | Acid Soluble Cu, AA, inorganic 965.09 (%)                      | 0553     | < 0.005  |        |               |        |        | 0       |                     |                  | 5    |
| 221.03      | Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C w/dual a  | 0498     | < 0.002  |        |               |        |        | 0       |                     |                  | 5    |
| 221.30      | Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)        | 0035     | 0.0004   | 0.0002 | 0.0162        | 0.0292 | 0.0058 | 4       | -0.54               |                  | 0    |
| 221.30      | Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)        | 0255     | 0.0020   | 0.0000 | 0.0162        | 0.0292 | 0.0058 | 4       | -0.49               |                  | 0    |
| 221.30      | Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)        | 0049     | 0.0025   | 0.0028 | 0.0162        | 0.0292 | 0.0058 | 4       | -0.47               |                  | 0    |
| 221.30      | Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)        | 0552     | 0.0600   | 0.0200 | 0.0162        | 0.0292 | 0.0058 | 4       | 1.50                |                  | 0    |
| 221.30      | Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)        | 0354     | < 0.01   |        | 0.0162        | 0.0292 | 0.0058 | 4       |                     |                  | 5    |
| 221.32      | Acid Soluble Cu, ICP, test portion 2006.03A-C (%)              | 0394     | 0.0002   | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 221.32      | Acid Soluble Cu, ICP, test portion 2006.03A-C (%)              | 0405     | < 0.0002 |        |               |        |        | 1       |                     |                  | 5    |
| 221.33      | Acid Soluble Cu, ICP, 2017.02 (%)                              | 0136     | 0.0003   | 0.0000 | 0.0102        | 0.0171 | 0.0000 | 3       | -0.58               |                  | 0    |
| 221.33      | Acid Soluble Cu, ICP, 2017.02 (%)                              | 0527     | 0.0004   | 0.0000 | 0.0102        | 0.0171 | 0.0000 | 3       | -0.57               |                  | 0    |
| 221.33      | Acid Soluble Cu, ICP, 2017.02 (%)                              | 0472     | 0.0300   | 0.0000 | 0.0102        | 0.0171 | 0.0000 | 3       | 1.15                |                  | 0    |
| 221.33      | Acid Soluble Cu, ICP, 2017.02 (%)                              | 0106     | 0.0001   | 0.0001 | 0.0102        | 0.0171 | 0.0000 | 3       |                     |                  | 4    |
| 221.33      | Acid Soluble Cu, ICP, 2017.02 (%)                              | 0009     | < 0.0025 |        | 0.0102        | 0.0171 | 0.0000 | 3       |                     |                  | 5    |
| 221.99      | Acid Soluble Cu, Other (%)                                     | 0524     | 0.0002   | 0.0000 | 0.6638        | 1.324  | 0.2263 | 4       | -0.43               |                  | 0    |

| Method Code | Analyte Name and Method (Units)                                | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|----------------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                                |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 221.99      | Acid Soluble Cu, Other (%)                                     | 0523     | 0.0010   | 0.0000 | 0.6638        | 1.324  | 0.2263 | 4       | -0.42               |                  | 0    |
| 221.99      | Acid Soluble Cu, Other (%)                                     | 0368     | 0.0042   | 0.0053 | 0.6638        | 1.324  | 0.2263 | 4       | -0.42               |                  | 0    |
| 221.99      | Acid Soluble Cu, Other (%)                                     | 0501     | 2.650    | 0.9000 | 0.6638        | 1.324  | 0.2263 | 4       | 1.27                |                  | 0    |
| 221.99      | Acid Soluble Cu, Other (%)                                     | 0481     | < 0.001  |        | 0.6638        | 1.324  | 0.2263 | 4       |                     |                  | 5    |
| 221.99      | Acid Soluble Cu, Other (%)                                     | 0009     | < 0.002  |        | 0.6638        | 1.324  | 0.2263 | 4       |                     |                  | 5    |
| 241.00      | Acid Soluble Fe, AA, inorganic 965.09 (%)                      | 0553     | < 0.005  |        |               |        |        | 0       |                     |                  | 5    |
| 241.30      | Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)        | 0035     | 0.0035   | 0.0010 |               |        |        | 2       |                     |                  | 0    |
| 241.30      | Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)        | 0552     | 0.1050   | 0.0700 |               |        |        | 2       |                     |                  | 0    |
| 241.30      | Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)        | 0354     | < 0.01   |        |               |        |        | 2       |                     |                  | 5    |
| 241.32      | Acid Soluble Fe, ICP, test portion 2006.03A-C (%)              | 0423     | 0.0030   | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 241.33      | Acid Soluble Fe, ICP, 2017.02 (%)                              | 0527     | 0.0040   | 0.0001 | 0.0110        | 0.0121 | 0.0034 | 3       | -0.59               |                  | 0    |
| 241.33      | Acid Soluble Fe, ICP, 2017.02 (%)                              | 0009     | 0.0042   | 0.0001 | 0.0110        | 0.0121 | 0.0034 | 3       | -0.57               |                  | 0    |
| 241.33      | Acid Soluble Fe, ICP, 2017.02 (%)                              | 0472     | 0.0250   | 0.0100 | 0.0110        | 0.0121 | 0.0034 | 3       | 1.15                |                  | 0    |
| 241.99      | Acid Soluble Fe, Other (%)                                     | 0524     | 0.0017   | 0.0001 |               |        |        | 1       |                     |                  | 0    |
| 251.00      | Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid | 0498     | < 0.5    |        |               |        |        | 0       |                     |                  | 5    |
| 251.00      | Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid | 0534     | < 2      |        |               |        |        | 0       |                     |                  | 5    |
| 251.30      | Acid Soluble Pb, ICP (ppm)                                     | 0394     | 0.0585   | 0.0410 | 0.0753        | 0.0205 | 0.0572 | 4       | -0.82               |                  | 0    |
| 251.30      | Acid Soluble Pb, ICP (ppm)                                     | 0501     | 0.0655   | 0.0890 | 0.0753        | 0.0205 | 0.0572 | 4       | -0.48               |                  | 0    |
| 251.30      | Acid Soluble Pb, ICP (ppm)                                     | 0523     | 0.0725   | 0.0430 | 0.0753        | 0.0205 | 0.0572 | 4       | -0.14               |                  | 0    |
| 251.30      | Acid Soluble Pb, ICP (ppm)                                     | 0524     | 0.1049   | 0.0559 | 0.0753        | 0.0205 | 0.0572 | 4       | 1.44                |                  | 0    |
| 251.30      | Acid Soluble Pb, ICP (ppm)                                     | 0255     | 0.4585   | 0.9170 | 0.0753        | 0.0205 | 0.0572 | 4       |                     |                  | 4    |
| 251.32      | Acid Soluble Pb, ICP, 2006.03 (ppm)                            | 0220     | 0.4000   | 0.6000 |               |        |        | 1       |                     |                  | 0    |
| 251.32      | Acid Soluble Pb, ICP, 2006.03 (ppm)                            | 0405     | < 4      |        |               |        |        | 1       |                     |                  | 5    |
| 251.33      | Acid Soluble Pb, ICP, 2017.02 (ppm)                            | 0527     | < 0.0001 |        |               |        |        | 0       |                     |                  | 5    |
| 251.33      | Acid Soluble Pb, ICP, 2017.02 (ppm)                            | 0136     | < 3      |        |               |        |        | 0       |                     |                  | 5    |
| 251.33      | Acid Soluble Pb, ICP, 2017.02 (ppm)                            | 0009     | < 6      |        |               |        |        | 0       |                     |                  | 5    |
| 251.34      | Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)                    | 0368     | < 0.6    |        |               |        |        | 0       |                     |                  | 5    |
| 251.99      | Acid Soluble Pb, Other (ppm)                                   | 0220     | 0.5500   | 0.3000 |               |        |        | 1       |                     |                  | 0    |
| 251.99      | Acid Soluble Pb, Other (ppm)                                   | 0481     | < 0.5    |        |               |        |        | 1       |                     |                  | 5    |
| 251.99      | Acid Soluble Pb, Other (ppm)                                   | 0009     | < 2.5    |        |               |        |        | 1       |                     |                  | 5    |
| 261.00      | Acid Soluble Mn, AA, Mn2+ only (%)                             | 0553     | < 0.005  |        |               |        |        | 0       |                     |                  | 5    |
| 261.30      | Acid Soluble Mn, ICP, test portion 972.02a (%)                 | 0035     | 0.0008   | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 261.30      | Acid Soluble Mn, ICP, test portion 972.02a (%)                 | 0354     | < 0.01   |        |               |        |        | 1       |                     |                  | 5    |
| 261.32      | Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)        | 0552     | 0.0600   | 0.0600 |               |        |        | 1       |                     |                  | 0    |
| 261.35      | Acid Soluble Mn, ICP, 2017.02 (%)                              | 0009     | 0.0007   | 0.0000 | 0.0069        | 0.0121 | 0.0025 | 4       | -0.52               |                  | 0    |
| 261.35      | Acid Soluble Mn, ICP, 2017.02 (%)                              | 0037     | 0.0010   | 0.0000 | 0.0069        | 0.0121 | 0.0025 | 4       | -0.49               |                  | 0    |
| 261.35      | Acid Soluble Mn, ICP, 2017.02 (%)                              | 0527     | 0.0010   | 0.0000 | 0.0069        | 0.0121 | 0.0025 | 4       | -0.49               |                  | 0    |
| 261.35      | Acid Soluble Mn, ICP, 2017.02 (%)                              | 0472     | 0.0250   | 0.0100 | 0.0069        | 0.0121 | 0.0025 | 4       | 1.50                |                  | 0    |
| 261.99      | Acid Soluble Mn, Other (%)                                     | 0524     | 0.0006   | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 281.00      | Acid Soluble Hg, AA (ppm)                                      | 0481     | < 0.5    |        |               |        |        | 0       |                     |                  | 5    |
| 281.30      | Acid Soluble Hg, ICP (ppm)                                     | 0501     | 0.0020   | 0.0005 |               |        |        | 1       |                     |                  | 0    |
| 281.30      | Acid Soluble Hg, ICP (ppm)                                     | 0527     | < 0.001  |        |               |        |        | 1       |                     |                  | 5    |
| 281.30      | Acid Soluble Hg, ICP (ppm)                                     | 0563     | < 0.02   |        |               |        |        | 1       |                     |                  | 5    |

| Method Code | Analyte Name and Method (Units)             | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|---------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                             |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 281.30      | Acid Soluble Hg, ICP (ppm)                  | 0405     | < 2      |        |               |        |        | 1       |                     |                  | 5    |
| 281.99      | Acid Soluble Hg, Other (ppm)                | 0368     | 0.0009   | 0.0001 | 0.0044        | 0.0049 | 0.0007 | 3       | -0.71               |                  | 0    |
| 281.99      | Acid Soluble Hg, Other (ppm)                | 0524     | 0.0022   | 0.0000 | 0.0044        | 0.0049 | 0.0007 | 3       | -0.44               |                  | 0    |
| 281.99      | Acid Soluble Hg, Other (ppm)                | 0035     | 0.0100   | 0.0020 | 0.0044        | 0.0049 | 0.0007 | 3       | 1.14                |                  | 0    |
| 281.99      | Acid Soluble Hg, Other (ppm)                | 0220     | < 0.01   |        | 0.0044        | 0.0049 | 0.0007 | 3       |                     |                  | 5    |
| 289.30      | Acid Soluble Mo, ICP (ppm)                  | 0523     | 0.1010   | 0.1980 | 0.6384        | 0.7231 | 0.1911 | 3       | -0.74               |                  | 0    |
| 289.30      | Acid Soluble Mo, ICP (ppm)                  | 0524     | 0.3537   | 0.0363 | 0.6384        | 0.7231 | 0.1911 | 3       | -0.39               |                  | 0    |
| 289.30      | Acid Soluble Mo, ICP (ppm)                  | 0255     | 1.461    | 0.3390 | 0.6384        | 0.7231 | 0.1911 | 3       | 1.14                |                  | 0    |
| 289.32      | Acid Soluble Mo, ICP, 2006.03 (ppm)         | 0220     | 0.6000   | 0.0000 |               |        |        | 1       |                     |                  | 0    |
| 289.32      | Acid Soluble Mo, ICP, 2006.03 (ppm)         | 0405     | < 1      |        |               |        |        | 1       |                     |                  | 5    |
| 289.33      | Acid Soluble Mo, ICP, 2017.02 (ppm)         | 0563     | 0.5440   | 0.1220 |               |        |        | 2       |                     |                  | 0    |
| 289.33      | Acid Soluble Mo, ICP, 2017.02 (ppm)         | 0527     | 0.6406   | 0.0099 |               |        |        | 2       |                     |                  | 0    |
| 289.33      | Acid Soluble Mo, ICP, 2017.02 (ppm)         | 0106     | 0.5000   | 1.000  |               |        |        | 2       |                     |                  | 4    |
| 289.33      | Acid Soluble Mo, ICP, 2017.02 (ppm)         | 0136     | < 2.5    |        |               |        |        | 2       |                     |                  | 5    |
| 289.33      | Acid Soluble Mo, ICP, 2017.02 (ppm)         | 0009     | < 4      |        |               |        |        | 2       |                     |                  | 5    |
| 289.34      | Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm) | 0501     | 0.5600   | 0.0600 |               |        |        | 1       |                     |                  | 0    |
| 289.34      | Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm) | 0368     | 0.5000   | 1.000  |               |        |        | 1       |                     |                  | 4    |
| 289.99      | Acid Soluble Mo, Other (ppm)                | 0220     | 0.5500   | 0.3000 |               |        |        | 1       |                     |                  | 0    |
| 289.99      | Acid Soluble Mo, Other (ppm)                | 0009     | < 2.5    |        |               |        |        | 1       |                     |                  | 5    |
| 291.30      | Acid Soluble Ni, ICP (ppm)                  | 0524     | 0.4458   | 0.0079 | 0.5508        | 0.0990 | 0.0303 | 3       | -1.06               |                  | 0    |
| 291.30      | Acid Soluble Ni, ICP (ppm)                  | 0394     | 0.5640   | 0.0660 | 0.5508        | 0.0990 | 0.0303 | 3       | 0.13                |                  | 0    |
| 291.30      | Acid Soluble Ni, ICP (ppm)                  | 0523     | 0.6425   | 0.0170 | 0.5508        | 0.0990 | 0.0303 | 3       | 0.93                |                  | 0    |
| 291.32      | Acid Soluble Ni, ICP, 2006.03 (ppm)         | 0220     | 1.300    | 0.2000 |               |        |        | 1       |                     |                  | 0    |
| 291.32      | Acid Soluble Ni, ICP, 2006.03 (ppm)         | 0405     | < 1      |        |               |        |        | 1       |                     |                  | 5    |
| 291.33      | Acid Soluble Ni, ICP, 2017.02 (ppm)         | 0527     | 0.8260   | 0.1618 |               |        |        | 1       |                     |                  | 0    |
| 291.33      | Acid Soluble Ni, ICP, 2017.02 (ppm)         | 0136     | < 2.5    |        |               |        |        | 1       |                     |                  | 5    |
| 291.33      | Acid Soluble Ni, ICP, 2017.02 (ppm)         | 0009     | < 3      |        |               |        |        | 1       |                     |                  | 5    |
| 291.34      | Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm) | 0501     | 0.8750   | 0.0700 |               |        |        | 2       |                     |                  | 0    |
| 291.34      | Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm) | 0368     | 0.9500   | 0.9000 |               |        |        | 2       |                     |                  | 0    |
| 291.99      | Acid Soluble Ni, Other (ppm)                | 0220     | 1.400    | 0.4000 |               |        |        | 2       |                     |                  | 0    |
| 291.99      | Acid Soluble Ni, Other (ppm)                | 0255     | 30.90    | 15.08  |               |        |        | 2       |                     |                  | 0    |
| 291.99      | Acid Soluble Ni, Other (ppm)                | 0009     | < 6.3    |        |               |        |        | 2       |                     |                  | 5    |
| 301.30      | Acid Soluble Se, ICP (ppm)                  | 0524     | 0.0247   | 0.0081 | 0.0666        | 0.0594 | 0.0400 | 3       | -0.71               |                  | 0    |
| 301.30      | Acid Soluble Se, ICP (ppm)                  | 0501     | 0.0405   | 0.0110 | 0.0666        | 0.0594 | 0.0400 | 3       | -0.44               |                  | 0    |
| 301.30      | Acid Soluble Se, ICP (ppm)                  | 0523     | 0.1345   | 0.1010 | 0.0666        | 0.0594 | 0.0400 | 3       | 1.14                |                  | 0    |
| 301.32      | Acid Soluble Se, ICP, 2006.03 (ppm)         | 0220     | < 0.3    |        |               |        |        | 0       |                     |                  | 5    |
| 301.32      | Acid Soluble Se, ICP, 2006.03 (ppm)         | 0405     | < 10     |        |               |        |        | 0       |                     |                  | 5    |
| 301.33      | Acid Soluble Se, ICP, 2017.02 (ppm)         | 0563     | 1.129    | 0.1610 |               |        |        | 1       |                     |                  | 0    |
| 301.33      | Acid Soluble Se, ICP, 2017.02 (ppm)         | 0527     | < 0.01   |        |               |        |        | 1       |                     |                  | 5    |
| 301.33      | Acid Soluble Se, ICP, 2017.02 (ppm)         | 0009     | < 22     |        |               |        |        | 1       |                     |                  | 5    |
| 301.34      | Acid Soluble Se, ICP, EPA 3050B/6010C (ppm) | 0368     | < 1.1    |        |               |        |        | 0       |                     |                  | 5    |
| 301.99      | Acid Soluble Se, Other (ppm)                | 0255     | 0.0000   | 0.0000 |               |        |        | 0       |                     |                  | 4    |
| 301.99      | Acid Soluble Se, Other (ppm)                | 0481     | < 0.5    |        |               |        |        | 0       |                     |                  | 5    |

| Method Code | Analyte Name and Method (Units)                               | Lab Code | Lab Data |        | Method Values |        |        | # Tests | Magruder PT Z Score | Method IA Status | Flag |
|-------------|---------------------------------------------------------------|----------|----------|--------|---------------|--------|--------|---------|---------------------|------------------|------|
|             |                                                               |          | Value    | Range  | Rob Mean      | Rob SD | Range  |         |                     |                  |      |
| 301.99      | Acid Soluble Se, Other (ppm)                                  | 0009     | < 0.63   |        |               |        |        | 0       |                     |                  | 5    |
| 311.00      | Sodium, AA (%)                                                | 0553     | 0.0715   | 0.0030 |               |        |        | 1       |                     |                  | 0    |
| 311.33      | Sodium, ICP, test portion as in 2017.02 (%)                   | 0515     | 0.0500   | 0.0063 | 0.0623        | 0.0079 | 0.0022 | 5       | -1.56               |                  | 0    |
| 311.33      | Sodium, ICP, test portion as in 2017.02 (%)                   | 0009     | 0.0610   | 0.0020 | 0.0623        | 0.0079 | 0.0022 | 5       | -0.16               |                  | 0    |
| 311.33      | Sodium, ICP, test portion as in 2017.02 (%)                   | 0423     | 0.0635   | 0.0010 | 0.0623        | 0.0079 | 0.0022 | 5       | 0.16                |                  | 0    |
| 311.33      | Sodium, ICP, test portion as in 2017.02 (%)                   | 0035     | 0.0655   | 0.0010 | 0.0623        | 0.0079 | 0.0022 | 5       | 0.41                |                  | 0    |
| 311.33      | Sodium, ICP, test portion as in 2017.02 (%)                   | 0527     | 0.0714   | 0.0009 | 0.0623        | 0.0079 | 0.0022 | 5       | 1.15                |                  | 0    |
| 311.99      | Sodium, Other (%)                                             | 0515     | 0.0612   | 0.0022 |               |        |        | 2       |                     |                  | 0    |
| 311.99      | Sodium, Other (%)                                             | 0354     | 0.0950   | 0.0100 |               |        |        | 2       |                     |                  | 0    |
| 321.00      | Acid Soluble Zn, AA, inorganic 965.09 (%)                     | 0553     | < 0.002  |        |               |        |        | 0       |                     |                  | 5    |
| 321.03      | Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual a | 0498     | < 0.01   |        |               |        |        | 0       |                     |                  | 5    |
| 321.30      | Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)       | 0255     | 0.0020   | 0.0000 |               |        |        | 2       |                     |                  | 0    |
| 321.30      | Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)       | 0552     | 0.5350   | 0.0100 |               |        |        | 2       |                     |                  | 0    |
| 321.30      | Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)       | 0049     | < 0.002  |        |               |        |        | 2       |                     |                  | 5    |
| 321.30      | Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)       | 0354     | < 0.01   |        |               |        |        | 2       |                     |                  | 5    |
| 321.32      | Acid Soluble Zn, ICP, test portion 2006.03A-C (%)             | 0394     | 0.0006   | 0.0001 |               |        |        | 1       |                     |                  | 0    |
| 321.33      | Acid Soluble Zn, ICP, 2017.02 (%)                             | 0527     | 0.0002   | 0.0000 |               |        |        | 2       |                     |                  | 0    |
| 321.33      | Acid Soluble Zn, ICP, 2017.02 (%)                             | 0136     | 0.0004   | 0.0001 |               |        |        | 2       |                     |                  | 0    |
| 321.33      | Acid Soluble Zn, ICP, 2017.02 (%)                             | 0106     | 0.0000   | 0.0000 |               |        |        | 2       |                     |                  | 4    |
| 321.33      | Acid Soluble Zn, ICP, 2017.02 (%)                             | 0009     | < 0.0025 |        |               |        |        | 2       |                     |                  | 5    |
| 321.99      | Acid Soluble Zn, Other (%)                                    | 0524     | 0.0002   | 0.0000 | 13.73         | 23.79  | 0.0000 | 3       | -0.47               |                  | 0    |
| 321.99      | Acid Soluble Zn, Other (%)                                    | 0523     | 0.0010   | 0.0000 | 13.73         | 23.79  | 0.0000 | 3       | -0.47               |                  | 0    |
| 321.99      | Acid Soluble Zn, Other (%)                                    | 0389     | 41.20    | 0.0000 | 13.73         | 23.79  | 0.0000 | 3       | 0.94                |                  | 0    |
| 321.99      | Acid Soluble Zn, Other (%)                                    | 0368     | 0.0000   | 0.0000 | 13.73         | 23.79  | 0.0000 | 3       |                     |                  | 4    |
| 321.99      | Acid Soluble Zn, Other (%)                                    | 0405     | < 0.0003 |        | 13.73         | 23.79  | 0.0000 | 3       |                     |                  | 5    |
| 321.99      | Acid Soluble Zn, Other (%)                                    | 0481     | < 0.001  |        | 13.73         | 23.79  | 0.0000 | 3       |                     |                  | 5    |

#### Interpreting Z Scores and Flags:

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, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated.

#### Notes:

Robust statistics not used if < 6 labs used in calculations, in this case Values and Z Scores are grayed out and should be interpreted with extreme caution. IA Status describes where your result is relative to the Assigned Value ± IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. Method 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.