

# BROOKSIDE LABORATORIES, INC.

## SOIL AUDIT AND INVENTORY REPORT

Name Downingtown Country Club City Downingtown State PA

Independent Consultant Soil and Water Consulting Date 5/10/2017

|                                    |                                                                         |        |        |  |  |  |
|------------------------------------|-------------------------------------------------------------------------|--------|--------|--|--|--|
| Sample Location TEE                |                                                                         | 9      | 18     |  |  |  |
| Sample Identification              |                                                                         |        |        |  |  |  |
| Lab Number                         |                                                                         | 0171-1 | 0172-1 |  |  |  |
| Total Exchange Capacity (ME/100 g) |                                                                         | 11.88  | 12.86  |  |  |  |
| pH (H <sub>2</sub> O 1:1)          |                                                                         | 6.9    | 6.8    |  |  |  |
| Organic Matter (360°C LOI) %       |                                                                         | 4.04   | 3.81   |  |  |  |
| Estimated Nitrogen Release lb/A    |                                                                         | 90     | 88     |  |  |  |
| ANIONS                             | SOLUBLE SULFUR* ppm                                                     | 20     | 22     |  |  |  |
|                                    | PHOSPHORUS MEHLICH III lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P | 765    | 875    |  |  |  |
|                                    |                                                                         | 167    | 191    |  |  |  |
|                                    | BRAY II lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P                | 879    | 889    |  |  |  |
|                                    |                                                                         | 192    | 194    |  |  |  |
|                                    | OLSEN lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P                  |        |        |  |  |  |
| EXCHANGEABLE CATIONS               | CALCIUM* lb/A                                                           | 3586   | 3928   |  |  |  |
|                                    | ppm                                                                     | 1793   | 1964   |  |  |  |
|                                    | MAGNESIUM* lb/A                                                         | 378    | 374    |  |  |  |
|                                    | ppm                                                                     | 189    | 187    |  |  |  |
|                                    | POTASSIUM* lb/A                                                         | 370    | 286    |  |  |  |
|                                    | ppm                                                                     | 185    | 143    |  |  |  |
|                                    | SODIUM* lb/A                                                            | 70     | 64     |  |  |  |
|                                    | ppm                                                                     | 35     | 32     |  |  |  |
| BASE SATURATION PERCENT            |                                                                         |        |        |  |  |  |
| Calcium %                          |                                                                         | 75.46  | 76.36  |  |  |  |
| Magnesium %                        |                                                                         | 13.26  | 12.12  |  |  |  |
| Potassium %                        |                                                                         | 3.99   | 2.85   |  |  |  |
| Sodium %                           |                                                                         | 1.28   | 1.08   |  |  |  |
| Other Bases %                      |                                                                         | 4.50   | 4.60   |  |  |  |
| Hydrogen %                         |                                                                         | 1.50   | 3.00   |  |  |  |
| EXTRACTABLE MINORS                 |                                                                         |        |        |  |  |  |
| Boron* (ppm)                       |                                                                         | 0.69   | 0.52   |  |  |  |
| Iron* (ppm)                        |                                                                         | 285    | 342    |  |  |  |
| Manganese* (ppm)                   |                                                                         | 59     | 43     |  |  |  |
| Copper* (ppm)                      |                                                                         | 3.17   | 4.10   |  |  |  |
| Zinc* (ppm)                        |                                                                         | 7.41   | 9.49   |  |  |  |
| Aluminum* (ppm)                    |                                                                         | 675    | 488    |  |  |  |
| OTHER TESTS                        | Soluble Salts (mmhos/cm)                                                |        |        |  |  |  |
|                                    | Chlorides (ppm)                                                         |        |        |  |  |  |
|                                    |                                                                         |        |        |  |  |  |
|                                    |                                                                         |        |        |  |  |  |

\* Mehlich III Extractable

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|------------------------------------|-------------------------------------------------------------------------|--------|--------|--|--|--|
| Sample Location FAIRWAY            |                                                                         | 9      | 18     |  |  |  |
| Sample Identification              |                                                                         |        |        |  |  |  |
| Lab Number                         |                                                                         | 0173-1 | 0174-1 |  |  |  |
| Total Exchange Capacity (ME/100 g) |                                                                         | 10.71  | 10.99  |  |  |  |
| pH (H <sub>2</sub> O 1:1)          |                                                                         | 6.9    | 6.8    |  |  |  |
| Organic Matter (360°C LOI) %       |                                                                         | 4.17   | 4.76   |  |  |  |
| Estimated Nitrogen Release lb/A    |                                                                         | 92     | 98     |  |  |  |
| ANIONS                             | SOLUBLE SULFUR* ppm                                                     | 25     | 30     |  |  |  |
|                                    | PHOSPHORUS MEHLICH III lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P | 256    | 247    |  |  |  |
|                                    |                                                                         | 56     | 54     |  |  |  |
|                                    | BRAY II lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P                | 284    | 279    |  |  |  |
|                                    |                                                                         | 62     | 61     |  |  |  |
|                                    | OLSEN lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P                  |        |        |  |  |  |
| EXCHANGEABLE CATIONS               | CALCIUM* lb/A                                                           | 3050   | 2980   |  |  |  |
|                                    | ppm                                                                     | 1525   | 1490   |  |  |  |
|                                    | MAGNESIUM* lb/A                                                         | 404    | 456    |  |  |  |
|                                    | ppm                                                                     | 202    | 228    |  |  |  |
|                                    | POTASSIUM* lb/A                                                         | 430    | 404    |  |  |  |
|                                    | ppm                                                                     | 215    | 202    |  |  |  |
|                                    | SODIUM* lb/A                                                            | 94     | 132    |  |  |  |
|                                    | ppm                                                                     | 47     | 66     |  |  |  |
| BASE SATURATION PERCENT            |                                                                         |        |        |  |  |  |
| Calcium %                          |                                                                         | 71.20  | 67.79  |  |  |  |
| Magnesium %                        |                                                                         | 15.72  | 17.29  |  |  |  |
| Potassium %                        |                                                                         | 5.15   | 4.71   |  |  |  |
| Sodium %                           |                                                                         | 1.91   | 2.61   |  |  |  |
| Other Bases %                      |                                                                         | 4.50   | 4.60   |  |  |  |
| Hydrogen %                         |                                                                         | 1.50   | 3.00   |  |  |  |
| EXTRACTABLE MINORS                 |                                                                         |        |        |  |  |  |
| Boron* (ppm)                       |                                                                         | 0.40   | 0.68   |  |  |  |
| Iron* (ppm)                        |                                                                         | 140    | 149    |  |  |  |
| Manganese* (ppm)                   |                                                                         | 67     | 59     |  |  |  |
| Copper* (ppm)                      |                                                                         | 2.22   | 2.06   |  |  |  |
| Zinc* (ppm)                        |                                                                         | 4.01   | 3.51   |  |  |  |
| Aluminum* (ppm)                    |                                                                         | 727    | 770    |  |  |  |
| OTHER TESTS                        | Soluble Salts (mmhos/cm)                                                |        |        |  |  |  |
|                                    | Chlorides (ppm)                                                         |        |        |  |  |  |
|                                    |                                                                         |        |        |  |  |  |
|                                    |                                                                         |        |        |  |  |  |

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|------------------------------------|--------------------------------------------------------------|--------|--------|--------|--|--|
| Sample Location <u>GREEN</u>       |                                                              | 9      | 18     | PG     |  |  |
| Sample Identification              |                                                              |        |        |        |  |  |
| Lab Number                         |                                                              | 0175-1 | 0176-1 | 0177-1 |  |  |
| Total Exchange Capacity (ME/100 g) |                                                              | 7.13   | 7.23   | 2.01   |  |  |
| pH (H <sub>2</sub> O 1:1)          |                                                              | 7.1    | 6.9    | 6.0    |  |  |
| Organic Matter (360°C LOI) %       |                                                              | 3.12   | 2.15   | 0.64   |  |  |
| Estimated Nitrogen Release lb/A    |                                                              | 81     | 63     | 26     |  |  |
| ANIONS                             | SOLUBLE SULFUR* ppm                                          | 56     | 45     | 9      |  |  |
|                                    | MEHLICH III lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P | 582    | 490    | 78     |  |  |
|                                    |                                                              | 127    | 107    | 17     |  |  |
|                                    | BRAY II lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P     | 719    | 545    | 23     |  |  |
|                                    |                                                              | 157    | 119    | 5      |  |  |
|                                    | OLSEN lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P       |        |        |        |  |  |
| EXCHANGEABLE CATIONS               | CALCIUM* lb/A                                                | 2150   | 2152   | 470    |  |  |
|                                    | ppm                                                          | 1075   | 1076   | 235    |  |  |
|                                    | MAGNESIUM* lb/A                                              | 222    | 246    | 72     |  |  |
|                                    | ppm                                                          | 111    | 123    | 36     |  |  |
|                                    | POTASSIUM* lb/A                                              | 282    | 198    | 32     |  |  |
|                                    | ppm                                                          | 141    | 99     | 16     |  |  |
|                                    | SODIUM* lb/A                                                 | 74     | 64     | 38     |  |  |
|                                    | ppm                                                          | 37     | 32     | 19     |  |  |
| BASE SATURATION PERCENT            |                                                              |        |        |        |  |  |
| Calcium %                          |                                                              | 75.39  | 74.41  | 58.46  |  |  |
| Magnesium %                        |                                                              | 12.97  | 14.18  | 14.93  |  |  |
| Potassium %                        |                                                              | 5.07   | 3.51   | 2.04   |  |  |
| Sodium %                           |                                                              | 2.26   | 1.92   | 4.11   |  |  |
| Other Bases %                      |                                                              | 4.30   | 4.50   | 5.40   |  |  |
| Hydrogen %                         |                                                              | 0.00   | 1.50   | 15.00  |  |  |
| EXTRACTABLE MINORS                 |                                                              |        |        |        |  |  |
| Boron* (ppm)                       |                                                              | 0.39   | 0.42   | < 0.20 |  |  |
| Iron* (ppm)                        |                                                              | 313    | 252    | 57     |  |  |
| Manganese* (ppm)                   |                                                              | 31     | 35     | < 1    |  |  |
| Copper* (ppm)                      |                                                              | 2.73   | 2.46   | 0.67   |  |  |
| Zinc* (ppm)                        |                                                              | 13.30  | 13.58  | 0.77   |  |  |
| Aluminum* (ppm)                    |                                                              | 315    | 285    | 120    |  |  |
| OTHER TESTS                        | Soluble Salts (mmhos/cm)                                     |        |        |        |  |  |
|                                    | Chlorides (ppm)                                              |        |        |        |  |  |
|                                    |                                                              |        |        |        |  |  |
|                                    |                                                              |        |        |        |  |  |

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