

# BROOKSIDE LABORATORIES, INC.

## SOIL AUDIT AND INVENTORY REPORT

Name Tucson Country Club City Tucson State AZ

Independent Consultant Soil and Water Consulting Date 3/30/2023

|                                    |                                                              |           |           |          |           |          |
|------------------------------------|--------------------------------------------------------------|-----------|-----------|----------|-----------|----------|
| Sample Location FAIRWAY            |                                                              | 1         | 4         | 10       | 14        | 16       |
| Sample Identification              |                                                              |           |           |          |           |          |
| Lab Number                         |                                                              | 0604-1    | 0605-1    | 0606-1   | 0607-1    | 0608-1   |
| Total Exchange Capacity (ME/100 g) |                                                              | 9.35      | 9.36      | 11.14    | 11.02     | 10.53    |
| pH (H <sub>2</sub> O 1:1)          |                                                              | a 7.4     | 6.7       | a 7.6    | 7.3       | 6.8      |
| Organic Matter (360°C LOI) %       |                                                              | 3.86      | 2.81      | 3.00     | 3.87      | 3.65     |
| Estimated Nitrogen Release lb/A    |                                                              | 89        | 76        | 80       | 89        | 86       |
| ANIONS                             | SOLUBLE SULFUR* ppm                                          | 15        | 14        | 13       | 16        | 13       |
|                                    | MEHLICH III lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P |           |           |          |           |          |
|                                    | BRAY II lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P     |           |           |          |           |          |
|                                    | OLSEN lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P       | 101<br>22 | 119<br>26 | 60<br>13 | 110<br>24 | 92<br>20 |
| EXCHANGEABLE CATIONS               | CALCIUM* lb/A                                                | 2860      | 2638      | 3464     | 3308      | 2942     |
|                                    | ppm                                                          | 1430      | 1319      | 1732     | 1654      | 1471     |
|                                    | MAGNESIUM* lb/A                                              | 196       | 206       | 244      | 260       | 250      |
|                                    | ppm                                                          | 98        | 103       | 122      | 130       | 125      |
|                                    | POTASSIUM* lb/A                                              | 438       | 484       | 454      | 506       | 604      |
|                                    | ppm                                                          | 219       | 242       | 227      | 253       | 302      |
|                                    | SODIUM* lb/A                                                 | 206       | 196       | 212      | 260       | 258      |
|                                    | ppm                                                          | 103       | 98        | 106      | 130       | 129      |
| BASE SATURATION PERCENT            |                                                              |           |           |          |           |          |
| Calcium %                          |                                                              | 76.47     | 70.46     | 77.74    | 75.05     | 69.85    |
| Magnesium %                        |                                                              | 8.73      | 9.17      | 9.13     | 9.83      | 9.89     |
| Potassium %                        |                                                              | 6.01      | 6.63      | 5.22     | 5.89      | 7.35     |
| Sodium %                           |                                                              | 4.79      | 4.55      | 4.14     | 5.13      | 5.33     |
| Other Bases %                      |                                                              | 4.00      | 4.70      | 3.80     | 4.10      | 4.60     |
| Hydrogen %                         |                                                              | 0.00      | 4.50      | 0.00     | 0.00      | 3.00     |
| EXTRACTABLE MINORS                 |                                                              |           |           |          |           |          |
| Boron** (ppm)                      |                                                              | 0.84      | 0.80      | 0.76     | 0.76      | 0.62     |
| Iron** (ppm)                       |                                                              | 164       | 184       | 147      | 189       | 153      |
| Manganese** (ppm)                  |                                                              | 31        | 24        | 31       | 16        | 22       |
| Copper** (ppm)                     |                                                              | 2.52      | 2.18      | 2.66     | 2.61      | 2.10     |
| Zinc** (ppm)                       |                                                              | 11.34     | 12.75     | 10.19    | 19.28     | 11.52    |
| Aluminum** (ppm)                   |                                                              | 100       | 104       | 87       | 109       | 105      |
| OTHER TESTS                        | Soluble Salts (mmhos/cm)                                     |           |           |          |           |          |
|                                    | Chlorides (ppm)                                              |           |           |          |           |          |
|                                    | NO <sub>3</sub> -N (ppm)                                     | 5.1       | 4.3       | 4.7      | 2.4       | 4.6      |
|                                    | NH <sub>4</sub> -N (ppm)                                     | 4.3       | 5.5       | 4.4      | 3.9       | 5.2      |

a - alkaline soil

\* Ammonium Acetate Extractable (pH of 8.1)

\*\* Mehlich III Extractable

lb/A

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|                                    |                          |                                                     |              |  |  |  |
|------------------------------------|--------------------------|-----------------------------------------------------|--------------|--|--|--|
| Sample Location                    | FAIRWAY                  | 18                                                  |              |  |  |  |
| Sample Identification              |                          |                                                     |              |  |  |  |
| Lab Number                         |                          | 0609-1                                              |              |  |  |  |
| Total Exchange Capacity (ME/100 g) |                          | 8.52                                                |              |  |  |  |
| pH (H <sub>2</sub> O 1:1)          |                          | 7.2                                                 |              |  |  |  |
| Organic Matter (360°C LOI) %       |                          | 3.22                                                |              |  |  |  |
| Estimated Nitrogen Release lb/A    |                          | 82                                                  |              |  |  |  |
| ANIONS                             | SOLUBLE SULFUR*          | ppm                                                 | 11           |  |  |  |
|                                    | MEHLICH III              | lb/A P as P <sub>2</sub> O <sub>5</sub><br>ppm of P |              |  |  |  |
|                                    | BRAY II                  | lb/A P as P <sub>2</sub> O <sub>5</sub><br>ppm of P |              |  |  |  |
|                                    | OLSEN                    | lb/A P as P <sub>2</sub> O <sub>5</sub><br>ppm of P | 110<br>24    |  |  |  |
| EXCHANGEABLE<br>CATIONS            | CALCIUM*                 | lb/A<br>ppm                                         | 2538<br>1269 |  |  |  |
|                                    | MAGNESIUM*               | lb/A<br>ppm                                         | 186<br>93    |  |  |  |
|                                    | POTASSIUM*               | lb/A<br>ppm                                         | 460<br>230   |  |  |  |
|                                    | SODIUM*                  | lb/A<br>ppm                                         | 210<br>105   |  |  |  |
| BASE SATURATION PERCENT            |                          |                                                     |              |  |  |  |
|                                    | Calcium                  | %                                                   | 74.47        |  |  |  |
|                                    | Magnesium                | %                                                   | 9.10         |  |  |  |
|                                    | Potassium                | %                                                   | 6.92         |  |  |  |
|                                    | Sodium                   | %                                                   | 5.36         |  |  |  |
|                                    | Other Bases              | %                                                   | 4.20         |  |  |  |
|                                    | Hydrogen                 | %                                                   | 0.00         |  |  |  |
| EXTRACTABLE MINORS                 |                          |                                                     |              |  |  |  |
|                                    | Boron** (ppm)            |                                                     | 0.74         |  |  |  |
|                                    | Iron** (ppm)             |                                                     | 174          |  |  |  |
|                                    | Manganese** (ppm)        |                                                     | 30           |  |  |  |
|                                    | Copper** (ppm)           |                                                     | 2.44         |  |  |  |
|                                    | Zinc** (ppm)             |                                                     | 9.85         |  |  |  |
|                                    | Aluminum** (ppm)         |                                                     | 76           |  |  |  |
| OTHER<br>TESTS                     | Soluble Salts (mmhos/cm) |                                                     |              |  |  |  |
|                                    | Chlorides (ppm)          |                                                     |              |  |  |  |
|                                    | NO <sub>3</sub> -N (ppm) |                                                     | 5.3          |  |  |  |
|                                    | NH <sub>4</sub> -N (ppm) |                                                     | 5.0          |  |  |  |

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lb/A

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|                                    |                                                              |        |                  |     |  |  |
|------------------------------------|--------------------------------------------------------------|--------|------------------|-----|--|--|
| Sample Location                    | NEW                                                          | PG     | CHIPPING         |     |  |  |
| Sample Identification              |                                                              |        |                  |     |  |  |
| Lab Number                         |                                                              | 0610-1 | 0611-1           |     |  |  |
| Total Exchange Capacity (ME/100 g) |                                                              | 4.64   | 6.60             |     |  |  |
| pH (H <sub>2</sub> O 1:1)          |                                                              | 7.2    | <sup>a</sup> 7.8 |     |  |  |
| Organic Matter (360°C LOI) %       |                                                              | 0.64   | 0.67             |     |  |  |
| Estimated Nitrogen Release lb/A    |                                                              | 26     | 27               |     |  |  |
| ANIONS                             | SOLUBLE SULFUR*                                              | ppm    | 22               | 22  |  |  |
|                                    | PHOSPHORUS                                                   |        |                  |     |  |  |
|                                    | MEHLICH III lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P |        |                  |     |  |  |
|                                    | BRAY II lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P     |        |                  |     |  |  |
| EXCHANGEABLE CATIONS               | OLSEN lb/A P as P <sub>2</sub> O <sub>5</sub> ppm of P       | 128    | 82               |     |  |  |
|                                    |                                                              | 28     | 18               |     |  |  |
|                                    | CALCIUM* lb/A                                                | 1368   | 1924             |     |  |  |
|                                    |                                                              | ppm    | 684              | 962 |  |  |
|                                    | MAGNESIUM* lb/A                                              | 106    | 252              |     |  |  |
|                                    |                                                              | ppm    | 53               | 126 |  |  |
|                                    | POTASSIUM* lb/A                                              | 346    | 198              |     |  |  |
|                                    |                                                              | ppm    | 173              | 99  |  |  |
|                                    | SODIUM* lb/A                                                 | 66     | 114              |     |  |  |
|                                    |                                                              | ppm    | 33               | 57  |  |  |
| BASE SATURATION PERCENT            |                                                              |        |                  |     |  |  |
| Calcium                            | %                                                            | 73.71  | 72.88            |     |  |  |
| Magnesium                          | %                                                            | 9.52   | 15.91            |     |  |  |
| Potassium                          | %                                                            | 9.56   | 3.85             |     |  |  |
| Sodium                             | %                                                            | 3.09   | 3.75             |     |  |  |
| Other Bases                        | %                                                            | 4.20   | 3.60             |     |  |  |
| Hydrogen                           | %                                                            | 0.00   | 0.00             |     |  |  |
| EXTRACTABLE MINORS                 |                                                              |        |                  |     |  |  |
|                                    | Boron** (ppm)                                                | 0.32   | 0.26             |     |  |  |
|                                    | Iron** (ppm)                                                 | 66     | 54               |     |  |  |
|                                    | Manganese** (ppm)                                            | 21     | 11               |     |  |  |
|                                    | Copper** (ppm)                                               | 0.52   | < 0.2            |     |  |  |
|                                    | Zinc** (ppm)                                                 | 2.23   | 0.66             |     |  |  |
|                                    | Aluminum** (ppm)                                             | 59     | 23               |     |  |  |
| OTHER TESTS                        | Soluble Salts (mmhos/cm)                                     |        |                  |     |  |  |
|                                    | Chlorides (ppm)                                              |        |                  |     |  |  |
|                                    | NO <sub>3</sub> -N (ppm)                                     | < 0.5  | < 0.5            |     |  |  |
|                                    | NH <sub>4</sub> -N (ppm)                                     | 2.8    | 7.0              |     |  |  |

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|                                    |                                                     |          |          |  |  |  |
|------------------------------------|-----------------------------------------------------|----------|----------|--|--|--|
| Sample Location                    | U OF A                                              | CHPPING  |          |  |  |  |
| Sample Identification              |                                                     |          |          |  |  |  |
| Lab Number                         |                                                     | 0612-1   |          |  |  |  |
| Total Exchange Capacity (ME/100 g) |                                                     | 5.48     |          |  |  |  |
| pH (H <sub>2</sub> O 1:1)          |                                                     | a<br>7.6 |          |  |  |  |
| Organic Matter (360°C LOI) %       |                                                     | 0.76     |          |  |  |  |
| Estimated Nitrogen Release lb/A    |                                                     | 30       |          |  |  |  |
| ANIONS                             | SOLUBLE SULFUR*                                     | ppm      | 21       |  |  |  |
|                                    | MEHLICH III lb/A P as P <sub>2</sub> O <sub>5</sub> | ppm of P |          |  |  |  |
|                                    | BRAY II lb/A P as P <sub>2</sub> O <sub>5</sub>     | ppm of P |          |  |  |  |
|                                    | OLSEN lb/A P as P <sub>2</sub> O <sub>5</sub>       | ppm of P | 96<br>21 |  |  |  |
| EXCHANGEABLE CATIONS               | CALCIUM*                                            | lb/A     | 1522     |  |  |  |
|                                    |                                                     | ppm      | 761      |  |  |  |
|                                    | MAGNESIUM*                                          | lb/A     | 228      |  |  |  |
|                                    |                                                     | ppm      | 114      |  |  |  |
|                                    | POTASSIUM*                                          | lb/A     | 208      |  |  |  |
|                                    |                                                     | ppm      | 104      |  |  |  |
|                                    | SODIUM*                                             | lb/A     | 114      |  |  |  |
|                                    |                                                     | ppm      | 57       |  |  |  |
| BASE SATURATION PERCENT            |                                                     |          |          |  |  |  |
| Calcium                            | %                                                   |          | 69.43    |  |  |  |
| Magnesium                          | %                                                   |          | 17.34    |  |  |  |
| Potassium                          | %                                                   |          | 4.87     |  |  |  |
| Sodium                             | %                                                   |          | 4.52     |  |  |  |
| Other Bases                        | %                                                   |          | 3.80     |  |  |  |
| Hydrogen                           | %                                                   |          | 0.00     |  |  |  |
| EXTRACTABLE MINORS                 |                                                     |          |          |  |  |  |
|                                    | Boron** (ppm)                                       |          | 0.36     |  |  |  |
|                                    | Iron** (ppm)                                        |          | 63       |  |  |  |
|                                    | Manganese** (ppm)                                   |          | 13       |  |  |  |
|                                    | Copper** (ppm)                                      |          | 0.31     |  |  |  |
|                                    | Zinc** (ppm)                                        |          | 0.85     |  |  |  |
|                                    | Aluminum** (ppm)                                    |          | 30       |  |  |  |
| OTHER TESTS                        | Soluble Salts (mmhos/cm)                            |          |          |  |  |  |
|                                    | Chlorides (ppm)                                     |          |          |  |  |  |
|                                    | NO <sub>3</sub> -N (ppm)                            |          | < 0.5    |  |  |  |
|                                    | NH <sub>4</sub> -N (ppm)                            |          | 1.9      |  |  |  |

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