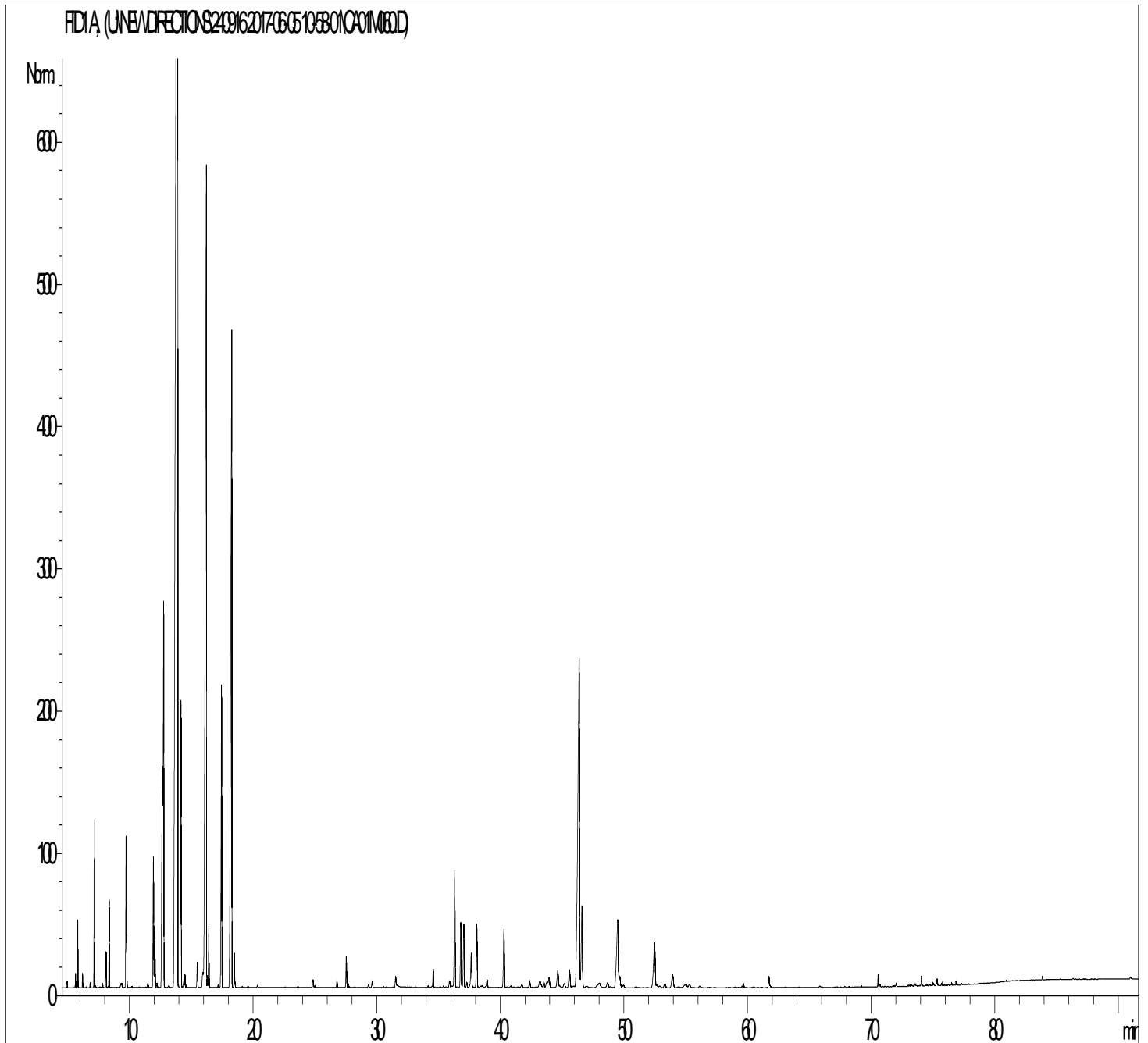




GCMS ANALYSIS

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318

DATE: July 21, 2017



*Due to volume turnover, this report is not lot specific. It is representative of the quality of this oil produced by the manufacturer of this product. Specific lots may vary slightly as is the case in natural products.*

GCMS ANALYSIS (cont'd.)

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318

| Peak | RT (min) | Compound name                           | %            |
|------|----------|---|--------------|
| 1    | 4,3      | ACETONE                                 | 0,01         |
| 2    | 5,0      | NONANE                                  | 0,02         |
| 3    | 5,6      | METHYL HEXATRIENE                       | 0,06         |
| 4    | 5,8      | METHYL HEXATRIENE ISOMER                | 0,28         |
| 5    | 6,2      | METHYL HEXATRIENE ISOMER + BORNYLENE    | 0,06         |
| 6    | 6,8      | TRICYCLENE                              | 0,03         |
| 7    | 7,1      | <b>α-PINENE</b>                         | <b>0,89</b>  |
| 8    | 7,2      | α-THUYENE                               | 0,01         |
| 9    | 7,8      | METHYL CYCLOHEXADIENE ISOMER            | 0,02         |
| 10   | 8,1      | α-FENCHENE                              | 0,21         |
| 11   | 8,4      | CAMPHENE                                | 0,53         |
| 12   | 9,3      | TERPENE ISOMER                          | 0,04         |
| 13   | 9,4      | UNDECANE                                | 0,03         |
| 14   | 9,7      | <b>β-PINENE</b>                         | <b>1,29</b>  |
| 15   | 10,2     | <b>SABINENE</b>                         | <b>0,01</b>  |
| 16   | 11,5     | Δ <sup>3</sup> -CARENE + TERPENE ISOMER | 0,05         |
| 17   | 11,9     | <b>β-MYRCENE</b>                        | <b>1,17</b>  |
| 18   | 12,1     | α-PHELLANDRENE                          | 0,40         |
| 19   | 12,2     | Ψ-LIMONENE                              | 0,04         |
| 20   | 12,7     | <b>1,4-CINEOLE</b>                      | <b>2,87</b>  |
| 21   | 12,8     | α-TERPINENE                             | <b>3,21</b>  |
| 22   | 13,2     | 2,3-DEHYDRO-1,8-CINEOLE                 | 0,02         |
| 23   | 13,9     | <b>LIMONENE</b>                         | <b>40,13</b> |
| 24   | 14,2     | 1,8-CINEOLE + β-PHELLANDRENE            | 2,38         |
| 25   | 14,4     | TERPENE ISOMER                          | 0,07         |
| 26   | 14,5     | MENTHATRIENE ISOMER                     | 0,09         |
| 27   | 14,6     | COMPONENT Mw=154                        | 0,02         |
| 28   | 15,5     | Cis-β-OCIMENE                           | 0,21         |
| 29   | 15,9     | OCIMENE QUINTOXYDE Mw=154               | 0,20         |
| 30   | 16,2     | <b>γ-TERPINENE</b>                      | <b>12,43</b> |
| 31   | 16,3     | MENTHATRIENE ISOMER                     | 0,07         |

Disclaimer & Caution

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

**GCMS ANALYSIS (cont'd.)**

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318

| Peak | RT (min) | Compound name                                | %           |
|------|----------|--|-------------|
| 32   | 13,6     | Trans- $\beta$ -OCIMENE                      | 0,44        |
| 33   | 17,2     | MENTHADIENE ISOMER                           | 0,02        |
| 34   | 17,5     | <b>p-CYMENE</b>                              | <b>2,65</b> |
| 35   | 18,3     | <b>TERPINOLENE</b>                           | <b>9,45</b> |
| 36   | 18,5     | TERPINOLENE ISOMER                           | 0,27        |
| 37   | 20,4     | PINOL  | 0,02        |
| 38   | 23,6     | ALLO-OCIMENE                                 | 0,01        |
| 39   | 24,8     | MENTHATRIENIC COMPONENT                      | 0,08        |
| 40   | 25,0     | NONANAL                                      | 0,02        |
| 41   | 26,8     | MENTHATRIENIC COMPONENT                      | 0,06        |
| 42   | 27,5     | $\alpha$ -p-DIMETHYLSTYRENE                  | 0,29        |
| 43   | 27,7     | MENTHATRIENIC COMPONENT                      | 0,04        |
| 44   | 29,2     | EPOXY-4,8-TERPINOLENE                        | 0,01        |
| 45   | 29,3     | SESQUITERPENE                                | 0,02        |
| 46   | 29,6     | $\delta$ -ELEMENE                            | 0,06        |
| 47   | 30,6     | SESQUITERPENE                                | 0,01        |
| 48   | 31,5     | DECANAL                                      | 0,14        |
| 49   | 31,7     | CAMPHOR + PENTADECANE                        | 0,05        |
| 50   | 34,1     | ISOPINOCAMPHONE                              | 0,02        |
| 51   | 34,6     | LINALOOL                                     | 0,18        |
| 52   | 35,4     | ISOPULEGOL                                   | 0,02        |
| 53   | 35,9     | $\alpha$ ,cis-BERGAMOTENE                    | 0,08        |
| 54   | 36,1     | PULEGOL                                      | 0,02        |
| 55   | 36,3     | TERPINENE-1-OL                               | 1,27        |
| 56   | 36,8     | FENCHOL                                      | 0,68        |
| 57   | 37,1     | <b><math>\alpha</math>,trans-BERGAMOTENE</b> | <b>0,71</b> |
| 58   | 37,3     | $\beta$ -ELEMENE                             | 0,06        |
| 59   | 37,7     | <b><math>\beta</math>-CARYOPHYLLENE</b>      | <b>0,45</b> |
| 60   | 38,1     | TERPINENE-4-OL                               | 0,69        |
| 61   | 38,4     | SESQUITERPENE                                | 0,01        |
| 62   | 38,5     | SESQUITERPENE                                | 0,03        |

**Disclaimer & Caution**

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

**GCMS ANALYSIS (cont'd.)**

PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318

| Peak | RT (min) | Compound name                            | %           |
|------|----------|--|-------------|
| 63   | 38,8     | FARNESENE ISOMERE                        | 0,02        |
| 64   | 38,9     | ALIPHATIC ALCOHOL + SESQUITERPENE        | 0,10        |
| 65   | 40,3     | Cis- $\beta$ -TERPINEOL                  | 0,73        |
| 66   | 40,6     | SESQUITERPENE                            | 0,01        |
| 67   | 40,9     | GERMACRENE A                             | 0,02        |
| 68   | 41,7     | $\beta$ -SANTALENE                       | 0,04        |
| 69   | 42,4     | Cis-OCIMENOL                             | 0,09        |
| 70   | 43,2     | $\alpha$ -HUMULENE + ISOBORNEOL          | 0,13        |
| 71   | 43,3     | $\delta$ -TERPINEOL                      | 0,04        |
| 72   | 43,5     | E- $\beta$ -FARNESENE                    | 0,08        |
| 73   | 43,8     | SESQUITERPENE                            | 0,12        |
| 74   | 43,9     | $\gamma$ -SELINENE                       | 0,16        |
| 75   | 44,7     | Trans- $\beta$ -TERPINEOL                | 0,30        |
| 76   | 44,8     | Z- $\beta$ -FARNESENE                    | 0,02        |
| 77   | 45,2     | SESQUITERPENE                            | 0,08        |
| 78   | 45,6     | SESQUITERPENE                            | 0,30        |
| 79   | 46,0     | SESQUITERPENE                            | 0,04        |
| 80   | 46,4     | $\alpha$ -TERPINEOL                      | <b>7,28</b> |
| 81   | 46,6     | $\gamma$ -TERPINEOL                      | <b>1,22</b> |
| 82   | 47,0     | GURJUNENE ISOMER                         | 0,04        |
| 83   | 47,9     | SESQUITERPENE                            | 0,05        |
| 84   | 48,0     | $\beta$ -SELINENE                        | 0,12        |
| 85   | 48,7     | $\alpha$ -SELINENE + MENTHADIENOL ISOMER | 0,10        |
| 86   | 49,5     | $\beta$ -BISABOLENE                      | <b>1,49</b> |
| 87   | 49,7     | BERGAMOTENE ISOMER                       | 0,18        |
| 88   | 50,0     | GERANIAL                                 | 0,05        |
| 89   | 52,5     | $\alpha$ -FARNESENE                      | <b>1,01</b> |
| 90   | 52,9     | SESQUITERPENE                            | 0,04        |
| 91   | 53,3     | GERANYL ACETATE                          | 0,07        |
| 92   | 53,9     | $\delta$ -SELINENE + METHYL SALICYLATE   | 0,28        |
| 93   | 54,9     | SESQUITERPENE                            | 0,05        |

**Disclaimer & Caution**

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

**GCMS ANALYSIS (cont'd.)**
**PRODUCT NAME: LIME (KEY LIME) PERU ESSENTIAL OIL - 11318**

| Peak | RT (min) | Compound name                 | %            |
|------|----------|-------------------------------|--------------|
| 94   | 55,0     | SELINA-4,7-DIENE              | 0,06         |
| 95   | 55,3     | $\alpha$ -BISABOLENE          | 0,06         |
| 96   | 56,1     | MENTHADIENOL ISOMER           | 0,03         |
| 97   | 59,7     | GERMACRENE B                  | 0,07         |
| 98   | 61,7     | p-CYMENE-8-OL                 | 0,11         |
| 99   | 61,8     | GERANIOL                      | 0,03         |
| 100  | 65,9     | TETRADECANAL                  | 0,02         |
| 101  | 69,2     | SESQUITERPENOL                | 0,01         |
| 102  | 70,6     | CARYOPHYLLENOL                | 0,09         |
| 103  | 70,7     | LEVOJUNEOL                    | 0,02         |
| 104  | 73,0     | SESQUITERPENOL                | 0,01         |
| 105  | 73,1     | SESQUITERPENOL                | 0,01         |
| 106  | 73,2     | HEXADECANAL                   | 0,02         |
| 107  | 73,3     | SESQUITERPENOL                | 0,01         |
| 108  | 73,5     | SESQUITERPENOL                | 0,01         |
| 109  | 73,6     | SESQUITERPENOL                | 0,03         |
| 110  | 74,1     | $\gamma$ -EUDESMOL            | 0,07         |
| 111  | 74,7     | SESQUITERPENOL                | 0,01         |
| 112  | 75,0     | SESQUITERPENOL                | 0,02         |
| 113  | 75,1     | EUDESMOL ISOMER               | 0,02         |
| 114  | 75,3     | Epi- $\alpha$ -BISABOLOL      | 0,04         |
| 115  | 75,4     | $\alpha$ -BISABOLOL           | 0,04         |
| 116  | 75,5     | $\alpha$ -EUDESMOL            | 0,01         |
| 117  | 75,7     | $\alpha$ -CADINOL             | 0,02         |
| 118  | 75,8     | DIMETHOXY BENZALDEHYDE Mw=166 | 0,03         |
| 119  | 76,5     | CAPRIC ACID                   | 0,02         |
| 120  | 76,9     | $\beta$ -BISABOLOL            | 0,03         |
| 121  | 80,9     | LAURIC ACID                   | 0,01         |
| 122  | 83,9     | BENZENIC COMPONENT            | 0,03         |
| 123  | 86,3     | BENZENIC COMPONENT            | 0,01         |
| 124  | 91,0     | PALMITIC ACID                 | 0,02         |
|      |          | <b>TOTAL</b>                  | <b>99,94</b> |

**Disclaimer & Caution**

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.