

## LABORATORY REPORT

**SAMPLE NAME:** Cistus

**BOTANICAL NAME:** *Cistus ladaniferus*

**COMPANY NAME:** ACHS

**COMPANY LOT #:** 39129R

**Column:** ZB5 (60 m length × 0.25 mm inner diameter × 0.25 µm film thickness)

**Instrument:** Shimadzu GCMS-QP2010 Ultra

**Carrier gas:** Helium 80 psi

**Temperature ramp:** 2 degrees Celsius per minute up to 260-degree Celsius

**Split ratio:** 30:1

**Sample preparation:** 5% w/v solution with Dichloromethane

**Interpretation on sample:**

This oil meets the expected profile of *Cistus ladaniferus*.

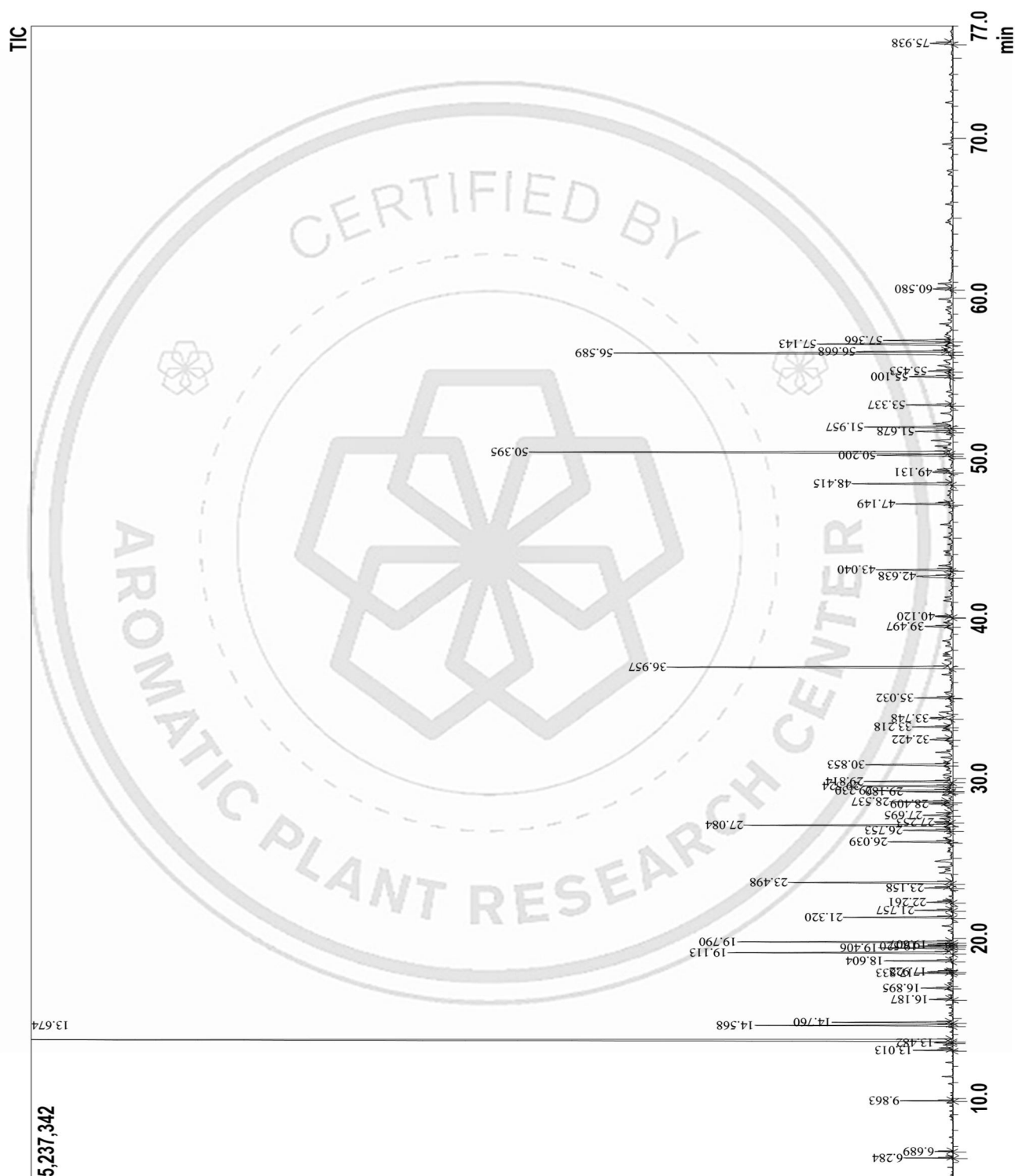
**Analyzed by:** Dr. Prabodh Satyal

**Reviewed by:** Ambika Poudel

**Issued Date:** 5/24/2019



**APRC**  
Aromatic Plant Research Center





| RT (min) | Compound                                    | Area % |
|----------|---------------------------------------------|--------|
| 6.284    | Dimethyl,1,3-hexadiene<Z>                   | 0.37   |
| 6.689    | Toluene                                     | 0.14   |
| 9.863    | 6,6-Dimethylhepta-2,4-diene                 | 0.55   |
| 13.013   | Tricyclene                                  | 0.49   |
| 13.482   | 2-Methyl-5-isopropenylfuran                 | 0.26   |
| 13.674   | Pinene<alpha->                              | 19.51  |
| 14.568   | Camphene                                    | 2.62   |
| 14.760   | Thuja-2,4(10)diene                          | 1.53   |
| 16.187   | Pinene <beta>                               | 0.31   |
| 16.895   | Cycloheptane<trimethyl>                     | 0.39   |
| 17.833   | 1,4-Cyclohexadiene, 3-ethenyl-1,2-dimethyl- | 0.54   |
| 17.922   | Phellandrene <alpha->                       | 0.34   |
| 18.604   | Terpinene <alpha->                          | 0.98   |
| 19.113   | Cymene <para->                              | 3.48   |
| 19.406   | Limonene                                    | 1.17   |
| 19.520   | Phellandrene <beta>                         | 0.47   |
| 19.607   | 1,8-cineole                                 | 0.35   |
| 19.790   | Cyclohexanone <2,2,6-trimethyl->            | 3.40   |
| 21.320   | Terpinene <gamma>                           | 1.79   |
| 21.757   | Acetophenone                                | 0.54   |
| 22.261   | Pinol                                       | 0.36   |
| 23.158   | Terpinolene                                 | 0.37   |
| 23.498   | Cymenene <para->                            | 3.12   |
| 26.039   | Campholenal<alpha->                         | 1.02   |
| 26.753   | 3-nonen-2-one                               | 0.77   |
| 27.084   | Pinocarveol <trans->                        | 3.86   |
| 27.253   | Tagetone <trans>                            | 0.20   |
| 27.695   | a-Felandren-8-ol                            | 0.55   |
| 28.409   | Pinocamphone<trans->                        | 0.23   |
| 28.537   | Pinocarvone                                 | 0.88   |
| 29.180   | Mentha-1,5-dien-8-ol <para>                 | 0.49   |
| 29.230   | Borneol                                     | 1.43   |
| 29.524   | Pinocamphone<cis->                          | 1.51   |
| 29.814   | Terpinen-4-ol                               | 1.49   |
| 30.853   | Myrtenal                                    | 1.72   |
| 32.422   | Carveol <trans>                             | 0.32   |
| 33.218   | Tagetenone <cis>                            | 0.54   |
| 33.748   | Bornyl acetate <endo->                      | 0.27   |
| 35.032   | Unidentified                                | 0.59   |



| RT (min) | Compound                 | Area % |
|----------|--------------------------|--------|
| 36.957   | Bornyl acetate           | 5.37   |
| 39.497   | Myrtenyl acetate         | 0.37   |
| 40.120   | Carvyl acetate <trans>   | 0.19   |
| 42.638   | Cyclosativene            | 0.97   |
| 43.040   | Ylangene <alpha>         | 1.47   |
| 47.149   | Bourb-11-ene             | 1.01   |
| 48.415   | Alloaromadendrene        | 1.86   |
| 49.131   | Cadina-1(6),4-diene<cis> | 0.30   |
| 50.200   | Guaia-1(10),11-diene     | 1.48   |
| 50.395   | Viridiflorene            | 9.66   |
| 51.678   | Oxidocalamenene <1,11>   | 0.69   |
| 51.957   | Cadinene <delta>         | 1.65   |
| 53.337   | Calacorene <alpha>       | 0.79   |
| 55.100   | Palustrol                | 0.78   |
| 55.453   | Spathulenol              | 0.39   |
| 56.589   | Viridiflorol             | 8.16   |
| 56.668   | Cubeban-11-ol            | 1.44   |
| 57.143   | Ledol                    | 2.54   |
| 57.366   | Cubenol 1,10 di-epi      | 1.19   |
| 60.580   | Unidentified             | 0.32   |
| 75.938   | Unidentified             | 0.43   |
|          |                          | 100.00 |

## PHYSICAL CONSTANTS REPORT

| Organoleptic Information |                              |
|--------------------------|------------------------------|
| <b>Appearance</b>        | Thin liquid                  |
| <b>Colour</b>            | Orange with a hint of yellow |
| <b>Odour</b>             | Sour banknote, floral        |

| Physical Constants Information (at 20 °C) |          |           |          |
|-------------------------------------------|----------|-----------|----------|
| Tests                                     | Observed | ISO Range | Comments |
| <b>Specific Gravity</b>                   | 0.91907  | N/A       | -        |
| <b>Refractive Index</b>                   | 1.48532  | N/A       | -        |
| <b>Optical Rotation</b>                   | -4.32°   | N/A       | -        |

\*N/A: Not Available

**Comments:**

**Prepared by:** Sujan Timsina  
**Reviewed by:** Ambika Poudel

**Date:** 5/24/2019  
**Date:** 5/24/2019



# PACIFIC AGRICULTURAL LABORATORY

A MATRIX SCIENCES COMPANY

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## American College Of Healthcare Sciences

5940 SW Hood Ave  
Portland, OR 97239

**Report Number:** P190972  
**Report Date:** June 14, 2019  
**Client Project ID:**

**Client Sample ID:** Cistus essential oil lot 39129R

**PAL Sample ID:** P190972-02

**Sample Date:** 06/03/2019

**Received Date:** 06/04/2019

**Extraction Date:** 06/07/2019

## Certificate of Analysis

| Analysis Date                        | Analyte               | Amount Detected | LOQ (mg/kg) | Notes | Analysis Date | Analyte             | Amount Detected | LOQ (mg/kg) | Notes |
|--------------------------------------|-----------------------|-----------------|-------------|-------|---------------|---------------------|-----------------|-------------|-------|
| <b>Modified EPA 8270D (GC-MS/MS)</b> |                       |                 |             |       |               |                     |                 |             |       |
| 06/08/2019                           | 2,6-Dichlorobenzamide | ND              | 0.50        |       | 06/08/2019    | a-BHC               | ND              | 0.50        |       |
| 06/08/2019                           | Acetochlor            | ND              | 0.50        |       | 06/08/2019    | Alachlor            | ND              | 2.0         |       |
| 06/08/2019                           | Aldrin                | ND              | 0.50        |       | 06/08/2019    | Ametryn             | ND              | 0.50        |       |
| 06/08/2019                           | b-BHC                 | ND              | 0.50        |       | 06/08/2019    | Benfluralin         | ND              | 0.50        |       |
| 06/08/2019                           | Bifenthrin            | ND              | 0.50        |       | 06/08/2019    | Bromopropylate      | ND              | 0.50        |       |
| 06/08/2019                           | Buprofezin            | ND              | 0.50        |       | 06/08/2019    | Captan              | ND              | 10          |       |
| 06/08/2019                           | Chlordane             | ND              | 0.50        |       | 06/08/2019    | Chloroneb           | ND              | 0.50        |       |
| 06/08/2019                           | Chlorothalonil        | ND              | 0.50        |       | 06/08/2019    | Chlorpropham        | ND              | 0.50        |       |
| 06/08/2019                           | Chlorpyrifos          | ND              | 0.50        |       | 06/08/2019    | Chlorpyrifos-methyl | ND              | 0.50        |       |
| 06/08/2019                           | cis-Nonachlor         | ND              | 0.50        |       | 06/08/2019    | Cyfluthrin          | ND              | 2.5         |       |
| 06/08/2019                           | Cypermethrin          | ND              | 2.5         |       | 06/08/2019    | Dacthal             | ND              | 0.50        |       |
| 06/08/2019                           | d-BHC                 | ND              | 0.50        |       | 06/08/2019    | Deltamethrin        | ND              | 2.5         |       |
| 06/08/2019                           | Diazinon              | ND              | 0.50        |       | 06/08/2019    | Dichlobenil         | ND              | 0.50        |       |
| 06/08/2019                           | Dichlorofenthion      | ND              | 0.50        |       | 06/08/2019    | Dichlorvos          | ND              | 0.50        |       |
| 06/08/2019                           | Diclofop-methyl       | ND              | 0.50        |       | 06/08/2019    | Dicloran            | ND              | 2.5         |       |
| 06/08/2019                           | Dicofol               | ND              | 0.50        |       | 06/08/2019    | Dieldrin            | ND              | 0.50        |       |
| 06/08/2019                           | Dimethenamid          | ND              | 0.50        |       | 06/08/2019    | Diphenamid          | ND              | 0.50        |       |
| 06/08/2019                           | Diphenylamine         | ND              | 0.50        |       | 06/08/2019    | Disulfoton          | ND              | 0.50        |       |
| 06/08/2019                           | Dithiopyr             | ND              | 0.50        |       | 06/08/2019    | Endosulfan I        | ND              | 1.0         |       |
| 06/08/2019                           | Endosulfan II         | ND              | 1.0         |       | 06/08/2019    | Endosulfan sulfate  | ND              | 1.0         |       |
| 06/08/2019                           | Endrin                | ND              | 0.50        |       | 06/08/2019    | Endrin aldehyde     | ND              | 0.50        |       |
| 06/08/2019                           | Endrin ketone         | ND              | 0.50        |       | 06/08/2019    | Esfenvalerate       | ND              | 0.50        |       |
| 06/08/2019                           | Ethalfuralin          | ND              | 0.50        |       | 06/08/2019    | Ethofumesate        | ND              | 0.50        |       |
| 06/08/2019                           | Ethoprop              | ND              | 0.50        |       | 06/08/2019    | Ethoxyquin          | ND              | 0.50        |       |
| 06/08/2019                           | Etoxazole             | ND              | 0.50        |       | 06/08/2019    | Etridiazole         | ND              | 0.50        |       |
| 06/08/2019                           | Fenarimol             | ND              | 0.50        |       | 06/08/2019    | Fenoxaprop-ethyl    | ND              | 0.50        |       |
| 06/08/2019                           | Fenvalerate           | ND              | 0.50        |       | 06/08/2019    | Fipronil            | ND              | 0.50        |       |
| 06/08/2019                           | Fluazifop-p-butyl     | ND              | 0.50        |       | 06/08/2019    | Fludioxonil         | ND              | 0.50        |       |
| 06/08/2019                           | Fluroxypyr-meptyl     | ND              | 0.50        |       | 06/08/2019    | Flutolanil          | ND              | 0.50        |       |
| 06/08/2019                           | g-BHC                 | ND              | 0.50        |       | 06/08/2019    | Heptachlor          | ND              | 0.50        |       |
| 06/08/2019                           | Heptachlor epoxide    | ND              | 0.50        |       | 06/08/2019    | Hexachlorobenzene   | ND              | 0.50        |       |
| 06/08/2019                           | Kresoxim-methyl       | ND              | 0.50        |       | 06/08/2019    | lambda-Cyhalothrin  | ND              | 1.0         |       |
| 06/08/2019                           | Malathion             | ND              | 0.50        |       | 06/08/2019    | Mefenoxam           | ND              | 0.50        |       |
| 06/08/2019                           | Methoxychlor          | ND              | 0.50        |       | 06/08/2019    | Metolachlor         | ND              | 0.50        |       |
| 06/08/2019                           | MGK-264               | ND              | 0.50        |       | 06/08/2019    | Myclobutanil        | ND              | 0.50        |       |
| 06/08/2019                           | Napropamide           | ND              | 0.50        |       | 06/08/2019    | o-Phenylphenol      | ND              | 0.50        |       |
| 06/08/2019                           | Oxadiazon             | ND              | 0.50        |       | 06/08/2019    | Oxyfluorfen         | ND              | 0.50        |       |

Rick Jordan, Laboratory Manager



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Portland, OR 97239**Report Number:** P190972  
**Report Date:** June 14, 2019  
**Client Project ID:****Client Sample ID:** Cistus essential oil lot 39129R**PAL Sample ID:** P190972-02**Sample Date:** 06/03/2019**Received Date:** 06/04/2019**Extraction Date:** 06/07/2019**Certificate of Analysis  
(Continued)**

| Analysis<br>Date                                 | Analyte                             | Amount<br>Detected | LOQ<br>(mg/kg) | Notes | Analysis<br>Date | Analyte             | Amount<br>Detected | LOQ<br>(mg/kg) | Notes |
|--------------------------------------------------|-------------------------------------|--------------------|----------------|-------|------------------|---------------------|--------------------|----------------|-------|
| <b>Modified EPA 8270D (GC-MS/MS) (Continued)</b> |                                     |                    |                |       |                  |                     |                    |                |       |
| 06/08/2019                                       | p,p'-DDD                            | ND                 | 0.50           |       | 06/08/2019       | p,p'-DDE            | ND                 | 0.50           |       |
| 06/08/2019                                       | p,p'-DDT                            | ND                 | 0.50           |       | 06/08/2019       | Parathion-methyl    | ND                 | 0.50           |       |
| 06/08/2019                                       | PCA                                 | ND                 | 0.50           |       | 06/08/2019       | PCB                 | ND                 | 0.50           |       |
| 06/08/2019                                       | PCNB                                | ND                 | 0.50           |       | 06/08/2019       | Pendimethalin       | ND                 | 0.50           |       |
| 06/08/2019                                       | Pentachlorophenyl<br>methyl sulfide | ND                 | 0.50           |       | 06/08/2019       | Permethrin          | ND                 | 2.5            |       |
| 06/08/2019                                       | Procymidone                         | ND                 | 0.50           |       | 06/08/2019       | Prodiamine          | ND                 | 0.50           |       |
| 06/08/2019                                       | Pronamide                           | ND                 | 0.50           |       | 06/08/2019       | Propachlor          | ND                 | 0.50           |       |
| 06/08/2019                                       | Pyriproxyfen                        | ND                 | 0.50           |       | 06/08/2019       | Quinoxifen          | ND                 | 0.50           |       |
| 06/08/2019                                       | Spirodiclofen                       | ND                 | 0.50           |       | 06/08/2019       | Tetraconazole       | ND                 | 0.50           |       |
| 06/08/2019                                       | Tetradifon                          | ND                 | 0.50           |       | 06/08/2019       | trans-Nonachlor     | ND                 | 0.50           |       |
| 06/08/2019                                       | Trifluralin                         | ND                 | 0.50           |       | 06/08/2019       | Vinclozalin         | ND                 | 0.50           |       |
| <b>Modified EPA 8321B (HPLC MS-MS)</b>           |                                     |                    |                |       |                  |                     |                    |                |       |
| 06/08/2019                                       | 3-Hydroxycarbofuran                 | ND                 | 0.50           |       | 06/08/2019       | Abamectin           | ND                 | 0.50           |       |
| 06/08/2019                                       | Acephate                            | ND                 | 0.50           |       | 06/08/2019       | Acetamiprid         | ND                 | 0.50           |       |
| 06/08/2019                                       | Acibenzolar-S-methyl                | ND                 | 1.0            |       | 06/08/2019       | Aldicarb            | ND                 | 0.50           |       |
| 06/08/2019                                       | Aldicarb Sulfone                    | ND                 | 0.50           |       | 06/08/2019       | Aldicarb Sulfoxide  | ND                 | 0.50           |       |
| 06/08/2019                                       | Allethrin                           | ND                 | 0.50           |       | 06/08/2019       | Ametoctradin        | ND                 | 0.50           |       |
| 06/08/2019                                       | Atrazine                            | ND                 | 0.50           |       | 06/08/2019       | Azinphos-ethyl      | ND                 | 0.50           |       |
| 06/08/2019                                       | Azinphos-methyl                     | ND                 | 1.0            |       | 06/08/2019       | Azoxystrobin        | ND                 | 0.50           |       |
| 06/08/2019                                       | Bendiocarb                          | ND                 | 0.50           |       | 06/08/2019       | Bensulide           | ND                 | 0.50           |       |
| 06/08/2019                                       | Bifenazate                          | ND                 | 0.50           |       | 06/08/2019       | Bitertanol          | ND                 | 0.50           |       |
| 06/08/2019                                       | Boscalid                            | ND                 | 0.50           |       | 06/08/2019       | Bromacil            | ND                 | 0.50           |       |
| 06/08/2019                                       | Carbaryl                            | ND                 | 0.50           |       | 06/08/2019       | Carbendazim         | ND                 | 0.50           |       |
| 06/08/2019                                       | Carbofuran                          | ND                 | 0.50           |       | 06/08/2019       | Carfentrazone-ethyl | ND                 | 0.50           |       |
| 06/08/2019                                       | Chlorantraniliprole                 | ND                 | 0.50           |       | 06/08/2019       | Clethodim           | ND                 | 1.0            |       |
| 06/08/2019                                       | Clofentezine                        | ND                 | 0.50           |       | 06/08/2019       | Clothianidin        | ND                 | 0.50           |       |
| 06/08/2019                                       | Cyanazine                           | ND                 | 0.50           |       | 06/08/2019       | Cyantraniliprole    | ND                 | 0.50           |       |
| 06/08/2019                                       | Cyazofamid                          | ND                 | 0.50           |       | 06/08/2019       | Cycloate            | ND                 | 1.0            |       |
| 06/08/2019                                       | Cyflufenamid                        | ND                 | 0.50           |       | 06/08/2019       | Cyflumetofen        | ND                 | 0.50           |       |
| 06/08/2019                                       | Cymoxanil                           | ND                 | 0.50           |       | 06/08/2019       | Cyprodinil          | ND                 | 0.50           |       |
| 06/08/2019                                       | Cyromazine                          | ND                 | 0.50           |       | 06/08/2019       | DCPMU               | ND                 | 0.50           |       |
| 06/08/2019                                       | Diazoxon                            | ND                 | 0.50           |       | 06/08/2019       | Difenoconazole      | ND                 | 0.50           |       |
| 06/08/2019                                       | Diffubenzuron                       | ND                 | 0.50           |       | 06/08/2019       | Dimethoate          | ND                 | 0.50           |       |
| 06/08/2019                                       | Dimethomorph                        | ND                 | 0.50           |       | 06/08/2019       | Dinotefuran         | ND                 | 0.50           |       |
| 06/08/2019                                       | Disulfoton sulfone                  | ND                 | 0.50           |       | 06/08/2019       | Diuron              | ND                 | 0.50           |       |

Rick Jordan, Laboratory Manager

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(Continued)**

| Analysis<br>Date                                   | Analyte              | Amount<br>Detected | LOQ<br>(mg/kg) | Notes | Analysis<br>Date | Analyte            | Amount<br>Detected | LOQ<br>(mg/kg) | Notes |
|----------------------------------------------------|----------------------|--------------------|----------------|-------|------------------|--------------------|--------------------|----------------|-------|
| <b>Modified EPA 8321B (HPLC MS-MS) (Continued)</b> |                      |                    |                |       |                  |                    |                    |                |       |
| 06/08/2019                                         | Dodine               | ND                 | 0.50           |       | 06/08/2019       | d-Phenothrin       | ND                 | 0.50           |       |
| 06/08/2019                                         | Emamectin Benzoate   | ND                 | 0.50           |       | 06/08/2019       | Ethion             | ND                 | 0.50           |       |
| 06/08/2019                                         | Famoxadone           | ND                 | 0.50           |       | 06/08/2019       | Famphur            | ND                 | 0.50           |       |
| 06/08/2019                                         | Fenamidone           | ND                 | 0.50           |       | 06/08/2019       | Fenamiphos sulfone | ND                 | 0.50           |       |
| 06/08/2019                                         | Fenamiphos sulfoxide | ND                 | 0.50           |       | 06/08/2019       | Fenazaquin         | ND                 | 0.50           |       |
| 06/08/2019                                         | Fenbuconazole        | ND                 | 0.50           |       | 06/08/2019       | Fenbutatin oxide   | ND                 | 0.50           |       |
| 06/08/2019                                         | Fenhexamid           | ND                 | 0.50           |       | 06/08/2019       | Fenobucarb         | ND                 | 0.50           |       |
| 06/08/2019                                         | Fenpropathrin        | ND                 | 0.50           |       | 06/08/2019       | Fenpyroximate      | ND                 | 0.50           |       |
| 06/08/2019                                         | Fenuron              | ND                 | 0.50           |       | 06/08/2019       | Flonicamid         | ND                 | 0.50           |       |
| 06/08/2019                                         | Fluazinam            | ND                 | 0.50           |       | 06/08/2019       | Flubendiamide      | ND                 | 1.0            |       |
| 06/08/2019                                         | Flumioxazin          | ND                 | 0.50           |       | 06/08/2019       | Fluometuron        | ND                 | 0.50           |       |
| 06/08/2019                                         | Fluopicolide         | ND                 | 0.50           |       | 06/08/2019       | Fluopyram          | ND                 | 0.50           |       |
| 06/08/2019                                         | Fluoxastrobin        | ND                 | 0.50           |       | 06/08/2019       | Flupyradifurone    | ND                 | 0.50           |       |
| 06/08/2019                                         | Fluridone            | ND                 | 0.50           |       | 06/08/2019       | Flutriafol         | ND                 | 0.50           |       |
| 06/08/2019                                         | Fluvalinate          | ND                 | 0.50           |       | 06/08/2019       | Fluxapyroxad       | ND                 | 0.50           |       |
| 06/08/2019                                         | Fonofos              | ND                 | 1.0            |       | 06/08/2019       | Formetanate HCl    | ND                 | 0.50           |       |
| 06/08/2019                                         | Hexaconazole         | ND                 | 0.50           |       | 06/08/2019       | Hexazinone         | ND                 | 0.50           |       |
| 06/08/2019                                         | Hexythiazox          | ND                 | 0.50           |       | 06/08/2019       | Imazalil           | ND                 | 0.50           |       |
| 06/08/2019                                         | Imidacloprid         | ND                 | 0.50           |       | 06/08/2019       | Indaziflam         | ND                 | 0.50           |       |
| 06/08/2019                                         | Indoxacarb           | ND                 | 0.50           |       | 06/08/2019       | Iprodione          | ND                 | 2.5            |       |
| 06/08/2019                                         | Isoxaben             | ND                 | 0.50           |       | 06/08/2019       | Linuron            | ND                 | 0.50           |       |
| 06/08/2019                                         | Malaoxon             | ND                 | 0.50           |       | 06/08/2019       | Mandipropamid      | ND                 | 0.50           |       |
| 06/08/2019                                         | Metconazole          | ND                 | 0.50           |       | 06/08/2019       | Methamidophos      | ND                 | 1.0            |       |
| 06/08/2019                                         | Methidathion         | ND                 | 0.50           |       | 06/08/2019       | Methiocarb         | ND                 | 0.50           |       |
| 06/08/2019                                         | Methomyl             | ND                 | 0.50           |       | 06/08/2019       | Methoxyfenozide    | ND                 | 0.50           |       |
| 06/08/2019                                         | Metrafenone          | ND                 | 0.50           |       | 06/08/2019       | Metribuzin         | ND                 | 0.50           |       |
| 06/08/2019                                         | Mevinphos            | ND                 | 0.50           |       | 06/08/2019       | Norflurazon        | ND                 | 0.50           |       |
| 06/08/2019                                         | Novaluron            | ND                 | 0.50           |       | 06/08/2019       | Omethoate          | ND                 | 0.50           |       |
| 06/08/2019                                         | Oryzalin             | ND                 | 0.50           |       | 06/08/2019       | Oxadixyl           | ND                 | 0.50           |       |
| 06/08/2019                                         | Oxamyl               | ND                 | 0.50           |       | 06/08/2019       | Oxydemeton-Methyl  | ND                 | 0.50           |       |
| 06/08/2019                                         | Penthiopyrad         | ND                 | 0.50           |       | 06/08/2019       | Phorate Sulfone    | ND                 | 0.50           |       |
| 06/08/2019                                         | Phorate Sulfoxide    | ND                 | 0.50           |       | 06/08/2019       | Phosalone          | ND                 | 0.50           |       |
| 06/08/2019                                         | Phosmet              | ND                 | 0.50           |       | 06/08/2019       | Phosphamidon       | ND                 | 0.50           |       |
| 06/08/2019                                         | Piperonyl Butoxide   | ND                 | 0.50           |       | 06/08/2019       | Pirimicarb         | ND                 | 0.50           |       |
| 06/08/2019                                         | Pirimiphos-methyl    | ND                 | 0.50           |       | 06/08/2019       | Prometon           | ND                 | 0.50           |       |
| 06/08/2019                                         | Prometryn            | ND                 | 0.50           |       | 06/08/2019       | Propargite         | ND                 | 0.50           |       |
| 06/08/2019                                         | Propazine            | ND                 | 0.50           |       | 06/08/2019       | Propiconazole      | ND                 | 1.0            |       |

Rick Jordan, Laboratory Manager



**PACIFIC AGRICULTURAL LABORATORY**

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**American College Of Healthcare Sciences**5940 SW Hood Ave  
Portland, OR 97239**Report Number:** P190972  
**Report Date:** June 14, 2019  
**Client Project ID:****Client Sample ID:** Cistus essential oil lot 39129R**PAL Sample ID:** P190972-02**Sample Date:** 06/03/2019**Received Date:** 06/04/2019**Extraction Date:** 06/07/2019**Certificate of Analysis  
(Continued)**

| Analysis                                           |                 |                 |                   | Analysis   |                    |                 |                   |
|----------------------------------------------------|-----------------|-----------------|-------------------|------------|--------------------|-----------------|-------------------|
| Date                                               | Analyte         | Amount Detected | LOQ (mg/kg) Notes | Date       | Analyte            | Amount Detected | LOQ (mg/kg) Notes |
| <b>Modified EPA 8321B (HPLC MS-MS) (Continued)</b> |                 |                 |                   |            |                    |                 |                   |
| 06/08/2019                                         | Prothioconazole | ND              | 1.0               | 06/08/2019 | Pymetrozine        | ND              | 0.50              |
| 06/08/2019                                         | Pyraclostrobin  | ND              | 0.50              | 06/08/2019 | Pyraflufen-ethyl   | ND              | 0.50              |
| 06/08/2019                                         | Pyrethrin       | ND              | 2.5               | 06/08/2019 | Pyridaben          | ND              | 0.50              |
| 06/08/2019                                         | Pyrimethanil    | ND              | 0.50              | 06/08/2019 | Rotenone           | ND              | 0.50              |
| 06/08/2019                                         | Saflufenacil    | ND              | 0.50              | 06/08/2019 | Sethoxydim         | ND              | 1.0               |
| 06/08/2019                                         | Siduron         | ND              | 0.50              | 06/08/2019 | Simazine           | ND              | 0.50              |
| 06/08/2019                                         | Simetryn        | ND              | 0.50              | 06/08/2019 | Spinetoram         | ND              | 0.50              |
| 06/08/2019                                         | Spinosad        | ND              | 0.50              | 06/08/2019 | Spiromesifen       | ND              | 1.0               |
| 06/08/2019                                         | Spirotetramat   | ND              | 0.50              | 06/08/2019 | Spiroxamine        | ND              | 0.50              |
| 06/08/2019                                         | Sulfentrazone   | ND              | 0.50              | 06/08/2019 | Sulfoxaflor        | ND              | 0.50              |
| 06/08/2019                                         | Tebuconazole    | ND              | 0.50              | 06/08/2019 | Tebufenozide       | ND              | 0.50              |
| 06/08/2019                                         | Tebuthiuron     | ND              | 0.50              | 06/08/2019 | Terbacil           | ND              | 0.50              |
| 06/08/2019                                         | Terbutylazine   | ND              | 0.50              | 06/08/2019 | Terbutryn          | ND              | 0.50              |
| 06/08/2019                                         | Thiabendazole   | ND              | 0.50              | 06/08/2019 | Thiacloprid        | ND              | 0.50              |
| 06/08/2019                                         | Thiamethoxam    | ND              | 0.50              | 06/08/2019 | Thiobencarb        | ND              | 0.50              |
| 06/08/2019                                         | Thiodicarb      | ND              | 0.50              | 06/08/2019 | Thiophanate methyl | ND              | 0.50              |
| 06/08/2019                                         | Tolfenpyrad     | ND              | 0.50              | 06/08/2019 | Triadimefon        | ND              | 0.50              |
| 06/08/2019                                         | Triadimenol     | ND              | 1.0               | 06/08/2019 | Trifloxystrobin    | ND              | 0.50              |
| 06/08/2019                                         | Triflumizole    | ND              | 0.50              |            |                    |                 |                   |

**Notes and Definitions**

| <u>Notes</u> | <u>Definition</u>                                 |
|--------------|---------------------------------------------------|
| LOQ          | Limit of Quantitation                             |
| ND           | Not Detected                                      |
| *            | Not included under current scope of accreditation |

The results contained in this report relate only to the items tested.

The results reflect the condition of the samples as received by PAL.

Samples will be stored for a minimum of 60 days after the final report is issued, as described in our Quality Manual.

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PAL is accredited to ISO/IEC 17025:2017 Standard, by PJLA, Accreditation #64422, Testing.

Rick Jordan, Laboratory Manager