



APRC
Aromatic Plant Research Center

LABORATORY REPORT

SAMPLE NAME: Eucalyptus Smithii

BOTANICAL NAME: *Eucalyptus smithii*

COMPANY NAME: ACHS

COMPANY LOT #: 18130R

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 standard profile of *Eucalyptus smithii*.

Analyzed by: Dr. Prabodh Satyal

Reviewed by: Ambika Poudel

Issued Date: 2/14/2019

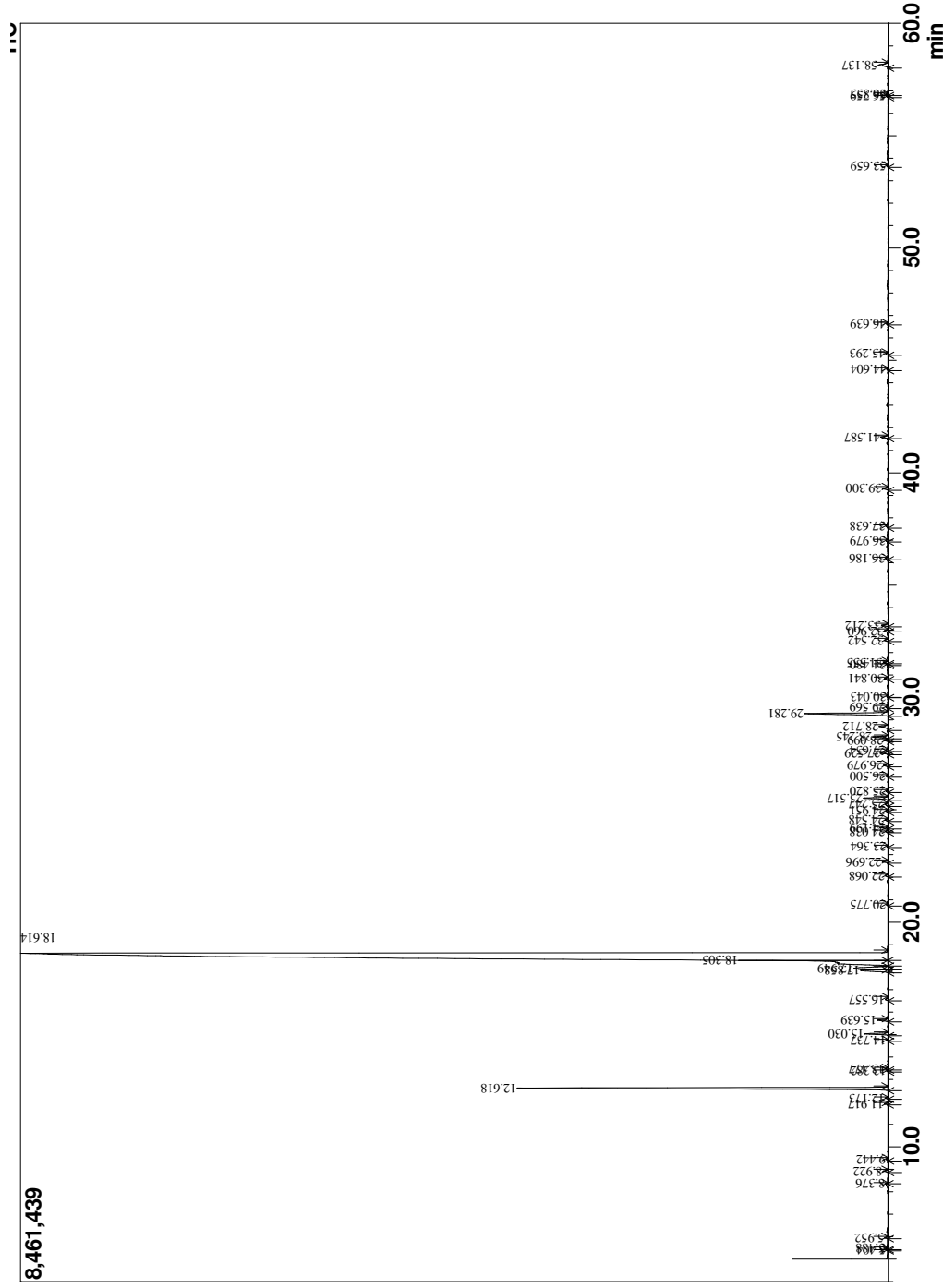
Analyzed by : Dr. Prabodh Satyal :
 Analyzed 2/14/2019 4:54:12 AM :
 Sample Type Essential Oil
 Sample Name : Eucalyptus Smithii
 Lot# : 18130R
 Injection Volume : 0.30

Sample Information



Peak Report TIC

R.Time	Peak Name	Area%
5.404	Eucalyptus Smithii	0.01
5.488	Isopentyl alcohol	0.03
5.952	Butanol <2-methyl>	0.05
8.376	Isovaleric acid	0.02
8.922	Hexenol <3Z>	0.10
9.442	Hexanol<n>	0.03
11.917	Pinene isomer	0.06
12.173	Thujene <alpha>	0.05
12.618	Pinene<alpha>	8.43
13.382	Fenchene <alpha>	0.02
13.477	Camphene	0.05
14.737	Eucalyptus Smithii	0.02
15.030	Pinene <beta>	0.48
15.639	Myrcene	0.24
16.557	Hexenyl acetate+ Pseudo-limonene	0.08
17.858	Cymene <ortho>	0.79
17.949	Cymene <para>	1.49
18.305	Limonene	4.74
18.614	1,8-cineole	76.93
20.775	Linalool oxide <cis> (furanoid)	0.04
22.068	Cymenene<para>	0.07
22.696	Linalool	0.13
23.364	Eucalyptus Smithii	0.03
24.038	Fenchol<endo>	0.05
24.199	Mentha-2,8-dien-1-ol<trans>-para->	0.04
24.548	Campholenal<alpha>	0.07
24.951	Limonene oxide<cis>	0.05
25.247	Limonene oxide<trans>	0.08
25.517	Pinocarveol<trans>	0.58
25.820	Verbenol<E>	0.04
26.500	Isopulegol	0.04
26.979	Pinocarvone	0.11
27.529	Terpineol <delta>	0.18
27.654	Borneol	0.05
28.099	1,8-menthadien-4-ol <para>	0.10
28.245	Terpinen-4-ol	0.38
28.712	Mentha-1(7),8-dien-2-ol <trans>-p->	0.27
29.281	Terpineol <alpha>	2.34
29.569	Piperitol <Z>	0.05
30.043	Verbenone	0.03
30.841	Carveol <trans>	0.08
31.480	Ocimenone<Z>	0.04
31.555	Mentha-1(7),8-dien-2-ol <dis>-p->	0.12
32.542	Carvone	0.09
32.960	Geraniol	0.09
33.212	Piperitone	0.16
36.186	1,2,8,9-Diepoxy-p-menthane	0.06
36.979	Menthadiene hydroperoxide 3	0.04
37.638	Hydroxycineole isomer	0.05
39.300	Menthene<1,2-diol>	0.14
41.587	Menth-6-en-2,8-diol<trans>-p->	0.20
44.604	Carvone hydrate	0.03
45.293	Aromadendrene	0.06
46.639	Alloaromadendrene	0.03
53.659	Spathulenol	0.03
56.759	Eremoligenol	0.04
56.855	Eudesmol <gamma>	0.05
58.137	Eudesmol<beta>	0.35
		100.00



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 Reviewed by: Ambika Poudel

APRC[®] PHYSICAL CONSTANTS REPORT

Oil Name: Eucalyptus smithii

Botanical Name: *Eucalyptus smithii*

Lot #: 18130R

Organoleptic Information	
Appearance	Clear
Color	Slight camphor note, mildly sharp, fresh with earthy undertones
Odor	Pale yellow

Physical Constants Information (at 20 °C)			
Tests	Observed	ISO	Comments
Specific Gravity	0.91832	N/A**	
Refractive Index	1.46107	N/A**	
Optical Rotation	+ 3.84	N/A**	

**N/A: Not available.

Comments: No ISO has been created for this oil.

Analyzed by: Sophia Wax
Reviewed by: Prabodh Satyal

Date: 02/15/2019
Date: 02/15/2019



American College Of Healthcare Sciences

5940 SW Hood Ave
Portland, OR 97239

Client Sample ID: Eucalyptus smithii essential oil lot 18130R
PAL Sample ID: P190278-02

Report Number: P190278
Report Date: February 28, 2019
Client Project ID:

Sample Date: 02/18/2019
Received Date: 02/19/2019
Extraction Date: 02/20/2019

Certificate of Analysis

Table with 10 columns: Analysis Date, Analyte, Amount Detected, LOQ (mg/kg), Notes, Analysis Date, Analyte, Amount Detected, LOQ (mg/kg), Notes. Includes a section for Modified EPA 8270D (GC-MS/MS) with multiple rows of pesticide data.

Handwritten signature of Rick Jordan



Pacific Agricultural Laboratory

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Report Date: February 28, 2019

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Extraction Date: 02/20/2019

**Certificate of Analysis
(Continued)**

Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes	Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes
Modified EPA 8270D (GC-MS/MS) (Continued)									
02/22/2019	Oxadiazon	ND	0.50		02/22/2019	Oxyfluorfen	ND	0.50	
02/22/2019	p,p'-DDD	ND	0.50		02/22/2019	p,p'-DDE	ND	0.50	
02/22/2019	p,p'-DDT	ND	0.50		02/22/2019	Parathion-methyl	ND	0.50	
02/22/2019	PCA	ND	0.50		02/22/2019	PCB	ND	0.50	
02/22/2019	PCNB	ND	0.50		02/22/2019	Pendimethalin	ND	0.50	
02/22/2019	Pentachlorophenyl methyl sulfide	ND	0.50		02/22/2019	Permethrin	ND	2.5	
02/22/2019	Procymidone	ND	0.50		02/22/2019	Prodiamine	ND	0.50	
02/22/2019	Pronamide	ND	0.50		02/22/2019	Propachlor	ND	0.50	
02/22/2019	Pyriproxyfen	ND	0.50		02/22/2019	Quinoxifen	ND	0.50	
02/22/2019	Spirodiclofen	ND	0.50		02/22/2019	Tetraconazole	ND	0.50	
02/22/2019	Tetradifon	ND	0.50		02/22/2019	trans-Nonachlor	ND	0.50	
02/22/2019	Trifluralin	ND	0.50		02/22/2019	Vinclozalin	ND	0.50	
Modified EPA 8321B (HPLC MS-MS)									
02/22/2019	3-Hydroxycarbofuran	ND	0.48		02/22/2019	Abamectin	ND	0.50	
02/22/2019	Acephate	ND	0.48		02/22/2019	Acetamiprid	ND	0.48	
02/22/2019	Acibenzolar-S-methyl	ND	0.96		02/22/2019	Aldicarb	ND	0.48	
02/22/2019	Aldicarb Sulfone	ND	0.48		02/22/2019	Aldicarb Sulfoxide	ND	0.48	
02/22/2019	Allethrin	ND	0.48		02/22/2019	Ametoctradin	ND	0.48	
02/22/2019	Atrazine	ND	0.48		02/22/2019	Azinphos-ethyl	ND	0.48	
02/22/2019	Azinphos-methyl	ND	0.96		02/22/2019	Azoxystrobin	ND	0.48	
02/22/2019	Bendiocarb	ND	0.48		02/22/2019	Bensulide	ND	0.48	
02/22/2019	Bifenazate	ND	0.48		02/22/2019	Bitertanol	ND	0.48	
02/22/2019	Boscalid	ND	0.48		02/22/2019	Bromacil	ND	0.48	
02/22/2019	Carbaryl	ND	0.48		02/22/2019	Carbendazim	ND	0.48	
02/22/2019	Carbofuran	ND	0.48		02/22/2019	Carfentrazone-ethyl	ND	0.48	
02/22/2019	Chlorantraniliprole	ND	0.48		02/22/2019	Clethodim	ND	0.96	
02/22/2019	Clofentezine	ND	0.48		02/22/2019	Clothianidin	ND	0.48	
02/22/2019	Cyanazine	ND	0.48		02/22/2019	Cyantraniliprole	ND	0.48	
02/22/2019	Cyazofamid	ND	0.48		02/22/2019	Cycloate	ND	0.96	
02/22/2019	Cyflufenamid	ND	0.48		02/22/2019	Cyflumetofen	ND	0.48	
02/22/2019	Cymoxanil	ND	0.48		02/22/2019	Cyprodinil	ND	0.48	
02/22/2019	Cyromazine	ND	0.48		02/22/2019	DCPMU	ND	0.48	
02/22/2019	Diazoxon	ND	0.48		02/22/2019	Difenoconazole	ND	0.48	
02/22/2019	Diflubenzuron	ND	0.48		02/22/2019	Dimethoate	ND	0.48	
02/22/2019	Dimethomorph	ND	0.48		02/22/2019	Dinotefuran	ND	0.48	

Rick Jordan, Laboratory Manager



American College Of Healthcare Sciences

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Client Sample ID: Eucalyptus smithii essential oil lot 18130R

PAL Sample ID: P190278-02

Report Number: P190278

Report Date: February 28, 2019

Client Project ID:

Sample Date: 02/18/2019

Received Date: 02/19/2019

Extraction Date: 02/20/2019

Certificate of Analysis (Continued)

Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes	Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes
Modified EPA 8321B (HPLC MS-MS) (Continued)									
02/22/2019	Disulfoton sulfone	ND	0.48		02/22/2019	Diuron	ND	0.48	
02/22/2019	Dodine	ND	0.48		02/22/2019	d-Phenothrin	ND	0.48	
02/22/2019	Emamectin Benzoate	ND	0.48		02/22/2019	Ethion	ND	0.48	
02/22/2019	Famoxadone	ND	0.48		02/22/2019	Famphur	ND	0.48	
02/22/2019	Fenamidone	ND	0.48		02/22/2019	Fenamiphos sulfone	ND	0.48	
02/22/2019	Fenamiphos sulfoxide	ND	0.48		02/22/2019	Fenazaquin	ND	0.48	
02/22/2019	Fenbuconazole	ND	0.48		02/22/2019	Fenbutatin oxide	ND	0.48	
02/22/2019	Fenhexamid	ND	0.48		02/22/2019	Fenobucarb	ND	0.48	
02/22/2019	Fenpropathrin	ND	0.48		02/22/2019	Fenpyroximate	ND	0.48	
02/22/2019	Fenuron	ND	0.48		02/22/2019	Flonicamid	ND	0.48	
02/22/2019	Fluazinam	ND	0.48		02/22/2019	Flubendiamide	ND	0.96	
02/22/2019	Flumioxazin	ND	0.48		02/22/2019	Fluometuron	ND	0.48	
02/22/2019	Fluopicolide	ND	0.48		02/22/2019	Fluopyram	ND	0.48	
02/22/2019	Fluoxastrobin	ND	0.48		02/22/2019	Flupyradifurone	ND	0.48	
02/22/2019	Fluridone	ND	0.48		02/22/2019	Flutriafol	ND	0.48	
02/22/2019	Fluvalinate	ND	0.48		02/22/2019	Fluxapyroxad	ND	0.48	
02/22/2019	Fonofos	ND	0.96		02/22/2019	Formetanate HCl	ND	0.48	
02/22/2019	Hexaconazole	ND	0.48		02/22/2019	Hexazinone	ND	0.48	
02/22/2019	Hexythiazox	ND	0.48		02/22/2019	Imazalil	ND	0.48	
02/22/2019	Imidacloprid	ND	0.48		02/22/2019	Indaziflam	ND	0.48	
02/22/2019	Indoxacarb	ND	0.48		02/22/2019	Iprodione	ND	2.4	
02/22/2019	Isoxaben	ND	0.48		02/22/2019	Linuron	ND	0.48	
02/22/2019	Malaoxon	ND	0.48		02/22/2019	Mandipropamid	ND	0.48	
02/22/2019	Metconazole	ND	0.48		02/22/2019	Methamidophos	ND	1.0	
02/22/2019	Methidathion	ND	0.48		02/22/2019	Methiocarb	ND	0.48	
02/22/2019	Methomyl	ND	0.48		02/22/2019	Methoxyfenozide	ND	0.48	
02/22/2019	Metrafenone	ND	0.48		02/22/2019	Metribuzin	ND	0.48	
02/22/2019	Mevinphos	ND	0.48		02/22/2019	Norflurazon	ND	0.48	
02/22/2019	Novaluron	ND	0.48		02/22/2019	Omethoate	ND	0.48	
02/22/2019	Oryzalin	ND	0.48		02/22/2019	Oxadixyl	ND	0.48	
02/22/2019	Oxamyl	ND	0.48		02/22/2019	Oxydemeton-Methyl	ND	0.48	
02/22/2019	Penthiopyrad	ND	0.48		02/22/2019	Phorate Sulfone	ND	0.48	
02/22/2019	Phorate Sulfoxide	ND	0.48		02/22/2019	Phosalone	ND	0.48	
02/22/2019	Phosmet	ND	0.48		02/22/2019	Phosphamidon	ND	0.48	
02/22/2019	Piperonyl Butoxide	ND	0.48		02/22/2019	Pirimicarb	ND	0.48	
02/22/2019	Pirimiphos-methyl	ND	0.48		02/22/2019	Prometon	ND	0.48	



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PAL Sample ID: P190278-02

Report Number: P190278

Report Date: February 28, 2019

Client Project ID:

Sample Date: 02/18/2019

Received Date: 02/19/2019

Extraction Date: 02/20/2019

Certificate of Analysis (Continued)

Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes	Analysis Date	Analyte	Amount Detected	LOQ (mg/kg)	Notes
Modified EPA 8321B (HPLC MS-MS) (Continued)									
02/22/2019	Prometryn	ND	0.48		02/22/2019	Propargite	ND	0.48	
02/22/2019	Propazine	ND	0.48		02/22/2019	Propiconazole	ND	0.96	
02/22/2019	Prothioconazole	ND	0.96		02/22/2019	Pymetrozine	ND	0.48	
02/22/2019	Pyraclostrobin	ND	0.48		02/22/2019	Pyraflufen-ethyl	ND	0.48	
02/22/2019	Pyrethrin	ND	2.4		02/22/2019	Pyridaben	ND	0.48	
02/22/2019	Pyrimethanil	ND	0.48		02/22/2019	Rotenone	ND	0.48	
02/22/2019	Saflufenacil	ND	0.48		02/22/2019	Sethoxydim	ND	0.96	
02/22/2019	Siduron	ND	0.48		02/22/2019	Simazine	ND	0.48	
02/22/2019	Simetryn	ND	0.48		02/22/2019	Spinetoram	ND	0.48	
02/22/2019	Spinosad	ND	0.48		02/22/2019	Spiromesifen	ND	0.96	
02/22/2019	Spirotetramat	ND	0.48		02/22/2019	Spiroxamine	ND	0.48	
02/22/2019	Sulfentrazone	ND	0.48		02/22/2019	Sulfoxaflor	ND	0.48	
02/22/2019	Tebuconazole	ND	0.48		02/22/2019	Tebufenozide	ND	0.48	
02/22/2019	Tebuthiuron	ND	0.48		02/22/2019	Terbacil	ND	0.48	
02/22/2019	Terbuthylazine	ND	0.48		02/22/2019	Terbutryn	ND	0.48	
02/22/2019	Thiabendazole	ND	0.48		02/22/2019	Thiacloprid	ND	0.48	
02/22/2019	Thiamethoxam	ND	0.48		02/22/2019	Thiobencarb	ND	0.48	
02/22/2019	Thiodicarb	ND	0.48		02/22/2019	Thiophanate methyl	ND	0.48	
02/22/2019	Tolfenpyrad	ND	0.48		02/22/2019	Triadimefon	ND	0.48	
02/22/2019	Triadimenol	ND	0.96		02/22/2019	Trifloxystrobin	ND	0.48	
02/22/2019	Triflumizole	ND	0.48						

Notes and Definitions

Notes	Definition
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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