

Report ID: 308915-OAS
Report Date: 18-Apr-19
Date Received: 08-Apr-19

CERTIFICATE OF ANALYSIS

for
Hexo Operations Inc
490 Boulevard Saint Joseph, Suite 204
Gatineau, QC J8Y 3Y7

rpc

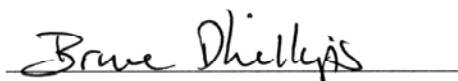
921 College Hill Rd
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Canada E3B 6Z9
Tel: 506.452.1212
Fax: 506.452.0594
www.rpc.ca

Attention: Robin Lacasse
Project #: Not Available

Aflatoxins in Oil

RPC Sample ID:	308915-1		
Client Sample ID:	AAA-112248 LS		
Date Sampled:	5-Apr-19		
Matrix:	oil		
Analytes	Units	RL	
Aflatoxin B1	ng/g	5	< 5
Total Aflatoxin (B1, G1, B2, G2)	ng/g	10	< 10


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RL = Reporting Limit, ND = Not Detected



Bruce Phillips
Department Head
Organic Analytical Services

AFLATOXINS USP IN OIL

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Troy Smith
Lab Supervisor
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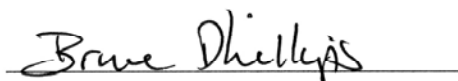
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Project #: Not Available


Foreign matter in cannabis

RPC Sample ID:	308915-1		
Client Sample ID:	AAA-112248 LS		
Date Sampled:	5-Apr-19		
Matrix:	oil		
Analytes	Units	RL	
Foreign matter	%	2	< 2

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FOREIGN MATTER

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Attention: Robin Lacasse

Project #: Not Available

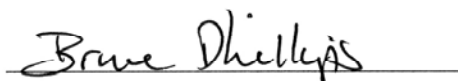
Cannabinoids in oil by HPLC

RPC Sample ID:	308915-1		
Client Sample ID:	AAA-112248 LS		
Date Sampled:	5-Apr-19		
Matrix:	oil		
Analytes	Units	RL	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	mg/ml	0.50	9.70
Delta 9-Tetrahydrocannabinolic Acid (Delta 9-THCA)	mg/ml	0.50	ND
Cannabidiol (CBD)	mg/ml	0.50	9.66
Cannabidiolic Acid (CBDA)	mg/ml	0.50	ND
Cannabigerol (CBG)	mg/ml	0.50	< 0.50
Cannabigerolic Acid (CBGA)	mg/ml	0.50	ND
Cannabinol (CBN)	mg/ml	0.50	< 0.50
Cannabichromene (CBC)	mg/ml	0.50	0.57
Total Delta 9-Tetrahydrocannabinol (Delta 9-THC)	mg/ml	0.70	9.70
Total Cannabidiol (CBD)	mg/ml	0.70	9.66
Total Cannabigerol (CBG)	mg/ml	0.70	< 0.70

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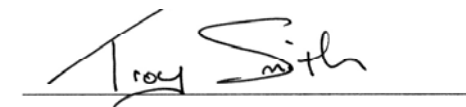
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HPLC CANNABINOIDS IN OIL

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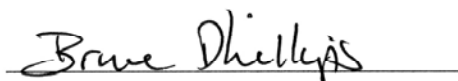
Residual solvent in cannabis extracts

RPC Sample ID:	308915-1		
Client Sample ID:	AAA-112248 LS		
Date Sampled:	5-Apr-19		
Matrix:	oil		
Analytes	Units	RL	
Ethanol	%	0.2	< 0.2
Acetone	%	0.2	< 0.2
2-Propanol	%	0.2	< 0.2
1-Propanol	%	0.2	< 0.2
Ethyl Acetate	%	0.2	< 0.2


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Organic Analytical Services

RESIDUAL SOLVENT

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Attention: Robin Lacasse
Project #: Not Available

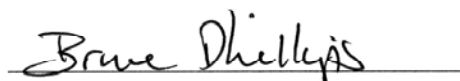
Terpenes in cannabis oil

RPC Sample ID:		308915-1	
Client Sample ID:		AAA-112248 LS	
Date Sampled:		5-Apr-19	
Matrix:		oil	
Analytes	Units	RL	
Alpha pinene	%	0.01	< 0.01
Beta pinene	%	0.01	< 0.01
Myrcene	%	0.01	< 0.01
Limonene	%	0.01	< 0.01
Terpinolene	%	0.01	< 0.01
Linalool	%	0.01	< 0.01
Terpineol	%	0.01	< 0.01
Caryophyllene	%	0.01	< 0.01
Humulene	%	0.01	< 0.01
3-carene	%	0.01	< 0.01
Cis-ocimene	%	0.01	< 0.01
Eucalyptol	%	0.01	< 0.01
Trans-ocimene	%	0.01	< 0.01
Fenchol	%	0.01	< 0.01
Borneol	%	0.01	< 0.01


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Attention: Robin Lacasse

Project #: Not Available

Terpenes in cannabis oil

RPC Sample ID:		308915-1	
Client Sample ID:		AAA-112248 LS	
Date Sampled:		5-Apr-19	
Matrix:		oil	
Analytes	Units	RL	
Valencene	%	0.01	< 0.01
Cis-nerolidol	%	0.01	< 0.01
Trans-nerolidol	%	0.01	< 0.01
Guaiol	%	0.01	< 0.01
Alpha-bisabolol	%	0.01	< 0.01
Sabinene	%	0.01	< 0.01
Total terpenes	%	0.05	< 0.05

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Method Summary

Aflatoxin by Immuno Affinity/HPLC (SOP: OAS-SV19). Reference USP 40<561> Method III

Foreign Material: USP 40<561>

Cannabinoids by solvent extraction HPLC-VWD (SOP: OAS-SV21).

Reference Method: 'Recommended Methods for the Identification and Analysis of Cannabis and Cannabis Products' United Nations Office on Drugs and Crime.

Residual Solvents by solvent extraction GC-FID (SOP:OAS-SV22). Reference USP 40<467>

Terpenes by solvent extraction GC-MSD (SOP:OAS-SV23).

COMMENTS

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Project #: Not Available

Summary of Date Analyzed

RPC Sample ID	Aflatoxins (USP) in Oil		Foreign Matter		HPLC Cannabinoids In Oil	
	Extracted	Analyzed	Extracted	Analyzed	Extracted	Analyzed
308915-1	9-Apr-19	9-Apr-19	5-Apr-19	5-Apr-19	8-Apr-19	9-Apr-19

DATE ANALYZED SUMMARY

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Project #: Not Available

Summary of Date Analyzed

RPC Sample ID	Residual Solvent		Terpenes in Oil	
	Extracted	Analyzed	Extracted	Analyzed
308915-1	9-Apr-19	11-Apr-19	11-Apr-19	17-Apr-19

DATE ANALYZED SUMMARY

Report ID: 308915-IAS
Report Date: 11-Apr-19
Date Received: 08-Apr-19

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Hexo Operations Inc
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Attention: Robin Lacasse
Project #: Not Available

Analysis of Samples

RPC Sample ID:		308915-1	
Client Sample ID:		AAA-112248 LS	
Date Sampled:		5-Apr-19	
Analytes	Units	RL	
Arsenic	mg/kg	0.2	< 0.2
Cadmium	mg/kg	0.002	< 0.002
Lead	mg/kg	0.02	< 0.02
Mercury	mg/kg	0.01	< 0.01

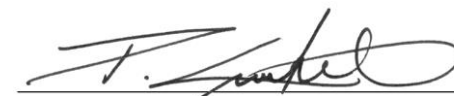
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RL = Reporting Limit



A. Ross Kean, M.Sc.
Department Head
Inorganic Analytical Chemistry

METALS
Page 1 of 3



Peter Crowhurst, B.Sc., C.Chem.
Analytical Chemist
Inorganic Analytical Chemistry

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General Report Comments

A portion of the sample was prepared by Microwave Assisted Digestion in nitric acid (SOP 4.M26).
The resulting solution was analyzed for trace elements by ICP-MS (SOP 4.M01).
Mercury was analyzed by Cold Vapour AAS (SOP 4.M52 & SOP 4.M53).

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Methods

<u>Analyte</u>	<u>RPC SOP #</u>	<u>Method Reference</u>	<u>Method Principle</u>
Microwave Digestion	4.M26	EPA 3051a	Microwave Assisted Digestion in Nitric Acid
Trace Elements	4.M01	EPA 200.8	Inductively Coupled Plasma Mass Spectrometry
Mercury	4.M52/4.M53	EPA 245.6	Cold Vapour AAS

CERTIFICATE OF ANALYSIS / CERTIFICAT D'ANALYSE

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www.rpc.ca

Attention: Robin Lacasse / Max Alsayar /
David Robinson / Etienne Joannis / Distribution List The Hydrothecary
P/O #: 1162

Microbiological Examination of Cannabis Oil

RPC Sample ID/No. d'échantillon de RPC:				308915-1
Client Sample ID/ID d'échantillon du client:				AAA-112248 LS
Date collected/Date du prélèvement				5-Apr-19
Analytes/Paramètre(s)	Method/Méthode	Date Analyzed Date Analysé	Units Unités	
Bile Tolerance Gram Negative	FFA30-USP 62	9-Apr-19	MPN/g	<10
Total Bacteria Count	FFA04-MFHPB-18	9-Apr-19	cfu/g	<10
E. coli	FFA32-USP 62	9-Apr-19	g	a
Salmonella	FFA06-MFHPB-20	9-Apr-19	25g	a
Yeasts/molds	FA13-MFHPB-22	9-Apr-19	cfu/g	<10/<10

This report relates only to the sample(s) and information provided to the laboratory.

Le présent rapport ne s'applique qu'aux échantillons et à l'information transmis au laboratoire.

a = absent/absentes



Cathy Hay
Microbiology Supervisor
Food, Fisheries & Aquaculture



Breannah Collins
Micro Technician
Food, Fisheries & Aquaculture

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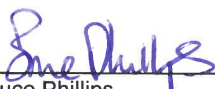
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Attention: Robin Lacasse
Project #: Not Available

Pesticides in Oil

RPC Sample ID:			308915-1
Client Sample ID:			AAA-112248 LS
Date Sampled:			5-Apr-19
Matrix:			oil
Analytes	Units	DL	
Abamectin	ppm	0.010	BDL
Acephate	ppm	0.010	BDL
Acequinocyl	ppm	0.010	BDL
Acetamiprid	ppm	0.010	BDL
Aldicarb	ppm	0.010	BDL
Allethrin	ppm	0.010	BDL
Azadirachtin	ppm	0.050	BDL
Azoxystrobin	ppm	0.010	BDL
Benzovindiflupyr	ppm	0.010	BDL
Bifenazate	ppm	0.010	BDL
Bifenthrin	ppm	0.010	BDL
Boscalid	ppm	0.010	BDL
Buprofezin	ppm	0.010	BDL
Carbaryl	ppm	0.010	BDL
Carbofuran	ppm	0.010	BDL
Chlorantraniliprole	ppm	0.010	BDL
Chlorphenapyr	ppm	0.050	BDL
Chlorpyrifos	ppm	0.010	BDL
Clofentezine	ppm	0.010	BDL
Clothianidin	ppm	0.010	BDL
Coumaphos	ppm	0.010	BDL
Cyantraniliprole	ppm	0.010	BDL
Cyfluthrin	ppm	0.500	BDL
Cypermethrin	ppm	0.500	BDL
Cyprodinil	ppm	0.010	BDL
Daminozide	ppm	0.010	BDL
Deltamethrin	ppm	0.050	BDL
Diazinon	ppm	0.010	BDL
Dichlorvos	ppm	0.050	BDL
Dimethoate	ppm	0.010	BDL
Dimethomorph	ppm	0.050	BDL
Dinotefuran	ppm	0.010	BDL
Dodemorph	ppm	0.010	BDL
Endosulfan-alpha	ppm	0.050	BDL
Endosulfan-beta	ppm	0.050	BDL
Endosulfan-sulfate	ppm	0.050	BDL
Ethoprophos	ppm	0.010	BDL
Etofenprox	ppm	0.050	BDL
Etoxazole	ppm	0.010	BDL
Etridiazole	ppm	0.050	BDL


Bruce Phillips
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RPC Sample ID:		308915-1	
Client Sample ID:		AAA-112248 LS	
Date Sampled:		5-Apr-19	
Matrix:		oil	
Analytes	Units	DL	
Fenoxycarb	ppm	0.010	BDL
Fenpyroximate	ppm	0.010	BDL
Fensulfothion	ppm	0.010	BDL
Fenthion	ppm	0.010	BDL
Fenvalerate	ppm	0.050	BDL
Fipronil	ppm	0.010	BDL
Flonicamid	ppm	0.010	BDL
Fludioxonil	ppm	0.010	BDL
Fluopyram	ppm	0.010	BDL
Hexythiazox	ppm	0.010	BDL
Imazalil	ppm	0.010	BDL
Imidacloprid	ppm	0.010	BDL
Iprodione	ppm	0.050	BDL
Kinoprene	ppm	0.500	BDL
Kresoxim-methyl	ppm	0.050	BDL
Malathion	ppm	0.010	BDL
Metalaxyl	ppm	0.010	BDL
Methiocarb	ppm	0.010	BDL
Methomyl	ppm	0.010	BDL
Methoprene	ppm	0.010	BDL
Methyl parathion	ppm	0.050	BDL
Mevinphos	ppm	0.010	BDL
MGK-264	ppm	0.050	BDL
Myclobutanil	ppm	0.010	BDL
Naled	ppm	0.010	BDL
Novaluron	ppm	0.010	BDL
Oxamyl	ppm	0.010	BDL
Paclbutrazol	ppm	0.010	BDL
Permethrin	ppm	0.010	BDL
Phenothrin	ppm	0.010	BDL
Phosmet	ppm	0.010	BDL
Piperonyl Butoxide	ppm	0.010	BDL
Pirimicarb	ppm	0.010	BDL
Prallethrin	ppm	0.010	BDL
Propiconazole	ppm	0.010	BDL
Propoxur	ppm	0.010	BDL
Pyraclostrobin	ppm	0.010	BDL
Pyrethrins	ppm	0.010	BDL
Pyridaben	ppm	0.010	BDL
Quintozene	ppm	0.010	BDL
Resmethrin	ppm	0.010	BDL
Spinetoram	ppm	0.010	BDL
Spinosad	ppm	0.010	BDL
Spirodiclofen	ppm	0.010	BDL
Spiromesifen	ppm	0.010	BDL
Spirotetramat	ppm	0.010	BDL

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RPC Sample ID:		308915-1	
Client Sample ID:		AAA-112248 LS	
Date Sampled:		5-Apr-19	
Matrix:		oil	
Analytes	Units	DL	
Spiroxamine	ppm	0.010	BDL
Tebuconazole	ppm	0.010	BDL
Tebufozide	ppm	0.010	BDL
Teflubenzuron	ppm	0.010	BDL
Tetrachlorvinphos	ppm	0.010	BDL
Tetramethrin	ppm	0.010	BDL
Thiacloprid	ppm	0.010	BDL
Thiamethoxam	ppm	0.010	BDL
Thiophanate-methyl	ppm	0.010	BDL
Trifloxystrobin	ppm	0.010	BDL

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Method Summary

Pesticides by LC-MS/MS and GC-MS/MS

Analysis was subcontracted.