

Analytical Test Report

Client: High Falls Hemp NY	Final Report PHR-S1900427 Rev.01.00 Report Date: 9 AUGUST 2019	Laboratory: PHR Labs 2020 Downyflake Lane Allentown, PA 18104 215-220-9981
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Sample ID #	Sample Name	Batch	Matrix	Date Received	Date Tested	Serving size weight
PHR-S19-00427	3000mg isolate tincture	N/A	MIP	6 August 2019	08 August 2019	1 gram

The test results presented in this report are accurate, complete, and compliant with the PHR Labs quality control criteria.

Authorization



Corey Fitze
Chief Operating Officer

Case Narrative:

For cannabinoids, the sample was extracted using organic solvents and analyzed via High Performance Liquid Chromatography (HPLC-UV). The collected data was compared to data collected from analytical reference standards at known concentrations. Values reported below quantitation limits are for informational purposes.

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Requested Testing:

Test	Code	Procedure	Analytes Tested	Disposition
Cannabinoid Profile	CN	PHR-TM-0002	CBGA, CBG, THCA, Δ9-THC, Δ8-THC, CBDA, CBD, CBNA, CBN, CBCA, CBC, CBLA, CBL, CBDVA, CBDV, THCVA, THCV	N/A

Cannabinoid Profile [PHR-TM-0002]

Analyst: AJS et al

Test Date: 08 Aug 19

The sample was analyzed for cannabinoids via High Performance Liquid Chromatography (HPLC-UV). The collected data was compared to data collected from certified analytical reference standards at known concentrations.

Table 1. 19-00427 3000mg isolate tincture N/A MIP Cannabinoid Testing

Analyte	Cannabinoid	Conc. (mg/serving size)	Conc. (mg/g)	LOQ (mg/g)	LOD (mg/g)
CBDVA	Cannabidivarinic acid	ND	ND	0.1	0.009
CBDV	Cannabidivarin	0.49	0.49	0.1	0.015
CBDA	Cannabidiolic acid	ND	ND	0.1	0.032
CBGA	Cannabigerolic acid	ND	ND	0.1	0.001
CBG	Cannabigerol	0.29	0.29	0.1	0.015
CBD	Cannabidiol	104.14	104.14	0.5	0.024
THCV	Tetrahydrocannabivarin	ND	ND	0.1	0.033
THCVA	Tetrahydrocannabivarinic acid	ND	ND	0.1	0.015
CBN	Cannabinol	ND	ND	0.1	0.002
CBNA	Cannabinolic acid	ND	ND	0.1	0.018
Δ 9-THC	Δ 9-Tetrahydrocannabinol	ND	ND	0.1	0.048
Δ 8-THC	Δ 8-Tetrahydrocannabinol	ND	ND	0.1	0.044
CBL	Cannabicyclol	ND	ND	0.1	0.018
CBC	Cannabichromene	ND	ND	0.1	0.010
THCA	Tetrahydrocannabinolic acid	ND	ND	0.1	0.014
CBCA	Cannabichromenic acid	ND	ND	0.1	0.013
CBLA	Cannabicyclolic acid	ND	ND	0.1	0.016

Note: ND = Not Detected. LOQ = limit of quantitation. LOD = limit of detection.

QA/QC

Cannabinoid Profile [PHR-TM-0002]

Analyst: AJS

Test Date: 08 Aug 19

The sample data for certified reference standards was collected at known concentrations of cannabinoids in solution.

QC-0.05 mg/mL 17 cannabinoid multi-component 7/1/2019

ID	Cannabinoid	Nominal Prep Conc (mg/mL)	Measured Conc. (mg/mL)	Recovery (%)
CBDVA	Cannabidivarinic acid	0.05	0.045	90%
CBDV	Cannabidivarin	0.05	0.048	96%
CBDA	Cannabidiolic acid	0.05	0.050	100%
CBGA	Cannabigerolic acid	0.05	0.048	96%
CBG	Cannabigerol	0.05	0.047	94%
CBD	Cannabidiol	0.05	0.050	100%
THCV	Tetrahydrocannabivarin	0.05	0.048	95%
THCVA	Tetrahydrocannabivarinic acid	0.05	0.047	94%
CBN	Cannabinol	0.05	0.049	98%
CBNA	Cannabinolic acid	0.05	0.042	84%
Δ 9-THC	Δ 9-Tetrahydrocannabinol	0.05	0.050	100%
Δ 8-THC	Δ 8-Tetrahydrocannabinol	0.05	0.048	96%
CBL	Cannabicyclol	0.05	0.047	94%
CBC	Cannabichromene	0.05	0.047	94%
THCA	Tetrahydrocannabinolic acid	0.05	0.049	98%
CBCA	Cannabichromenic acid	0.05	0.045	90%
CBLA	Cannabicyclolic acid	0.05	0.042	84%

Criteria for successful analysis is QC recovery to be $\leq 20\%$ above or below nominal.

END OF REPORT



High Falls Extracts, LLC

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SAMPLE:GA90725001-002

METRC/Biotrack#19062607 **Harvest/Lot ID: 19062607**
Batch#: 19062607, Sample Size: 30 ml
Ordered: 07/24/19 Sampled:06/26/19
Completed: 07/31/19 Expires: 07/31/20
Sampling Method: SOP Client Method

Image



Pesticides - Passed
Microbials - Passed
Mycotoxins - Passed
Heavy Metals - Passed
Terpenes - NOT Tested
Residual-Solvents - Passed
Filt - Passed
Water Activity - NOT Tested
Moisture - NOT Tested

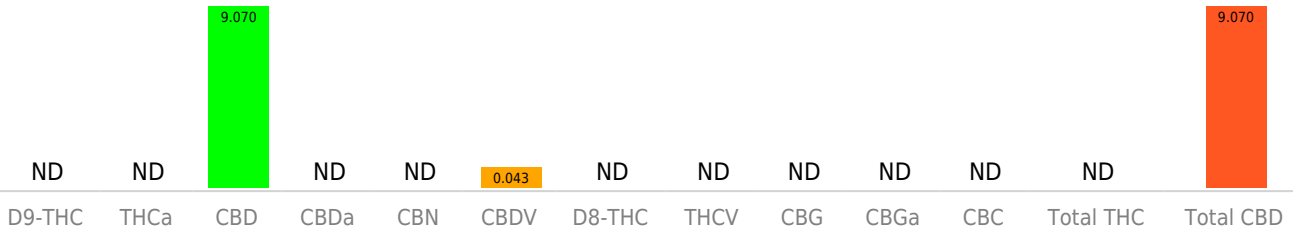
Safety

Cannabinoids

Analyte	Weight(%)	mg/g
D9-THC	ND	ND
THCA	ND	ND
CBD	9.070	90.700
CBDA	ND	ND
CBN	ND	ND
CBDV	0.043	0.430
D8-THC	ND	ND
THCV	ND	ND
CBG	ND	ND
CBGA	ND	ND
CBC	ND	ND
TOTAL THC	ND	ND
TOTAL CBD	9.070	90.700

Cannabinoids

0.00% Total THC	9.070% Total CBD
0 THC/Container	2721 CBD/Container



Jorge Segredo
Lab Director

State License # n/a
ISO Accreditation #
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SAMPLE:GA90725001-002

METRC/Biotrack#19062607 **Harvest/Lot ID: 19062607**

Batch#: 19062607, Sample Size: 30 ml

Ordered: 07/24/19 Sampled:06/26/19

Completed: 07/31/19 Expires: 07/31/20

Sampling Method: SOP Client Method

Pesticides	LOQ	Action Level	Units	Result	Pesticides	LOQ	Action Level	Units	Result
DIMETHOATE	0.01	0.2	ppm	ND	MALATHION	0.01	5	ppm	ND
ABAMECTIN B1A	0.02	0.3	ppm	ND	CYPERMETHRIN	0.02	1	ppm	ND
PENTACHLORONITROBENZENE	0.01	0.2	ppm	ND	DAMINOZIDE	0.02	0.5	ppm	ND
METHYL PARATHION	0.05	0.2	ppm	ND	METALAXYL	0.01	15	ppm	ND
CYFLUTHRIN	0.05	1	ppm	ND	DICHLORVOS	0.05	0.1	ppm	ND
ACEPHATE	0.01	5	ppm	ND	METHIOCARB	0.01	0.2	ppm	ND
DIMETHOMORPH	0.005	20	ppm	ND	METHOMYL	0.01	0.1	ppm	ND
ETHOPROPHOS	0.01	0.2	ppm	ND	DAZANON	0.01	0.2	ppm	ND
ACETAMPIDR	0.01	5	ppm	ND	MEVINPHOS	0.01	0.05	ppm	ND
ETOFENPROX	0.01	0.4	ppm	ND	MYCLOBUTANIL	0.01	9	ppm	ND
ALDICARB	0.02	0.5	ppm	ND	NALED	0.01	0.5	ppm	ND
ETOXAZOLE	0.01	1.5	ppm	ND	OXAMYL	0.01	1.5	ppm	ND
AZOXYSTROBIN	0.01	40	ppm	ND	PACLOBUTRAZOL	0.01	0.4	ppm	ND
FENHEXAMID	0.01	10	ppm	ND	PERMETHRINS	0.05	20	ppm	ND
BIFENAZATE	0.01	5	ppm	ND	PHOSMET	0.01	0.2	ppm	ND
FENOXYCARB	0.01	0.2	ppm	ND	PIPERONYL BUTOXIDE	0.01	8	ppm	ND
FENPYROXIMATE	0.01	0.5	ppm	ND	PRALLETHRIN	0.05	0.4	ppm	ND
BIFENTHRIN	0.01	0.5	ppm	ND	PROPCONAZOLE	0.01	20	ppm	ND
CARBARYL	0.01		ppm	ND	PROPOXUR	0.01	0.2	ppm	ND
FIPRONIL	0.02	0.4	ppm	ND	PYRETHRINS (PYRETHRIN I)	0.01	1	ppm	ND
FLONICAMID	0.01	2	ppm	ND	PYRIDABEN	0.01	3	ppm	ND
CARBOFURAN	0.01		ppm	ND	SPINOSAD (SPINOSYN A)	0.01	3	ppm	ND
CHLORANTRANILIPROLE	0.01		ppm	ND	SPINOSAD (SPINOSYN D)	0.01	3	ppm	ND
FLUDIOXONIL	0.01	30	ppm	ND	SPIROMESIFEN	0.01	12	ppm	ND
HEXYTHIAZOX	0.01	2	ppm	ND	SPIROTETRAMAT	0.02	13	ppm	ND
CHLORFENAPYR	0.01	1.5	ppm	ND	SPIROXAMINE	0.01	0.4	ppm	ND
IMAZAIL	0.01	0.2	ppm	ND	TEBUCONAZOLE	0.01	2	ppm	ND
CHLORPYRIFOS	0.01	0.5	ppm	ND	THIACLOPRID	0.01	0.2	ppm	ND
IMIDACLOPRID	0.01	3	ppm	ND	THIAMETHOXAM	0.01	4.5	ppm	ND
CLOFENTZINE	0.01	0.5	ppm	ND	TRIFLOXYSTROBIN	0.01	30	ppm	ND
KRESOXIM-METHYL	0.01	1	ppm	ND					
COUMAPHOS	0.005	0.2	ppm	ND					



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METRC/Biotrack#19062607 **Harvest/Lot ID: 19062607**

Batch#: 19062607, Sample Size: 30 ml

Ordered: 07/24/19 Sampled:06/26/19

Completed: 07/31/19 Expires: 07/31/20

Sampling Method: SOP Client Method

Residual solvent

Residual solvent	Action Level(ppm)	Pass/Fail	Results(ppm)
1,2-DICHLOROETHANE	2	Pass	ND
1,2-DICHLOROETHENE	8	Pass	ND
1,4-DIOXANE		Pass	ND
2-BUTANOL		Pass	ND
2-ETHOXYETHANOL		Pass	ND
2-PROPANOL	500	Pass	ND
ACETONE	750	Pass	ND
ACETONITRILE	60	Pass	ND
BENZENE	1	Pass	ND
BUTANES (ISO-BUTANE)	2000	Pass	ND
BUTANES (N-BUTANE)		Pass	ND
CHLOROFORM	2	Pass	ND
ETHANOL	5000	Pass	ND
ETHYL ACETATE	400	Pass	ND
CYCLOHEXANE		Pass	ND
DICHLOROMETHANE		Pass	ND
ETHYL ETHER	500	Pass	ND
ETHYLENE OXIDE	5	Pass	ND
ETHYLBENZENE		Pass	ND
HEPTANE	500	Pass	ND
HEXANES (2,2-DIMETHYLBUTANE)	60	Pass	ND
HEXANES (2,3-DIMETHYLBUTANE)	60	Pass	ND
HEXANES (2-METHYLPENTANE)	60	Pass	ND
HEXANES (3-METHYLPENTANE)	60	Pass	ND
ISOPROPYL ACETATE		Pass	ND
METHYLENE CHLORIDE	125	Pass	ND
METHANOL	250	Pass	ND
N-HEXANE		Pass	ND
PENTANES (ISO-PENTANE)		Pass	ND
PENTANES (N-PENTANE)	750	Pass	ND
PENTANES (NEO-PENTANE)		Pass	ND
PROPANE	100	Pass	ND
TETRAHYDROFURAN		Pass	ND
TOLUENE	150	Pass	ND
TOTAL XYLENES	150	Pass	ND
TRICHLOROETHYLENE	25	Pass	ND

Jorge Segredo
Lab Director

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Batch#: 19062607, Sample Size: 30 ml
Ordered: 07/24/19 Sampled:06/26/19
Completed: 07/31/19 Expires: 07/31/20
Sampling Method: SOP Client Method

Cannabinoid Profile Test Result-Analysis Method :SOP.T.40.020, SOP.T.30.050

Analytical Batch:GA005047

Batch : 2019-07-25 12:21:37

Analyst #508	Weight : 3.0037g	Sample Prep : 2019-07-26 09:07:15		Extracted By : 508	
Reagent LOT ID	Dilution	Consumables Id	Reagent LOT ID	Dilution	Consumables Id
072519.R02	10	28065964	072319.R03		00267301 / 00268913 / 00273299
071719.R02		181205			

Full spectrum cannabinoid analysis utilizing High Performance Liquid Chromatography with UV detection (HPLC-UV). (Method: SOP.T.30.050 for sample prep and Shimadzu High Sensitivity Method SOP.T.40.020 for analysis. LOQ for all cannabinoids is 1 mg/L).

Filth and foreign Materials-Analysis Method :

Analytical Batch:GA005067

Batch : 2019-07-25 17:15:36

Analyst #650	Weight : 0.6076g	Sample Prep : 2019-07-25 05:07:05		Extracted By : 650	
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This includes but is not limited to hair, insects, feces, packaging contaminants, and manufacturing waste and by-products. An SH-2B/T Stereo Microscope is use for inspection.

Mycotoxin Analysis-Analysis Method :SOP.T.30.065, SOP.T.40.065

Weight : 1.0048g

Analytical Batch:GA005056

Batch : 2019-07-25 15:57:15

Analyte	Analyst #635	Results	Action Level	Sample Prep : 2019-07-26 12:07:34	Extracted By : 635
AFLATOXIN_G2		ND	0.02		
AFLATOXIN_G1		ND	0.02		
AFLATOXIN_B2		ND	0.02		
AFLATOXIN_B1		ND	0.02		
OCHRATOXIN_A		ND	0.02		

Aflatoxins B1, B2, G1, G2, and Ochratoxins A testing using LC-MS. (Method: SOP.T.30.065 for Sample Preparation and SOP.T40.065 Procedure for Mycotoxins Quantification Using LCMS. LOQ 1.0 ppb). Total Aflatoxins (Aflatoxin B1, B2, G1, G2) must be <20µg/Kg. Ochratoxins must be <20µg/Kg.

Micro Analysis-Analysis method :SOP.T.40.043

Weight : 1.0310g **Analytical Batch: GA005099**

Batch : 2019-07-26 13:41:21

Reagent LOT/ID	Dilution	Consumables id
		00219002
		180928119C
		70336-846C2-8346

Pathogens	Analyst #729	Results
ASPERGILLUS_TERREUS_1J2		not present in 1 gram.
ASPERGILLUS_NIGER		not present in 1 gram.
ASPERGILLUS_FUMIGATUS		not present in 1 gram.
ASPERGILLUS_FLAVUS		not present in 1 gram.
SALMONELLA_SPECIFIC_GENE		not present in 1 gram.
ESCHERICHIA_COLI_SHIGELLA_SPP		not present in 1 gram.
TOTAL_YEAST_AND_MOLD		not present in 1 gram.

Microbiological testing for Fungal and Bacterial Identification via Polymerase Chain Reaction (PCR) method consisting of sample DNA amplified via tandem Polymerase Chain Reaction (PCR) as a crude lysate which avoids purification. (Method SOP.T.40.043) If a pathogenic Escherichia Coli, Salmonella, Aspergillus fumigatus, Aspergillus flavus, Aspergillus niger, or Aspergillus terreus is detected in 1g of a sample, the sample fails the microbiological-impurity testing.



Certificate of Analysis

HIGH FALLS HEMP NY 3000MG CBD ISOLATE
TINCTURE
ISOLATE
Matrix: Derivative



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SAMPLE:GA90725001-002

METRC/Biotrack#19062607 **Harvest/Lot ID: 19062607**
Batch#: 19062607, Sample Size: 30 ml
Ordered: 07/24/19 Sampled:06/26/19
Completed: 07/31/19 Expires: 07/31/20
Sampling Method: SOP Client Method

Pesticide Analysis-Analysis Method:SOP.T.30.065, SOP.T.40.065

Analyst # 635 **Weight : 1.0048g** **Analytical Batch :GA005055** **Batch : 2019-07-25 15:57:06**
Sample Prep : 2019-07-26 12:07:59 **Extracted By : 635**

Reagent LOT/ID	Dilution	Consumables ID	Reagent LOT/ID	Dilution	Consumables ID
072519.R02	1	28065964	072219.R02		1920V103 / 192V315
071819.R03		181205	071819.R04		P7254474 / P7312914

Pesticide screen is performed using LC-MS which can screen down to below single digit ppb concentrations for regulated Pesticides. Currently we analyze for 57 Pesticides. (Method: SOP.T.30.065 Sample Preparation for Pesticides Analysis via LCMSMS and SOP.T40.065 Procedure for Pesticide Quantification Using LCMS).

Heavy Metals Analysis-Analysis-Method:SOP.T.40.050, SOP.T.30.052 Analytical Batch: GA005061

Analyst #650 **Weight : 0.2561g** **Sample Prep : 2019-07-25 04:07:25** **Batch : 2019-07-25 16:20:37**
Extracted By :650

Reagent LOT/ID	Dilution	Consumables ID	Reagent LOT/ID	Dilution	Consumables ID
072519.R18	50	105576-16	072519.R16		
072519.R17			072519.R14		
072519.R15			072519.R13		

Heavy Metals screening is performed using ICP-MS (Inductively Coupled Plasma - Mass Spectrometer) which can screen down to below single digit ppb concentrations for regulated heavy metals using Method SOP.T.30.052 Sample Preparation for Heavy Metals Analysis via ICP-MS and SOP.T.40.050 Heavy Metals Analysis via ICP-MS.

Metal	Result	Action-Level
ARSENIC	ND	1.5
CADMIUM	ND	0.5
LEAD	ND	0.5
MERCURY	ND	3

Abbreviation:ppm=Parts Per Million

Residual SolventsAnalysis Method:SOP.T.40.032

Analyst #508 **Weight : 0.0275g** **Analytical Batch :GA005042** **Batch : 2019-07-25 11:48:46**
Sample Prep : 2019-07-25 01:07:19 **Extracted By : 508**

Reagent LOT ID	Dilution	Consumables Id	Reagent LOT ID	Dilution	Consumables Id
1		c4020-2			

Residual solvents screening is performed using GC-MS which can detect below single digit ppm concentrations. Currently we analyze for 34 Residual solvents. (Method: SOP.T.30.042 Residual Solvents Analysis via GC-MS).

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