

White Tygh Dream 11.30

Farmer's Friend Extracts
 6451 NE Colwood Wy
 Portland, OR 97218
 503-442-8653

Sample Type: Extracts
 Sample Date: 12/6/2018
 Analysis Date: 12/13/0018
 Report Date: 12/12/2018

Metric Batch ID:
 1A4010300016315000006405
 Client's Batch ID:
 Harvest/Process Date:

Report ID:
LS-181212-48

Potency

Potency Analysis Date: 12/10/2018
 Potency Batch ID: CAN_121018A
 Potency Method: JAOAC 2015.1

80.7% Total THC
0.349% Total CBD



Samples: ZDB-CJR-SHN, WTW-ZDM-ZCS

Analyte	Description	LOQ	RPD	Min.	Max.	Avg.	Unit: %
Δ9THC	Delta-9 Tetrahydrocannabinol	0.080	0.820	80.4	81.1	80.7	
THCA	Tetrahydrocannabinolic acid	0.080	0.00	ND	<LOQ	<LOQ	
CBD	Cannabidiol	0.080	0.917	0.347	0.351	0.349	
CBDA	Cannabidiolic acid	0.080	0.00	ND	ND	ND	
Δ8THC	Delta-8 Tetrahydrocannabinol*	0.080	0.00	ND	ND	ND	
THCV	Tetrahydrocannabivarin*	0.080	0.00	ND	ND	ND	
CBG	Cannabigerol*	0.080	0.205	3.31	3.31	3.31	
CBGA	Cannabigerolic acid*	0.080	1.59	0.443	0.450	0.446	
CBC	Cannabichromene*	0.080	0.0574	1.74	1.74	1.74	
CBCA	Cannabichromenic acid*	0.080	0.00	ND	ND	ND	
CBN	Cannabinol	0.080	0.860	0.556	0.561	0.558	
Total THC	Δ9THC + (THCA × 0.877)		0.820	80.4	81.1	80.7	
Total CBD	CBD + (CBDA × 0.877)		0.917	0.347	0.351	0.349	
Total			0.743	86.8	87.5	87.1	

Safety

Pesticides	Within limits	Analysis Date: 12/7/2018	Pass
Solvents	Within limits	Analysis Date: 12/11/2018	Pass
Potency	Within limits	Analysis Date: 12/10/2018	Pass

Ian Eustis
 Lab Director

Aaron Troyer
 Chief Science Officer



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Terpene Analysis Date: 12/13/0018
 Terpene Batch ID: TRP_121118A

Method: JAOAC 2015.1
 Unit: %

Analyte	Avg.	Notes
β-Caryophyllene	1.98%	-
Selinadiene	1.18%	-
Humulene	0.787%	-
β-Farnesene 2	0.612%	-
α-Terpineol	0.219%	-
Linalool	0.131%	-
α-Bisabolol	0.127%	-
Fenchol	0.0691%	-
Limonene	0.0436%	-
β-Myrcene	0.0359%	-
Azulene	ND	-
Borneol	ND	-
Camphene	ND	-
Camphore	ND	-
Caryophyllene Oxide	ND	-
Cedrol	ND	-
Cymene	ND	-
Eucalyptol	ND	-
Fenchone	ND	-
Geraniol	ND	-
Geranyl Acetate	ND	-
Guaiol	ND	-
Isoborneol	ND	-
Isopulegol	ND	-
Nerol	ND	-
Pulegone	ND	-
Sabinene	ND	-
Sabinene Hydrate	ND	-
Terpinolene	ND	-
Valencene	ND	-
cis-Nerolidol	ND	-
trans-Nerolidol	ND	-
Δ ³ -Carene	ND	-
α-Cedrene	ND	-

Analyte	Avg.	Notes
α-OCimene	ND	-
α-Phellandrene	ND	-
α-Pinene	ND	-
α-Terpinene	ND	-
β-Farnesene 1	ND	-
β-OCimene	ND	-
β-Pinene	ND	-
γ-Terpinene	ND	-
γ-Terpineol	ND	-
Total	5.18%	-

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Pesticides Analysis Date: 12/7/2018
 Pesticides Batch ID: PST_120718B

Method: EN 15662
 Unit: µg/g (ppm)

Pass 

Analyte	ZDB-CJR-SHN	WTW-ZDM-ZCS	Limits	LOQ	Notes	Status	Analyte	ZDB-CJR-SHN	WTW-ZDM-ZCS	Limits	LOQ	Notes	Status
Abamectin	<LOQ	<LOQ	0.5	0.1	-	Pass	Metalaxyl	<LOQ	<LOQ	0.2	0.1	-	Pass
Acephate	<LOQ	<LOQ	0.4	0.1	-	Pass	Methiocarb	<LOQ	<LOQ	0.2	0.1	-	Pass
Acequinocyl	<LOQ	<LOQ	2.0	1.5	-	Pass	Methomyl	<LOQ	<LOQ	0.4	0.1	-	Pass
Acetamiprid	<LOQ	<LOQ	0.2	0.1	-	Pass	Methyl Parathion	<LOQ	<LOQ	0.2	0.2	-	Pass
Aldicarb	<LOQ	<LOQ	0.4	0.1	-	Pass	MGK-264	<LOQ	<LOQ	0.2	0.2	-	Pass
Azoxystrobin	<LOQ	<LOQ	0.2	0.1	-	Pass	Myclobutanil	<LOQ	<LOQ	0.2	0.1	-	Pass
Bifenazate	<LOQ	<LOQ	0.2	0.1	-	Pass	Naled	<LOQ	<LOQ	0.5	0.2	-	Pass
Bifenthrin	<LOQ	<LOQ	0.2	0.1	-	Pass	Oxamyl	<LOQ	<LOQ	1.0	0.1	-	Pass
Boscalid	<LOQ	<LOQ	0.4	0.1	-	Pass	Paclobutrazol	<LOQ	<LOQ	0.4	0.1	-	Pass
Carbaryl	<LOQ	<LOQ	0.2	0.1	-	Pass	Permethrins	<LOQ	<LOQ	0.2	0.1	-	Pass
Carbofuran	<LOQ	<LOQ	0.2	0.1	-	Pass	Phosmet	<LOQ	<LOQ	0.2	0.1	-	Pass
Chlorantraniliprole	<LOQ	<LOQ	0.2	0.1	-	Pass	Piperonyl Butoxide	<LOQ	<LOQ	2.0	0.1	-	Pass
Chlorfenapyr	<LOQ	<LOQ	1.0	0.1	-	Pass	Prallethrin	<LOQ	<LOQ	0.2	0.1	-	Pass
Chlorpyrifos	<LOQ	<LOQ	0.2	0.1	-	Pass	Propiconazole	<LOQ	<LOQ	0.4	0.1	-	Pass
Clofentezine	<LOQ	<LOQ	0.2	0.1	-	Pass	Propoxur	<LOQ	<LOQ	0.2	0.1	-	Pass
Cyfluthrin	<LOQ	<LOQ	1.0	0.5	-	Pass	Pyrethrins	<LOQ	<LOQ	1.0	0.5	-	Pass
Cypermethrin	<LOQ	<LOQ	1.0	0.1	-	Pass	Pyridaben	<LOQ	<LOQ	0.2	0.1	-	Pass
Daminozide	<LOQ	<LOQ	1.0	0.5	-	Pass	Spinosad	<LOQ	<LOQ	0.2	0.1	-	Pass
Diazinon	<LOQ	<LOQ	0.2	0.1	-	Pass	Spiromesifen	<LOQ	<LOQ	0.2	0.1	-	Pass
Dichlorvos (DDVP)	<LOQ	<LOQ	1.0	0.5	-	Pass	Spirotetramat	<LOQ	<LOQ	0.2	0.1	-	Pass
Dimethoate	<LOQ	<LOQ	0.2	0.1	-	Pass	Spiroxamine	<LOQ	<LOQ	0.4	0.1	-	Pass
Ethoprophos	<LOQ	<LOQ	0.2	0.1	-	Pass	Tebuconazole	<LOQ	<LOQ	0.4	0.1	-	Pass
Etofenprox	<LOQ	<LOQ	0.4	0.1	-	Pass	Thiacloprid	<LOQ	<LOQ	0.2	0.1	-	Pass
Etoxazole	<LOQ	<LOQ	0.2	0.1	-	Pass	Thiamethoxam	<LOQ	<LOQ	0.2	0.1	-	Pass
Fenoxycarb	<LOQ	<LOQ	0.2	0.1	-	Pass	Trifloxystrobin	<LOQ	<LOQ	0.2	0.1	-	Pass
Fenpyroximate	<LOQ	<LOQ	0.4	0.1	-	Pass							
Fipronil	<LOQ	<LOQ	0.4	0.1	-	Pass							
Flonicamid	<LOQ	<LOQ	1.0	0.1	-	Pass							
Fludioxonil	<LOQ	<LOQ	0.4	0.1	-	Pass							
Hexythiazox	<LOQ	<LOQ	1.0	0.1	-	Pass							
Imazalil	<LOQ	<LOQ	0.2	0.1	-	Pass							
Imidacloprid	<LOQ	<LOQ	0.4	0.1	-	Pass							
Kresoxim-methyl	<LOQ	<LOQ	0.4	0.1	-	Pass							
Malathion	<LOQ	<LOQ	0.2	0.1	-	Pass							

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Pesticides Quality Control Data

Pesticides QC Analysis Date: 12/7/2018
 Pesticides QC Batch ID: PST_120718B

Method: EN 15662
 Unit: µg/g (ppm)

Laboratory Pesticides Quality Control Results

Method: EN 15662				Units: ppm (µg/g)				Analysis date: 12/10/2018				Batch ID: PST_120718B					
Pesticide	Blank Result	LOQ	Notes	LCS Result	LCS Spike	LCS% Rec	Limits	Notes	Pesticide	Blank Result	LOQ	Notes	LCS Result	LCS Spike	LCS% Rec	Limits	Notes
Abamectin	nd	0.1		0.8	1.0	77	50 - 150		Imazalil	nd	0.1		0.8	1.0	83	50 - 150	
Acephate	nd	0.1		0.9	1.0	86	50 - 150		Imidacloprid	nd	0.1		1.0	1.0	104	50 - 150	
Acequinocyl	nd	1.0		0.7	1.0	70	50 - 150		Kresoxim-methyl	nd	0.1		1.0	1.0	96	50 - 150	
Acetamiprid	nd	0.1		1.1	1.0	106	50 - 150		Malathion	nd	0.1		1.0	1.0	101	50 - 150	
Aldicarb	nd	0.1		1.0	1.0	99	50 - 150		Metalaxyl	nd	0.1		1.0	1.0	102	50 - 150	
Azoxystrobin	nd	0.1		1.0	1.0	96	50 - 150		Methiocarb	nd	0.1		1.1	1.0	106	50 - 150	
Bifenthrin	nd	0.1		0.8	1.0	82	50 - 150		Methomyl	nd	0.1		0.9	1.0	92	50 - 150	
Bifenazate	nd	0.1		1.1	1.0	114	50 - 150		Methyl Parathion	nd	0.1		0.4	1.0	43	30 - 150	
Boscalid	nd	0.1		1.6	1.0	162	50 - 150	HB	MGK-264	nd	0.2		0.9	1.0	85	50 - 150	
Carbaryl	nd	0.1		1.1	1.0	114	50 - 150		Myclobutanil	nd	0.1		1.0	1.0	99	50 - 150	
Carbofuran	nd	0.1		1.1	1.0	106	50 - 150		Naled	nd	0.1		1.3	1.0	127	50 - 150	
Chlorantraniliprole	nd	0.1		0.9	1.0	92	50 - 150		Oxamyl	nd	0.1		0.9	1.0	92	50 - 150	
Chlorfenapyr	nd	0.1		0.8	1.0	82	50 - 150		Paclobutrazol	nd	0.1		0.8	1.0	85	50 - 150	
Chlorpyrifos	nd	0.1		0.9	1.0	89	50 - 150		Permethrin	nd	0.1		0.9	1.0	88	50 - 150	
Clofentezine	nd	0.1		0.9	1.0	87	50 - 150		Phosmet	nd	0.1		1.0	1.0	95	50 - 150	
Cyfluthrin	nd	0.5		0.9	1.0	88	50 - 150		Piperonyl Butoxide	nd	0.1		0.8	1.0	84	50 - 150	
Cypermethrin	nd	0.1		0.8	1.0	78	50 - 150		Prallethrin	nd	0.1		0.8	1.0	82	50 - 150	
Daminozide	nd	0.5		0.0	1.0	2	10 - 150	LR	Propiconazole	nd	0.1		1.5	1.0	150	50 - 150	
Diazinon	nd	0.1		0.9	1.0	91	50 - 150		Propoxur	nd	0.1		1.0	1.0	103	50 - 150	
Dichlorvos	nd	0.5		0.9	1.0	95	50 - 150		Pyrethrins	nd	0.2		1.1	1.0	110	50 - 150	
Dimethoate	nd	0.1		1.0	1.0	103	50 - 150		Pyridaben	nd	0.1		0.9	1.0	86	50 - 150	
Ethoprophos	nd	0.1		1.0	1.0	102	50 - 150		Spinosad A kps	nd	0.1		0.6	1.0	64	50 - 150	
Etofenprox	nd	0.1		0.9	1.0	90	50 - 150		Spinosad D kps	nd	0.1		0.6	1.0	58	50 - 150	
Etoxazole	nd	0.1		0.9	1.0	90	50 - 150		Spiromesifen	nd	0.1		1.0	1.0	100	50 - 150	
Fenoxycarb	nd	0.1		1.1	1.0	106	50 - 150		Spirotetramat	nd	0.1		1.0	1.0	104	50 - 150	
Fenpyroximate	nd	0.1		0.8	1.0	79	50 - 150		Spiroxamine	nd	0.1		0.6	1.0	61	50 - 150	
Fipronil	nd	0.1		0.9	1.0	85	50 - 150		Tebuconazole	nd	0.1		1.2	1.0	119	50 - 150	
Flonicamid	nd	0.1		1.1	1.0	109	50 - 150		Thiacloprid	nd	0.1		1.2	1.0	124	50 - 150	
Fludioxonil	nd	0.1		0.6	1.0	58	50 - 150		Thiamethoxam	nd	0.1		1.2	1.0	115	50 - 150	
Hexythiazox	nd	0.1		0.7	1.0	71	50 - 150		Trifloxystrobin	nd	0.1		0.8	1.0	77	50 - 150	

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Residual Solvents Sample Data

Solvents Analysis Date: 12/11/2018
 Solvents Batch ID: RES_121118A

Method: EPA 5021A
 Unit: µg/g (ppm)

Pass 

Analyte	ZDB-CJR-SHN	WTW-ZDM-ZCS	RPD (%)	Limits	LOQ	Notes	Status
1,4-Dioxane	<LOQ	<LOQ	0.00	380.0	50.0	-	Pass
2-Butanol	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
2-Ethoxyethanol	<LOQ	<LOQ	0.00	160.0	50.0	-	Pass
Acetone	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Acetonitrile	<LOQ	<LOQ	0.00	410.0	50.0	-	Pass
Benzene	<LOQ	<LOQ	0.00	2.0	2.0	-	Pass
Butanes	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Cumene	<LOQ	<LOQ	0.00	70.0	50.0	-	Pass
Cyclohexane	<LOQ	<LOQ	0.00	3880.0	50.0	-	Pass
Ethyl Acetate	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Ethyl Ether	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Ethylene Glycol	<LOQ	<LOQ	0.00	620.0	250.0	-	Pass
Ethylene Oxide	<LOQ	<LOQ	0.00	50.0	50.0	-	Pass
Heptane	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Hexanes	<LOQ	<LOQ	0.00	290.0	50.0	-	Pass
Isopropanol (2-Propanol)	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Isopropyl Acetate	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Methanol	<LOQ	<LOQ	0.00	3000.0	50.0	-	Pass
Dichloromethane	<LOQ	<LOQ	0.00	600.0	50.0	-	Pass
Pentanes	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Propane	<LOQ	<LOQ	0.00	5000.0	50.0	-	Pass
Tetrahydrofuran	<LOQ	<LOQ	0.00	720.0	50.0	-	Pass
Toluene	<LOQ	<LOQ	0.00	890.0	50.0	-	Pass
Xylenes	<LOQ	<LOQ	0.00	2170.0	50.0	-	Pass

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Residual Solvents Quality Control Data

Solvents QC Analysis Date: 12/11/2018
 Solvents QC Batch ID: RES_121118A

Method: EPA 5021A
 Unit: µg/g (ppm)

Laboratory Residual Solvent Quality Control Results

Method: EPA 5021A Units: µg/mL Batch ID: RES_121118A

Matrix Blank / LCS Results

Analyte	Blank Result	Blank Limit	Notes	LCS Result	LCS Spike	LCS% Rec	Limits	Notes
1,4-Dioxane	< LOQ	50		1102	1000	110	70 - 130	
2-Butanol	< LOQ	50		1146	1000	115	70 - 130	
2-Ethoxyethanol	< LOQ	50		1084	1000	108	70 - 130	
Acetone	< LOQ	50		1062	1000	106	70 - 130	
Acetonitrile	< LOQ	50		1126	1000	113	70 - 130	
Benzene	< LOQ	2		20	20	101	70 - 130	
Butanes								
<i>Butane</i>	< LOQ	50		1127	1000	113	70 - 130	
<i>Isobutane</i>	< LOQ	50		1147	1000	115	70 - 130	
Cyclohexane	< LOQ	50		1038	1000	104	70 - 130	
Ethyl acetate	< LOQ	50		1101	1000	110	70 - 130	
Ethyl ether	< LOQ	50		1019	1000	102	70 - 130	
Ethylbenzene	< LOQ	50		1189	1000	119	70 - 130	
Ethylene glycol	< LOQ	250		1047	1000	105	70 - 130	
Ethylene oxide	< LOQ	50		1109	1000	111	70 - 130	
Heptane	< LOQ	50		1118	1000	112	70 - 130	
Hexanes								
<i>n-Hexane</i>	< LOQ	50		1034	1000	103	70 - 130	
<i>2-Methylpentane</i>	< LOQ	50		1143	1000	114	70 - 130	
<i>3-Methylpentane</i>	< LOQ	50		1041	1000	104	70 - 130	
<i>2,2-Dimethylbutane</i>	< LOQ	50		1126	1000	113	70 - 130	
<i>2,3-Dimethylbutane</i>	< LOQ	50		1103	1000	110	70 - 130	
Isopropanol	< LOQ	50		1119	1000	112	70 - 130	
Isopropyl acetate	< LOQ	50		1159	1000	116	70 - 130	
Cumene	< LOQ	50		1191	1000	119	70 - 130	
Methanol	< LOQ	50		1015	1000	101	70 - 130	
Dichloromethane	< LOQ	50		1084	1000	108	70 - 130	
Pentanes								
<i>Pentane</i>	< LOQ	50		1141	1000	114	70 - 130	
<i>Isopentane</i>	< LOQ	50		1154	1000	115	70 - 130	
<i>Neopentane</i>	< LOQ	50		1085	1000	109	70 - 130	
Propane	< LOQ	50		1120	1000	112	70 - 130	
Tetrahydrofuran	< LOQ	50		1145	1000	115	70 - 130	
Toluene	< LOQ	50		1104	1000	110	70 - 130	
Xylenes								
<i>m-Xylene</i>	< LOQ	50		1191	1000	119	70 - 130	
<i>o/p-Xylene</i>	< LOQ	50		2384	2000	119	70 - 130	

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Qualifier Flag Descriptions

J	Reported result is an estimate - the value is less than the minimum calibration level but greater than the estimated detection limit (EDL)
U	The analyte was not detected in the sample at the estimated detection limit (EDL)
E	Exceeds calibration range
D	Dilution data - result was obtained from the analysis of a dilution
B	Analyte found in sample and associated blank
C	Co-eluting compound
R	Relative Percent Difference (RPD) outside control limits
NR	Analyte not reported because of problems in sample preparation or analysis
ND	Non-Detect
X	Results from reinjection/repeat/re-column data
EMC	Estimated maximum possible concentration - indicates that a peak is detected but did not meet the method required criteria
M	Manual integration
PS	Peaks split
HB	Control acceptance criteria are exceeded high and the associated sample is below the detection limit
LB	Control acceptance criteria are exceeded low and the associated sample exceeds the regulatory limit
ME	Marginal Exceedance
LR	Low Recovery Analyte
LOQ	Limit of Quantitation