

HIGH NORTH ID:  
00413467  
Date: 2023-12-07  
Certificate: 1701995507



High North Inc.  
241 Hanlan Rd, Unit 7  
Woodbridge, ON, L4L 3R7  
1-416-864-6119  
LIC-P4PNJMAC20-2022

Client:	Woody Nelson 2722 HWY 3A, Nelson, BC, V1L 6L6	Product:	Rosin
Name:	Jean-Pierre Ostrander 2505514664 jostrander@woodynelson.ca	Lot:	TLR009
		Matrix:	Oil
		Sub-matrix:	Rosin
		Sampled:	2023-11-30
		Received:	2023-11-30

## Certificate of Analysis

Cannabinoid Analysis	LOD (%)	LOQ (%)	wt%	mg/g
Total THC [(THCA x 0.877) + D9-THC]			74.0507	740.5071
Total CBD [(CBDA x 0.877) + CBD]			0.3699	3.6994
THCA-A	0.1	0.2	82.7899	827.8988
D9-THC	0.1	0.2	1.4440	14.4399
CBGA	0.1	0.2	1.3635	13.6355
CBCA	0.1	0.2	0.8613	8.6129
CBDA	0.1	0.2	0.4218	4.2182
THCVA	0.1	0.2	0.4002	4.0024
CBG	0.1	0.2	0.2904	2.9037
CBC	0.1	0.2	ND	ND
D8-THC	0.1	0.2	ND	ND
CBCVA	0.1	0.2	ND	ND
CBN	0.1	0.2	ND	ND
CBCV	0.1	0.2	ND	ND
THCV	0.1	0.2	ND	ND
CBD	0.1	0.2	ND	ND
CBDV	0.1	0.2	ND	ND
CBDVA	0.1	0.2	ND	ND
<b>Total of all quantified cannabinoids:</b>			87.5711	875.7114

Terpene Analysis	LOD (%)	LOQ (%)	wt%
Farnesene*	0.0055	0.050	1.3918
Trans-Caryophyllene	0.0008	0.025	1.1725
(R)-(+)-Limonene	0.0007	0.025	0.7152
Alpha-Humulene	0.0005	0.025	0.5028
Linalool	0.0007	0.025	0.4884
Beta-Myrcene	0.0005	0.025	0.3092
Alpha-Bisabolol	0.0008	0.025	0.1709
trans-Nerolidol	0.0006	0.025	0.1664
Beta-Pinene	0.0008	0.025	0.1483

Abbreviations: wt% = percentage of weight, CFU = colony forming units, ppm = Parts per million, ppb = Parts per billion, ND = None Detected, BLQ = Below Limit of Quantification, LOQ = Limit of Quantification, LOD = Limit of Detection, RL = Reporting Limit, \* = Mixture of Isomers

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QA Specialist

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Terpene Analysis	LOD (%)	LOQ (%)	wt%
Alpha-Terpineol	0.0008	0.025	0.1289
Alpha-Pinene	0.0007	0.025	0.1153
(R)-Endo-(+)-Fenchyl Alcohol	0.0010	0.025	0.0724
Caryophyllene oxide	0.0007	0.025	0.0356
Camphene	0.0017	0.025	0.0325
Squalene	0.0029	0.050	ND
Phytol*	0.0018	0.050	ND
Nootkatone	0.0018	0.025	ND
Farnesol*	0.0016	0.050	ND
Phytane	0.0009	0.025	ND
(+)-Cedrol	0.0006	0.025	ND
Guaiol	0.0005	0.025	ND
cis-Nerolidol	0.0015	0.025	ND
Valencene	0.0005	0.025	ND
Eugenol	0.0023	0.025	ND
Alpha-Cedrene	0.0006	0.025	ND
Geranyl acetate	0.0009	0.025	ND
Carvacrol	0.0009	0.025	ND
Thymol	0.0012	0.025	ND
d-Valerolactam (2-piperidone)	0.0012	0.025	ND
(-)-Piperitone	0.0017	0.025	ND
Isobornyl Acetate	0.0018	0.025	ND
Carvone	0.0007	0.025	ND
Pulegone	0.0007	0.025	ND
Verbenone	0.0007	0.025	ND
Citral*	0.0021	0.025	ND
Geraniol	0.0007	0.025	ND
Safranal	0.0004	0.025	ND
Nerol	0.0010	0.025	ND
Citronellol	0.0008	0.025	ND
Octyl Acetate	0.0009	0.025	ND
Borneol	0.0007	0.025	ND
Terpinen-4-ol	0.0010	0.025	ND
Camphor	0.0008	0.025	ND
Isoborneol	0.0006	0.025	ND
Menthol (Hexahydrothymol)	0.0010	0.025	ND
Menthone*	0.0007	0.025	ND
Isopulegol	0.0007	0.025	ND
Alpha-Thujone	0.0005	0.025	ND
Fenchone	0.0008	0.025	ND
Terpinolene	0.0008	0.025	ND
Sabinene Hydrate	0.0010	0.025	ND
Gamma-Terpinene	0.0007	0.025	ND
Eucalyptol	0.0006	0.025	ND

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Terpene Analysis	LOD (%)	LOQ (%)	wt%
Cymene*	0.0006	0.025	ND
Ocimene	0.0005	0.025	ND
Alpha-Terpinene	0.0004	0.025	ND
Alpha-Phellandrene	0.0010	0.025	ND
(1S)-3-Carene	0.0009	0.025	ND
Sabinene	0.0009	0.025	ND
<b>Total of all quantified terpenes:</b>			5.450

Visual Inspection/Olfactory	Result
Foreign Matter	None Detected

Mycotoxin Analysis	LOD (ppb)	LOQ (ppb)	RL (ppb)	Result (ppb)	Status
Aflatoxin-B1	0.4000	2	2	ND	PASS
Aflatoxin-B2	0.4000	2		ND	
Aflatoxin-G1	0.3000	2		ND	
Aflatoxin-G2	0.5000	2		ND	
<b>Sum of Aflatoxins:</b>			4	0	PASS
Ochratoxin-A	1.7000	20	20	ND	PASS

Microbial Analysis	LOD (CFU/g)	RL (CFU/g)	Result (CFU/g)	Status
S.aureus/P.aeruginosa			Absent in 1g	PASS
Salmonella			Absent in 10g	PASS
E.coli			Absent in 10g	PASS
Total Aerobic Count	12	100,000	< 12	PASS
Total Yeast and Mold Count	2	1,000	< 2	PASS
Bile-Tolerant Gram-Negative	5	1,000	< 5	PASS

Heavy Metals Analysis	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Arsenic	0.067	0.2	0.2	ND	PASS
Cadmium	0.008	0.05	0.3	ND	PASS
Lead	0.010	0.50	0.5	ND	PASS
Mercury	0.003	0.05	0.1	ND	PASS

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<b>Residual Solvents Analysis</b>	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
1-Butanol	136.46	1000	5000	ND	PASS
1-Pentanol	102.40	1000	5000	ND	PASS
1-Propanol	199.71	1000	5000	ND	PASS
2-Butanol	48.38	1000	5000	ND	PASS
2-Methyl-1-propanol	153.28	1000	5000	ND	PASS
2-Propanol	142.60	1000	5000	ND	PASS
3-Methyl-1-butanol	64.03	1000	5000	ND	PASS
Acetone	81.47	1000	5000	ND	PASS
Anisole	54.77	1000	5000	ND	PASS
Butyl acetate	40.51	1000	5000	ND	PASS
Dimethyl sulfoxide	96.05	1000	5000	ND	PASS
Ethanol	179.88	1000	5000	ND	PASS
Ethyl acetate	89.17	1000	5000	ND	PASS
Ethyl ether	105.42	1000	5000	ND	PASS
Ethyl formate	194.93	1000	5000	ND	PASS
Heptane	109.56	1000	5000	ND	PASS
Isobutyl acetate	48.49	1000	5000	ND	PASS
Isopropyl acetate	118.80	1000	5000	ND	PASS
Methyl acetate	87.65	1000	5000	ND	PASS
Methylethyl ketone	97.35	1000	5000	ND	PASS
Pentane	102.77	1000	5000	ND	PASS
Propyl acetate	58.63	1000	5000	ND	PASS
Tert-Butylmethyl ether	115.57	1000	5000	ND	PASS
Triethylamine	22.07	1000	5000	ND	PASS

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<b>Pesticides Analysis</b>	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Abamectin	0.0218	0.25	0.25	ND	PASS
Acephate	0.0022	0.05	0.05	ND	PASS
Acequinocyl	0.0047	0.05	0.05	ND	PASS
Acetamiprid	0.0028	0.10	0.10	ND	PASS
Aldicarb	0.0796	1.00	1.00	ND	PASS
Allethrin	0.0365	0.20	0.20	ND	PASS
Azadirachtin	0.0149	1.00	1.00	ND	PASS
Azoxystrobin	0.0008	0.02	0.02	ND	PASS
Benzovindiflupyr	0.0018	0.02	0.02	ND	PASS
Bifenazate	0.0009	0.05	0.05	ND	PASS
Bifenthrin	0.0369	1.00	1.00	ND	PASS
Boscalid	0.0011	0.02	0.02	ND	PASS
Buprofezin	0.0012	0.02	0.02	ND	PASS
Carbaryl	0.0014	0.05	0.05	ND	PASS
Carbofuran	0.0010	0.02	0.02	ND	PASS
Chlorantraniliprole	0.0017	0.02	0.02	ND	PASS
Chlorfenapyr	0.7181	1.50	1.50	ND	PASS
Chlorpyrifos	0.0724	0.50	0.50	ND	PASS
Clofentezine	0.0016	0.02	0.02	ND	PASS
Clothianidin	0.0020	0.05	0.05	ND	PASS
Coumaphos	0.0021	0.02	0.02	ND	PASS
Cyantraniliprole	0.0024	0.02	0.02	ND	PASS
Cyfluthrin	0.1386	1.00	1.00	ND	PASS
Cypermethrin	0.1288	1.00	1.00	ND	PASS
Cyprodinil	0.0014	0.25	0.25	ND	PASS
Daminozide	0.0056	0.10	0.10	ND	PASS
Deltamethrin	0.0547	1.00	1.00	ND	PASS
Diazinon	0.0019	0.02	0.02	ND	PASS
Dichlorvos	0.0115	0.10	0.10	ND	PASS
Dimethoate	0.0008	0.02	0.02	ND	PASS
Dimethomorph	0.0011	0.05	0.05	ND	PASS
Dinotefuran	0.0029	0.10	0.10	ND	PASS
Dodemorph	0.0029	0.05	0.05	ND	PASS
Endosulfan-alpha	0.7470	2.50	2.50	ND	PASS
Endosulfan-beta	0.5482	2.50	2.50	ND	PASS
Endosulfan sulfate	0.2185	2.50	2.50	ND	PASS
Ethoprophos	0.0011	0.02	0.02	ND	PASS
Etofenprox	0.0021	0.05	0.05	ND	PASS
Etoxazole	0.0011	0.02	0.02	ND	PASS
Etridiazole	0.0215	0.15	0.15	ND	PASS
Fenoxycarb	0.0012	0.02	0.02	ND	PASS
Fenpyroximate	0.0019	0.02	0.02	ND	PASS
Fensulfothion	0.0009	0.02	0.02	ND	PASS
Fenthion	0.0021	0.02	0.02	ND	PASS

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<b>Pesticides Analysis</b>	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Fenvalerate	0.0144	0.10	0.10	ND	PASS
Fipronil	0.0015	0.06	0.06	ND	PASS
Flonicamid	0.0046	0.05	0.05	ND	PASS
Fludioxonil	0.0015	0.02	0.02	ND	PASS
Fluopyram	0.0006	0.02	0.02	ND	PASS
Hexythiazox	0.0012	0.01	0.01	ND	PASS
Imazalil	0.0025	0.05	0.05	ND	PASS
Imidacloprid	0.0010	0.02	0.02	ND	PASS
Iprodione	0.0607	1.00	1.00	ND	PASS
Kinoprene	0.1272	1.25	1.25	ND	PASS
Kresoxim-methyl	0.0111	0.15	0.15	ND	PASS
Malathion	0.0009	0.02	0.02	ND	PASS
Metalaxyl	0.0006	0.02	0.02	ND	PASS
Methiocarb	0.0010	0.02	0.02	ND	PASS
Methomyl	0.0012	0.05	0.05	ND	PASS
Methoprene	0.1356	2.00	2.00	ND	PASS
Mevinphos	0.0016	0.05	0.05	ND	PASS
MGK-264	0.0039	0.05	0.05	ND	PASS
Myclobutanil	0.0016	0.02	0.02	ND	PASS
Naled	0.0163	0.20	0.20	ND	PASS
Novaluron	0.0042	0.05	0.05	ND	PASS
Oxamyl	0.0456	3.00	3.00	ND	PASS
Paclobutrazol	0.0014	0.02	0.02	ND	PASS
Parathion-methyl	0.0050	0.05	0.05	ND	PASS
Permethrin	0.0192	0.50	0.50	ND	PASS
Phenothrin	0.0057	0.05	0.05	ND	PASS
Phosmet	0.0020	0.02	0.02	ND	PASS
Piperonyl butoxide	0.2722	1.25	1.25	ND	PASS
Pirimicarb	0.0005	0.02	0.02	ND	PASS
Prallethrin	0.0087	0.05	0.05	ND	PASS
Propiconazole	0.0073	0.10	0.10	ND	PASS
Propoxur	0.0019	0.02	0.02	ND	PASS
Pyraclostrobin	0.0006	0.02	0.02	ND	PASS
Pyrethrins	0.0028	0.05	0.05	ND	PASS
Pyridaben	0.0012	0.05	0.05	ND	PASS
Quintozene	0.0065	0.02	0.02	ND	PASS
Resmethrin	0.0028	0.10	0.10	ND	PASS
Spinetoram	0.0014	0.02	0.02	ND	PASS
Spinosad	0.0013	0.10	0.10	ND	PASS
Spirodiclofen	0.0128	0.25	0.25	ND	PASS
Spiromesifen	0.5285	3.00	3.00	ND	PASS
Spirotetramat	0.0012	0.10	0.10	ND	PASS
Spiroxamine	0.0018	0.10	0.10	ND	PASS
Tebuconazole	0.0022	0.05	0.05	ND	PASS

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<b>Pesticides Analysis</b>	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Tebufenozide	0.0007	0.02	0.02	ND	PASS
Teflubenzuron	0.0049	0.05	0.05	ND	PASS
Tetrachlorvinphos	0.0011	0.02	0.02	ND	PASS
Tetramethrin	0.0057	0.10	0.10	ND	PASS
Thiacloprid	0.0009	0.02	0.02	ND	PASS
Thiamethoxam	0.0011	0.02	0.02	ND	PASS
Thiophanate-methyl	0.0031	0.05	0.05	ND	PASS
Trifloxystrobin	0.0006	0.02	0.02	ND	PASS

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## Details of Testing

### **Cannabinoid Analysis**

LAB-MTD-020: Determination of 16 Cannabinoids in Cannabis Flowers, Extracts, Topicals, Tablets and Isolates by HPLC

LAB-MTD-039: Determination of 11 Cannabinoids in Cannabis Edibles by HPLC

LAB-MTD-051: Assay of Cannabinoids in Cannabis Flower as per DAB by HPLC

LAB-MTD-052: Identification of CBD and THCA as per DAB by Thin-Layer Chromatography

### **Terpene Analysis**

LAB-MTD-044: Determination of Terpene Content in Cannabis Dried Flower, Fresh Flower and Extracts by GC-MS

### **Pesticide Analysis**

LAB-MTD-010: Determination of Health Canada Pesticide Residues and Toxins in Dried Cannabis Flower by LC-MS/MS and GC-MS/MS

LAB-MTD-040: Determination of EP 2.8.13 Pesticide Residues in Cannabis Extracts by GC-MS/MS

LAB-MTD-041: Determination of EP 2.8.13/USP 561 Pesticide Residues in Cannabis Flower by GC-MS/MS and LC-MS/MS

LAB-MTD-046: Determination of Health Canada Pesticides and Toxins in Cannabis Extracts by LC-MS/MS

LAB-MTD-048: Determination of Health Canada Pesticide Residues and Toxins in Fresh Cannabis Flower by LC-MS/MS and GC-MS/MS

LAB-MTD-055: Determination of Israel Pesticide Residues in Dried/Fresh Cannabis by LC-MS/MS and GC-MS/MS

### **Mycotoxin Analysis**

LAB-MTD-010: Determination of Health Canada Pesticide Residues and Toxins in Dried Cannabis Flower by LC-MS/MS and GC-MS/MS

LAB-MTD-029: Determination of Toxins in Tablet Samples by LC-MS/MS

LAB-MTD-037: Determination of Mycotoxins in Topical/Cream Samples by LC-MS/MS

LAB-MTD-046: Determination of Health Canada Pesticides and Toxins in Cannabis Extracts by LC-MS/MS

LAB-MTD-048: Determination of Health Canada Pesticide Residues and Toxins in Fresh Cannabis Flower by LC-MS/MS and GC-MS/MS

### **Flavonoid Analysis**

LAB-MTD-045: Determination of Flavonoids in Cannabis Dried Flower, Fresh Flower, and Extracts by LC-MS/MS

### **Peroxide Value, p-Anisidine and Acidity (FFA) Analysis**

LAB-MTD-049: Determination of Peroxide Value, p-Anisidine, and Acidity (FFA)

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## Details of Testing

### **Microbial Analysis**

MIC-MTD-001: Microbial Analysis of Cannabis Flower and Oil by qPCR  
MIC-MTD-006: Determination of Viruses in Cannabis via qPCR and ELISA  
MIC-MTD-007: Microbial Analysis of Cannabis by Culture Techniques  
MIC-MTD-009: Cannabis Gender Determination by qPCR  
MIC-MTD-010: Identification A and Identification B of Cannabis by DAB Monograph  
MIC-MTD-011: Analysis of Shigella Species in Cannabis and Cannabis Infused Products  
MIC-MTD-008: Analysis of Listeria Monocytogenes in Cannabis and Cannabis Infused Products  
MIC-MTD-012: Microbial Analysis of Cannabis and Cannabis Infused Products by TEMPO

### **Moisture Analysis**

LAB-MTD-017: Determination of Moisture Content in Cannabis Flower  
LAB-MTD-031: Water Activity Meter Setup and Operation  
LAB-MTD-053: Determination of Moisture Content by Loss on Drying Technique using Vacuum Oven  
LAB-MTD-056: Determination of Moisture Content by Karl Fischer Titration

### **Sample Appearance and Foreign Matter**

LAB-MTD-022: Sample Appearance and Detection of Foreign Matter Content in Cannabis Samples

### **Total Ash Analysis**

LAB-MTD-043: Total Ash by Muffle Furnace in Cannabis Products

### **Residual Solvents Analysis**

LAB-MTD-036: Determination of Residual Solvents in Cannabis Oil by GC-MS  
LAB-MTD-028: Determination of Residual Solvents in Tablet Samples by GC-MS  
LAB-MTD-034: Determination of Propane and Butane in Cannabis Oil by GC-MS  
LAB-MTD-038: Determination of Toluene in Cannabis Isolate by GC-MS  
LAB-MTD-054: Determination of Acetic Acid in Flavour, Cannabis Vape Mix Oil and Cannabis Infused Flower by GC-MS

### **Heavy Metal Analysis**

LAB-MTD-027: Determination of Heavy Metals in Cannabis Samples (Cream/Topicals, Tablets and Edibles) by ICP-MS  
LAB-MTD-050: Multi-Element Analysis of Cannabis Dried Flower, Fresh Flower, Extracts, and Rolling Papers by ICP-MS  
LAB-MTD-058: Determination of Palladium (Pd) in Cannabis Dried Flower, Fresh Flower and Extracts by ICP-MS

### **pH Analysis**

MIC-MTD-013: Determination of pH using pH Meter

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