

HIGH NORTH ID:
00332608
Date: 2023-05-16
Certificate: 1684253579



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

Client:	North 40 Cannabis PO Box 2684, Nipawin, SK, S0E 1E0	Product:	Cyber Fuel x Alien Cake
Name:	Gord Nichol 780-907-9220 gord@north40cannabis.com	Lot:	CWB215R3
		Matrix:	Flower
		Sub-matrix:	Dried Flower
		Sampled:	2023-05-01
		Received:	2023-05-03

Certificate of Analysis

Cannabinoid Analysis	LOD (%)	LOQ (%)	wt%	mg/g
Total THC [(THCA x 0.877) + D9-THC]			24.546	245.462
Total CBD [(CBDA x 0.877) + CBD]			0.078	0.779
THCA-A	0.0090	0.06	27.037	270.372
CBGA	0.0041	0.06	1.702	17.016
D9-THC	0.0093	0.06	0.835	8.346
CBG	0.0094	0.06	0.121	1.212
CBDA	0.0100	0.06	0.089	0.888
CBC	0.0060	0.06	ND	ND
D8-THC	0.0137	0.06	ND	ND
CBN	0.0067	0.06	ND	ND
THCV	0.0093	0.06	ND	ND
CBD	0.0069	0.06	ND	ND
CBDV	0.0090	0.06	ND	ND
Total of all quantified cannabinoids:			29.783	297.834

Terpene Analysis	LOD (%)	LOQ (%)	wt%
Terpinolene	0.0005	0.005	0.89
Trans-Caryophyllene	0.0011	0.005	0.609
Farnesene*	0.0029	0.010	0.285
(R)-(+)-Limonene	0.0006	0.005	0.209
Alpha-Humulene	0.0002	0.005	0.178
Beta-Myrcene	0.0004	0.005	0.143
Beta-Pinene	0.0004	0.005	0.12
Ocimene	0.0017	0.005	0.103
Alpha-Terpineol	0.0007	0.005	0.089
Alpha-Pinene	0.0002	0.005	0.089
Alpha-Bisabolol	0.0011	0.005	0.08

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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Ryan Lee
Quality Assurance

Terpene Analysis	LOD (%)	LOQ (%)	wt%
Linalool	0.0006	0.005	0.068
Alpha-Phellandrene	0.0010	0.005	0.067
(R)-Endo-(+)-Fenchyl Alcohol	0.0005	0.005	0.041
(1S)-3-Carene	0.0009	0.005	0.036
Alpha-Terpinene	0.0004	0.005	0.031
Caryophyllene oxide	0.0009	0.005	0.029
trans-Nerolidol	0.0005	0.005	0.023
Gamma-Terpinene	0.0002	0.005	0.02
Sabinene	0.0003	0.005	0.017
Sabinene Hydrate	0.0006	0.005	0.009
Camphene	0.0009	0.005	0.008
Borneol	0.0005	0.005	0.006
Squalene	0.0015	0.005	BLQ
Fenchone	0.0003	0.005	BLQ
Cymene*	0.0004	0.005	BLQ
Phytol*	0.0030	0.010	ND
Nootkatone	0.0009	0.005	ND
Farnesol*	0.0032	0.010	ND
Phytane	0.0006	0.005	ND
(+)-Cedrol	0.0004	0.005	ND
Guaiol	0.0013	0.005	ND
cis-Nerolidol	0.0012	0.005	ND
Valencene	0.0006	0.005	ND
Eugenol	0.0010	0.005	ND
Alpha-Cedrene	0.0004	0.005	ND
Geranyl acetate	0.0007	0.005	ND
Carvacrol	0.0005	0.005	ND
Thymol	0.0006	0.005	ND
d-Valerolactam (2-piperidone)	0.0015	0.005	ND
(-)-Piperitone	0.0012	0.005	ND
Isobornyl Acetate	0.0005	0.005	ND
Carvone	0.0006	0.005	ND
Pulegone	0.0006	0.005	ND
Verbenone	0.0006	0.005	ND
Citral*	0.0015	0.005	ND
Geraniol	0.0005	0.005	ND
Safranal	0.0004	0.005	ND
Nerol	0.0007	0.005	ND
Citronellol	0.0008	0.005	ND
Octyl Acetate	0.0005	0.005	ND
Terpinen-4-ol	0.0017	0.005	ND
Camphor	0.0005	0.005	ND
Isoborneol	0.0005	0.005	ND

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Terpene Analysis	LOD (%)	LOQ (%)	wt%
Menthol (Hexahydrothymol)	0.0013	0.005	ND
Menthone*	0.0015	0.005	ND
Isopulegol	0.0010	0.005	ND
Alpha-Thujone	0.0010	0.005	ND
Eucalyptol	0.0011	0.005	ND
Total of all quantified terpenes:			3.150

Moisture Analysis 10.26%

Mycotoxin Analysis	LOD (ppb)	LOQ (ppb)	RL (ppb)	Result (ppb)	Status
Aflatoxin-B1	1.0	2	2	ND	PASS
Aflatoxin-B2	0.9	2		ND	PASS
Aflatoxin-G1	0.7	2		ND	PASS
Aflatoxin-G2	1.0	2		ND	PASS
Sum of Aflatoxins:			4	0	PASS
Ochratoxin-A	8.7	20	20	ND	PASS

Microbial Analysis	LOD (CFU/g)	RL (CFU/g)	Result (CFU/g)	Status
Total Aerobic Count	12	500,000	ND	PASS
Total Yeast and Mold Count	1.8	50,000	ND	PASS
Bile-Tolerant Gram-Negative	5	10,000	ND	PASS
Salmonella			Absent in 10g	PASS
E.coli			Absent in 10g	PASS

Heavy Metals Analysis	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Arsenic	0.034	0.200	0.2	ND	PASS
Cadmium	0.016	0.058	0.3	ND	PASS
Lead	0.014	0.493	0.5	ND	PASS
Mercury	0.009	0.061	0.1	ND	PASS

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Pesticides Analysis	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Abamectin	0.0057	0.1	0.1	ND	PASS
Acephate	0.0100	0.02	0.02	ND	PASS
Acequinocyl	0.0115	0.03	0.03	ND	PASS
Acetamiprid	0.0017	0.1	0.1	ND	PASS
Aldicarb	0.0442	1	1	ND	PASS
Allethrin	0.0314	0.2	0.2	ND	PASS
Azadirachtin	0.0729	1	1	ND	PASS
Azoxystrobin	0.0029	0.02	0.02	ND	PASS
Benzovindiflupyr	0.0038	0.02	0.02	ND	PASS
Bifenazate	0.0022	0.02	0.02	ND	PASS
Bifenthrin	0.0660	1	1	ND	PASS
Boscalid	0.0035	0.02	0.02	ND	PASS
Buprofezin	0.0014	0.02	0.02	ND	PASS
Carbaryl	0.0134	0.05	0.05	ND	PASS
Carbofuran	0.0018	0.02	0.02	ND	PASS
Chlorantraniliprole	0.0039	0.02	0.02	ND	PASS
Chlorfenapyr	0.0263	0.05	0.05	ND	PASS
Chlorpyrifos	0.0033	0.04	0.04	ND	PASS
Clofentezine	0.0022	0.02	0.02	ND	PASS
Clothianidin	0.0220	0.05	0.05	ND	PASS
Coumaphos	0.0038	0.02	0.02	ND	PASS
Cyantraniliprole	0.0032	0.02	0.02	ND	PASS
Cyfluthrin	0.0653	0.2	0.2	ND	PASS
Cypermethrin	0.1550	0.3	0.3	ND	PASS
Cyprodinil	0.0139	0.25	0.25	ND	PASS
Daminozide	0.0138	0.1	0.1	ND	PASS
Deltamethrin	0.0060	0.5	0.5	ND	PASS
Diazinon	0.0016	0.02	0.02	ND	PASS
Dichlorvos	0.0072	0.1	0.1	ND	PASS
Dimethoate	0.0053	0.02	0.02	ND	PASS
Dimethomorph	0.0023	0.05	0.05	ND	PASS
Dinotefuran	0.0076	0.1	0.1	ND	PASS
Dodemorph	0.0026	0.05	0.05	ND	PASS
Endosulfan-alpha	0.0357	0.2	0.2	ND	PASS
Endosulfan-beta	0.0173	0.05	0.05	ND	PASS
Endosulfan sulfate	0.0029	0.05	0.05	ND	PASS
Ethoprophos	0.0060	0.02	0.02	ND	PASS
Etofenprox	0.0059	0.05	0.05	ND	PASS
Etoxazole	0.0007	0.02	0.02	ND	PASS
Etridiazol	0.0036	0.03	0.03	ND	PASS
Fenoxycarb	0.0031	0.02	0.02	ND	PASS
Fenpyroximate	0.0008	0.02	0.02	ND	PASS
Fensulfothion	0.0046	0.02	0.02	ND	PASS

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Pesticides Analysis	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Fenthion	0.0085	0.02	0.02	ND	PASS
Fenvalerate	0.0767	0.1	0.1	ND	PASS
Fipronil	0.0013	0.06	0.06	ND	PASS
Flonicamid	0.0041	0.05	0.05	ND	PASS
Fludioxonil	0.0043	0.02	0.02	ND	PASS
Fluopyram	0.0014	0.02	0.02	ND	PASS
Hexythiazox	0.0016	0.01	0.01	ND	PASS
Imazalil	0.0060	0.05	0.05	ND	PASS
Imidacloprid	0.0018	0.02	0.02	ND	PASS
Iprodione	0.1217	1	1	ND	PASS
Kinoprene	0.1142	0.5	0.5	ND	PASS
Kresoxim-methyl	0.0069	0.02	0.02	ND	PASS
Malathion	0.0041	0.02	0.02	ND	PASS
Metalaxyl	0.0016	0.02	0.02	ND	PASS
Methiocarb	0.0027	0.02	0.02	ND	PASS
Methomyl	0.0093	0.05	0.05	ND	PASS
Methoprene	0.4544	2	2	ND	PASS
Mevinphos	0.0044	0.05	0.05	ND	PASS
MGK-264	0.0035	0.05	0.05	ND	PASS
Myclobutanil	0.0062	0.02	0.02	ND	PASS
Naled	0.0218	0.1	0.1	ND	PASS
Novaluron	0.0019	0.05	0.05	ND	PASS
Oxamyl	0.0123	3	3	ND	PASS
Paclobutrazol	0.0187	0.02	0.02	ND	PASS
Parathion-methyl	0.0312	0.05	0.05	ND	PASS
Permethrin	0.0609	0.5	0.5	ND	PASS
Phenothrin	0.0294	0.05	0.05	ND	PASS
Phosmet	0.0046	0.02	0.02	ND	PASS
Piperonyl butoxide	0.0010	0.2	0.2	ND	PASS
Pirimicarb	0.0020	0.02	0.02	ND	PASS
Prallethrin	0.0097	0.05	0.05	ND	PASS
Propiconazole	0.0687	0.1	0.1	ND	PASS
Propoxur	0.0035	0.02	0.02	ND	PASS
Pyraclostrobin	0.0020	0.02	0.02	ND	PASS
Pyrethrins	0.0135	0.05	0.05	ND	PASS
Pyridaben	0.0010	0.05	0.05	ND	PASS
Quintozene	0.0074	0.02	0.02	ND	PASS
Resmethrin	0.0090	0.1	0.1	ND	PASS
Spinetoram	0.0012	0.02	0.02	ND	PASS
Spinosad	0.0020	0.1	0.1	ND	PASS
Spirodiclofen	0.0140	0.25	0.25	ND	PASS
Spiromesifen	0.0025	3	3	ND	PASS
Spirotetramat	0.0027	0.02	0.02	ND	PASS

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Pesticides Analysis	LOD (ppm)	LOQ (ppm)	RL (ppm)	Result (ppm)	Status
Spiroxamine	0.0013	0.1	0.1	ND	PASS
Tebuconazole	0.0020	0.05	0.05	ND	PASS
Tebufenozide	0.0021	0.02	0.02	ND	PASS
Teflubenzuron	0.0015	0.05	0.05	ND	PASS
Tetrachlorvinphos	0.0026	0.02	0.02	ND	PASS
Tetramethrin	0.0239	0.1	0.1	ND	PASS
Thiacloprid	0.0014	0.02	0.02	ND	PASS
Thiamethoxam	0.0076	0.02	0.02	ND	PASS
Thiophanate-methyl	0.0174	0.05	0.05	ND	PASS
Trifloxystrobin	0.0018	0.02	0.02	ND	PASS

Comments

Refer to 2023-OOE-189-POTCY.

This COA cancels and supersedes certificate ID 1683643017 dated 2023-05-09.

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Details of Testing

Cannabinoid Analysis

LAB-MTD-020: Determination of 11 Cannabinoids in Cannabis Flower (LOQ 0.06%), Fresh Flower (LOQ 0.015%), Oil (LOQ 0.03%) and Concentrates (LOQ 0.6%) by HPLC and UHPLC

LAB-MTD-021: Determination of Cannabinoids of Individually Isolated Sample by HPLC/UHPLC

LAB-MTD-023: Determination of 11 Cannabinoids in Cannabis Tablets and Granules (LOQ 0.025%) by HPLC/UHPLC

LAB-MTD-030: Determination of 11 Cannabinoids in Cannabis Topicals (LOQ 0.005%) by HPLC/UHPLC

LAB-MTD-039: Determination of 11 Cannabinoids in Cannabis Edibles; Liquid Edibles (LOQ 0.0005%) and Solid Edibles (LOQ 0.005%) by UHPLC

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 Pesticide and Mycotoxins in Cannabis by LC-MS/MS and GC-MS/MS

LAB-MTD-040: Determination of EP Pesticide Residues in Cannabis Oil and Related Products by GC-MS/MS

LAB-MTD-041: Determination of EP Pesticide Residues in Cannabis Flower and Related Products by GC-MS/MS

LAB-MTD-046: Determination of Health Canada Pesticide Residues and Toxins in Cannabis Oil and Related Products 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

Mycotoxin Analysis

LAB-MTD-010: Determination of Pesticide and Mycotoxins in Cannabis 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

Heavy Metal Analysis

LAB-MTD-050: Multi-Element Analysis of Cannabis Dried Flower, Fresh Flower, Extracts, Rolling Papers, and Related Products by ICP-MS

Flavonoid Analysis

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

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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

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

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

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