# Certificate of Analysis

420 Fortune Blvd
Milford, MA 01757

*Sample ID:* **125998**
*Order No.:* **43939**

*Report Title:* **Certificate of Analysis**
*Revision:* **1**
*Report Date:* **6/17/2024**

## B. RMD INFO

**Northeast Alternatives, Inc.**
**999 William S. Canning Blvd.**
**Fall River, MA 02721**

*Manifest No:* **0002291713**
*Date Received:* **6/13/2024**

## C. SAMPLE IDENTIFICATION

*METRC Package ID:* **1A40A03000002BF000085845**
*Sample Name:* **Vape.SAP.BBPU.6.12.24 Bulk Distillate Blueberry Punch**
*Prod. Batch ID:* **Vape.SAP.BBPU.6.12.24**
*Source Pkg. ID:* **1A40A03000002BF000085790**

## D. PICTURE OF SAMPLE


## E. SAMPLE PROPERTIES

*Sample Size:* **4g**
*# of Servings:* **n/a**
*Matrix:* **Semi-Solid**
*Matrix Other:* **n/a**
*Sample Condition:* **Unremarkable**
*Retest:* **No**
*Remediated:* **No**
*Description:* **n/a**

## F. PRODUCT CHARACTERIZATION

*Product Stage:* **Cannabis Resin & Concentrates**
*Product Class:* **Distillate**
*Other:* **n/a**
*Product Type:* **Distillate**
*Retail Name:* **Vape.SAP.BBPU.6.12.24 Bulk Distillate Blueberry Punch**
*Grow Material:* **n/a**
*Intended Route of Consumption* **n/a**
*Other:* **n/a**
*Extraction Solvent:* **n/a**
*Other:* **n/a**

## G. TEST TYPE RUN

*(CN) Cannabinoid Profile*
*(TP) Terpene Profile*
*(VC) Residual Solvent Test*
*(MY) Mycotoxin Test*
*(HM) Heavy Metal Analysis*
*(MB) Microbiology Test*
*(PT) Pathogen Screen*
*(VEA) Vitamin E Acetate*

PJLA Testing Accreditation # 80585

The data contained within this report was collected in accordance with the requirements of ISO/IEC17025:2017. I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

ProVerde Laboratories, Inc. is an ISO/IEC 17025:2017 accredited laboratory, registered with Perry Johnson Laboratory Accreditation Inc., certificate #L23-91-1, accreditation #80585, expiring April 30, 2025.

## H. CASE NARRATIVE

For full Case Narrative, see details in PAGE 2

| *Total Potency (CN)* | *Pesticides (PST)* | *Micro (MB)* | *Solvents (VOC)* |
|---|---|---|---|
| **87.0 wt%** | **Not Tested** | **PASS** | **PASS** |
| *Terpenes (TP)* | *Heavy Metals (HM)* | *Mycotoxins (MY)* | *Vitamin E Acetate (VEA)* |
| **5.4 wt%** | **PASS** | **PASS** | **PASS** |

## THIS PRODUCT

- [x] May be dispensed
- [ ] May be dispensed as INGESTION only
- [ ] May NOT be dispensed

## LAB AUTHORIZATION SIGNATURE

Andrew Aubin

Lab Director

## *H. CASE NARRATIVE*

The sample was provided to the laboratory by a RMD agent. Sample was submitted in a sealed container under ambient conditions. Chain of Custody seal was intact. All recorded contaminants are within the established limits.

Test Summary:

Cannabinoid Analysis: The sample was analyzed for cannabinoids by Liquid Chromatography (WI-10-17). Prior to analysis, sample was prepared by extraction with an organic solvent, filtered and diluted with an appropriate HPLC diluent. The recorded data was compared to data collected for certified reference standards for quantification.

Heavy Metal Analysis: The sample was analyzed for heavy metals by Inductively Coupled Plasma Mass Spectrometry (WI-10-13). Prior to analysis, sample was prepared by a microwave assisted acidic digestion, followed by dilution with acidified water. The recorded data was compared to data collected for certified reference standards for quantification.

Microbiological Screening: The sample was analyzed for microbial contaminants by an automated Most Probable Number enumeration (WI-10-09) [BioMerieux]. Prior to analysis, sample was prepared with peptone buffered water to extract microbial contaminants.

Pathogenic Bacteria: The sample was analyzed for the pathogenic bacteria E. coli and salmonella with an automated Enzyme-Linked Fluorescence Assay (WI-10-10) [BioMerieux]. Prior to analysis, sample was prepared with peptone buffered water to extract microbial contaminants, followed by incubation to enrich potential contaminants.

Mycotoxin Testing: The sample was analyzed for mycotoxins using an ImmunoAffinity Assay with fluorometric detection (WI-10-05). Prior to analysis, sample was extracted with organic solvent, followed by the ImmunoAffinity column clean-up.

Residual Solvent Analysis: The sample was analyzed for residual solvents by Headspace Gas Chromatography (WI-10-28). Prior to analysis, sample was prepared in a headspace vial and incubated at elevated temperature to vaporize volatile compounds. The recorded data was compared to data collected for certified reference standards for quantification.

Terpene Analysis: The sample was analyzed for terpenes (WI-10-37) utilizing solvent extraction followed by Gas Chromatography (GC) utilizing flame ionization detection (FID). Chromatographic data were processed by quantitatively comparing the analytical peak areas against calibration curves prepared from certified reference standards.

Vitamin E acetate Analysis: The sample was analyzed for vitamin E acetate by Liquid Chromatography (UPLC). Prior to analysis, sample was prepared with a solvent dilution. The recorded data was compared to data collected for certified reference standards for quantification.

QC Summary:

Cannabinoid QC: A method blank was prepared in parallel with the study sample, using only associated reagents, with no matrix included. In addition, quantitation was evaluated with a Continuing Calibration Verification (CCV) sample.

Heavy Metals QC: A method blank was prepared in parallel with the study sample, using only associated reagents, with no matrix included. In addition, quantitation was evaluated with a Continuing Calibration Verification (CCV) sample.

Microbiological QC: A method blank was prepared in parallel with the study sample, using only associated reagents, with no matrix included. In addition, an environmental blank was collected using a 3M PetriFilm, that was exposed to work area during sample preparation, followed by incubation to confirm the absence of environmental contaminants.

Pathogenic Bacteria QC: For each pathogen, a positive and negative control sample is run on a monthly basis.

Mycotoxin QC: Performance of fluorometer is verified daily using standard reference materials prior to data measurement.

Residual Solvents QC: A method blank was prepared in parallel with the study sample, using an empty headspace vial, with no matrix included. In addition, quantitation was evaluated with a Continuing Calibration Verification (CCV) sample.

Terpene QC: A method blank was prepared in parallel with the study sample, using only associated reagents, with no matrix included. In addition, quantitation was evaluated with a Continuing Calibration Verification (CCV) sample.

***TABLE I: CANNABINOID PROFILE*** Analysis Date: 6/13/2024

**Sample ID: 125998 By UPLC** Lab SOP #: WI-10-17 & WI-10-17-01 Analyst: SD

This sample was analyzed using Liquid Chromatography (LC). The collected data was compared to data collected for a reference standards at a known concentration.

| Test ID | Analyte | Concentration *unit = %wt* | "Dose" weight *unit = mg/g* | LOD *unit = ppm* | LOQ *unit = ppm* |
|---|---|---|---|---|---|
| A125998 | D9-THC | 81.7 | 817 | 160.00 | 481.00 |
| A125998 | THCV | 0.578 | 5.78 | 160.00 | 481.00 |
| A125998 | CBD | 0.184 | 1.84 | 160.00 | 481.00 |
| A125998 | CBDV | ND | ND | 160.00 | 481.00 |
| A125998 | CBG | 2.61 | 26.1 | 160.00 | 481.00 |
| A125998 | CBC | 1.56 | 15.6 | 160.00 | 481.00 |
| A125998 | CBN | 0.356 | 3.56 | 160.00 | 481.00 |
| A125998 | THCA | ND | ND | 160.00 | 481.00 |
| A125998 | CBDA | ND | ND | 160.00 | 481.00 |
| A125998 | CBGA | ND | ND | 160.00 | 481.00 |
| A125998 | CBDVA | ND | ND | 160.00 | 481.00 |
| A125998 | D8-THC | ND | ND | 160.00 | 481.00 |
| A125998 | exo-THC | ND | ND | 160.00 | 481.00 |
| | Total THC | 81.7 wt% | 817 | Measurements are based on sample as received. | |
| | Total CBD | 0.184 wt% | 1.84 | | |
| | Total Cannabinoid (TAC) | 87.0 wt% | 870 | | |
| | **CBD to THC Ratio** | **0 : 1** | | | |

There are no limits established by the Massachusetts Cannabis Control Commission for cannabinoid concentrations. Total THC and CBD values are based on the assumption that acidic cannabinoids have been decarboxylated, such that Total THC = (0.877 x THCA) + D9-THC and Total CBD = (0.877 x CBDA) + CBD. ND = None Detected above the Limits of Detection (LOD).

***TABLE J: HEAVY METALS*** Analysis Date: 6/14/2024

**Sample ID: 125998 By ICPMS** Lab SOP #: WI-10-13 Analyst: ZDV

This sample was analyzed by elemental analysis using Inductively Coupled Plasma Mass Spectrometry (ICP-MS) for the identification of heavy metal constituents. External calibration curves for heavy metals were used for quantitation, with an additional internal reference standard. Resulting data was compared with a sample blank.

| Test ID | Analyte | Concentration[1] *unit = ppb* | LOD *unit = ppb* | LOQ *unit = ppb* | Limits - All Use [2] *Limits (ppb)* | *Test* | Limits - Ingestion Only [2] *Limits (ppb)* | *Test* |
|---|---|---|---|---|---|---|---|---|
| 125998 | As | ND | 25 | 50 | 200 | PASS | 1500 | PASS |
| 125998 | Cd | ND | 25 | 50 | 200 | PASS | 500 | PASS |
| 125998 | Hg | ND | 25 | 50 | 100 | PASS | 1500 | PASS |
| 125998 | Pb | ND | 25 | 50 | 500 | PASS | 1000 | PASS |

2) Testing limits established by the Massachusetts Cannabis Control Commission, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 4.

***TABLE K: MICROBIOLOGICAL CONTAMINANTS*** Analysis Date: 6/13/2024

**Sample ID: 125998 By MPN** Lab SOP #: WI-10-09 Analyst: SRD

This sample was analyzed for microbiological contaminants using an automated Most Probable Number (MPN) methodology with cultured enrichments.

| Test ID | Analyte Symbol | Test Analysis | Result | Unit | Standard Limits *unit = CFU/g* | Limit Test |
|---|---|---|---|---|---|---|
| 125998 | AC | Total Aerobic Bacterial Count | <100 | CFU/g | 10,000 CFU/g | PASS |
| 125998 | CC | Total Coliform Bacterial Count | <100 | CFU/g | 100 CFU/g | PASS |
| 125998 | EB | Total Bile Tolerant Gram Negative Count | <100 | CFU/g | 100 CFU/g | PASS |
| 125998 | YM | Total Yeast & Mold | <100 | CFU/g | 1,000 CFU/g | PASS |

Recommended limits established by the American Herbal Pharmacopoeia (AHP) monograph for Cannabis Inflorescence [2013], for consumable botanical products, including processed and unprocessed cannabis materials, and solvent-based extracts.All recorded Microbiological tests are within the established limits.

*Testing limits established by the Massachusetts Cannabis Control Commission, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

***TABLE L: PATHOGENIC BACTERIA*** Analysis Date: 6/14/2024

**Sample ID: 125998 By ELFA** Lab SOP #: WI-10-10 Analyst: SRD

This sample was analyzed for pathogenic bacteria using an automated Enzyme Linked Fluorescent Assay (ELFA). Quality control checks are performed monthly by running both a positive and a negative control sample for each pathogen.

| Test ID | Analyte Symbol | Test Analysis | Result | Standard Limits | Limit Test |
|---|---|---|---|---|---|
| 125998 | ECPT | E. coli (O157) | Negative | Non Detected in 1g | PASS |
| 125998 | SPT | Salmonella | Negative | Non Detected in 1g | PASS |

Note: All recorded pathogenic bacteria tests passed.

*Testing limits established by the Massachusetts Cannabis Control Commission, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.

***TABLE M: MYCOTOXINS*** Analysis Date: 6/14/2024

**Sample ID: 125998 By IA/Fluorescence** Lab SOP #: WI-10-05 Analyst: RAM

This sample was analyzed for mycotoxins using an Immunoaffinity based assay (IA). Data was compared to readings from standard reference materials.

| Test ID | Analyte Symbol | Analyte | Result *unit = ppb* | LOD *unit = ppb* | LOQ *unit = ppb* | Standard Limits *unit = ppb* | Limit Test |
|---|---|---|---|---|---|---|---|
| 125998 | Afla | Total Aflatoxin | < LOD | 2 | 4 | < 20 | PASS |
| 125998 | Ochra | Total Ochratoxin | < LOD | 3 | 6 | < 20 | PASS |

Note: All recorded Mycotoxin tests are within the established limits.

*Testing limits established by the Massachusetts Cannabis Control Commission, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6.
MLD = Method Detection Limit.

| *TABLE N: RESIDUAL SOLVENTS* | | | | | | Analysis Date: 6/14/2024 |
|---|---|---|---|---|---|---|
| **Sample ID: 125998 By GC-MS** | | Lab SOP #: WI-10-28 | | | | Analyst: BKB |
| This sample was analyzed for residual solvents using Head-Space Gas Chromatograph (HS-GC). | | | | | | |
| **Test ID** | **Analyte** | **Result** *unit = ppm* | **RL** *unit = ppm* | **LOQ** *unit = ppm* | **Standard Limits** *unit=ppm* | **Limit Test** |
| 125998 | Propane | ND | 4 | 1 | 12 | PASS |
| 125998 | Isobutane | ND | 4 | 1 | 12 | PASS |
| 125998 | Butane | ND | 4 | 1 | 12 | PASS |
| 125998 | Methanol | ND | 100 | 1 | 3,000 | PASS |
| 125998 | Pentane | ND | 100 | 1 | 5,000 | PASS |
| 125998 | Ethanol | ND | 100 | 1 | 5,000 | PASS |
| 125998 | Acetone | ND | 100 | 1 | 5,000 | PASS |
| 125998 | Isopropanol | ND | 100 | 1 | 5,000 | PASS |
| 125998 | Acetonitrile | ND | 100 | 1 | 410 | PASS |
| 125998 | Hexane | ND | 100 | 1 | 290 | PASS |
| 125998 | Heptane | ND | 100 | 1 | 5,000 | PASS |

Note: ND = None detected to RL. All recorded Residual Solvents are within the established limits.

* Testing limits established by the Massachusetts Cannabis Control Commission, Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries, Exhibit 6 and Circular Letter: DHCQ-15-08-638.

***TABLE P: TERPENE PROFILE*** Analysis Date: 6/13/2024

**Sample ID: 125998 By GC-FID** Lab SOP #: WI-10-37 Analyst: ZDV

This test method was performed in accordance with the requirements of ISO/IEC 17025. These results relate only to the test article listed in this report. Reports may not be reproduced except in their entirety.

| Test ID | Analyte | CAS Number | Concentration | | LOD | LOQ |
|---|---|---|---|---|---|---|
| | | | *unit = wt%* | *unit = ppm* | *unit = ppm* | *unit = ppm* |
| 125998-FID | isopulegol | 89-79-2 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | menthol | 89-78-1 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | linalool | 78-70-6 | 0.172 | 1,720 | 5.00 | 10.00 |
| 125998-FID | caryophyllene oxide | 1139-30-6 | 0.0426 | 426 | 5.00 | 10.00 |
| 125998-FID | guaiol | 489-86-1 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | sabinene | 3387-41-5 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | p-cymene | 99-87-6 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | camphene | 79-92-5 | 0.00824 | 82.4 | 5.00 | 10.00 |
| 125998-FID | eucalyptol | 470-82-6 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | geraniol | 106-24-1 | 0.0110 | 110 | 5.00 | 10.00 |
| 125998-FID | terpinolene | 586-62-9 | 0.269 | 2,690 | 5.00 | 10.00 |
| 125998-FID | alpha-bisabolol | 23089-26-1 | 0.318 | 3,180 | 5.00 | 10.00 |
| 125998-FID | alpha-pinene | 80-56-8 | 0.321 | 3,210 | 5.00 | 10.00 |
| 125998-FID | alpha-terpinene | 99-86-5 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | beta-caryophyllene | 87-44-5 | 1.39 | 13,900 | 5.00 | 10.00 |
| 125998-FID | beta-pinene | 127-91-3 | 0.308 | 3,080 | 5.00 | 10.00 |
| 125998-FID | delta-3-carene | 13466-78-9 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | L-fenchone | 7787-20-4 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | beta-myrcene | 123-35-3 | 1.14 | 11,400 | 5.00 | 10.00 |
| 125998-FID | alpha-phellandrene | 99-83-2 | 0.0796 | 797 | 5.00 | 10.00 |
| 125998-FID | alpha-ocimene | 502-99-8 | 0.407 | 4,070 | 5.00 | 10.00 |
| 125998-FID | D-limonene | 5989-27-5 | 0.460 | 4,600 | 5.00 | 10.00 |
| 125998-FID | gamma-terpinene | 99-85-4 | 0.00903 | 90.3 | 5.00 | 10.00 |
| 125998-FID | alpha-humulene | 6753-98-6 | 0.470 | 4,700 | 5.00 | 10.00 |
| 125998-FID | cis-nerolidol | 3790-78-1 | <LOD | <LOD | 5.00 | 10.00 |
| 125998-FID | trans-nerolidol | 40716-66-3 | 0.00807 | 80.7 | 5.00 | 10.00 |
| 125998-FID | beta-ocimene | 13877-91-3 | <LOD | <LOD | 5.00 | 10.00 |

Total Terpene: 5.4 wt%

* Indicates semi-qualitative calculation based on recorded peak areas.

***TABLE P1: VITAMIN E ACETATE*** Analysis Date: 6/13/2002

**Sample ID: 125998 By UPLC** Lab SOP #: WI-10-38 Analyst: PK

This sample was analyzed using Liquid Chromatography (LC) with UV detection. The collected data was compared to data collected for a vitamin E acetate reference standard, prepared at a concentration of 100 ppm.

| Test ID | Analyte | CAS Number | Concentration | LOD | LOQ | Status |
|---|---|---|---|---|---|---|
| | | | *unit = wt%* | *unit = wt%* | *unit = wt%* | |
| 125998 | alpha-tocopheryl acetate | 58-95-7 | ND | 0.025 | 0.1 | PASS |

ND – Not Detected at a level greater than the reporting limit (RL)

## END OF REPORT