Full Power Remedy LLC Audit Report of PDX Aromatics

Date: 05 March 2019

From: Jennifer Bruce, Quality Consultant

Subject: Audit of PDX Aromatics (PDX)

Auditor: Jennifer Bruce, Quality Consultant

PDX Hosts: Shantara Rouse, Quality Manager

Michael DeYoung, Quality Supervisor

Drew Stratton, Operations Manager

Jeff Stratton, Managing Director

EXECUTIVE SUMMARY

Scope of Audit
A one (1) day pre-qualification audit was conducted to evaluate PDX's compliance with 21CFR Part 111: Current Good Manufacturing Practice (CGMP) in Manufacturing, Packaging, Labeling, Or Holding Operations For Dietary Supplements, and 21CFR Part 11: Electronic Records; Electronic Signatures, for the purpose of qualification for the American Kratom Association's GMP Standards Program. This audit included a facility tour and documentation review.

Conclusion

Overall, the facility presented well, and personnel interviewed demonstrated the education, experience and training to fulfill their responsibilities. Additionally, PDX demonstrated a robust Quality Management System and a commitment to continuous improvement and GMP compliance.

Based on results of the audit, the overall GMP compliance rating of the firm is: **ACCEPTABLE**.

Acceptable Rating:	A standard of general compliance to GMPs that may include a number of major and/or minor observations.
Marginal Rating:	A standard of marginal compliance to GMPs and/or a determination of deterioration in compliance based on the major and/or minor observations noted.
Unacceptable Rating:	A deficient standard of compliance with GMPs and/or a determination of absence of controls/systems based on the critical, major, and/or minor observations noted. Facility warrants serious quality/compliance concerns.

AUDIT REPORT

Audit Observations
The audit resulted in **zero (0)** critical, **zero (0)** major, **zero (0)** minor observations and **twenty-six (26)** recommendations. Recommendations are highlighted throughout this report.

The **definitions of the observations** that were noted are defined as follows:

Critical Observation:	Critical Observation - Significant findings that have immediate and significant risk to the product quality, consumer safety or data integrity. These observations may demonstrate significant system failure, violation of cGMP regulations and company policy. Absence of a key system would also be considered critical. Such findings are highly probable to be listed by FDA in the inspection or leading to issuing of FDA-483. The immediate corrective action and reporting to Management is required.
Major Observation:	Major Observation - Major issues have a medium to strong potential to affect the product quality, consumer safety or data integrity, which requires immediate response. Observations of ineffective systems, inconsistency of systems or multiple issues of the same type, which may lead to a major system failure. Such findings may be listed by FDA as observations during inspection.
Minor Observation:	Minor observation or findings have a relatively low probability to affect the quality of product. Minor observations represent opportunities for improvement in overall cGMP compliance and they are typically not listed by FDA during inspection.
Recommendation:	A suggestion (not a GMP deficiency) for possible improvement to a current process, procedure, operation and/or quality system.

Introduction & Background Information

PDX Aromatics (PDX) [redacted] is a family-owned small business specializing in the acquisition, wholesale, and retail of a variety of natural products, including tea, coffee, and essential oils and well as the production of thirty-two Kratom products. The facility audited on 25 February 2019 and is located at 2170 N. Lewis Avenue, Suite 250, Portland, OR 97227 and has been in operation for approximately six (6) years. The facility is approximately 14,000 ft^2 and contains separate areas for Production (including Encapsulation), GMP Warehousing, Quality Control Sampling (QC), Quality Assurance (QA) and office space for administrative functions. The access-controlled facility requires visitor sign-in and escort throughout the facility for visitors. The facility holds current U.S. Food and Drug Administration (FDA) food facility registration and works in accordance with 21CFR Part 117: Current Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive Controls for Human Food.

Bulk Kratom is currently purchased from three (3) qualified suppliers in the USA. Vendor qualification based on quality control testing results as well as overall GMP compliance and is governed by an approved SOP. PDX maintains a list of all approved vendors and suppliers. Dry steam sterilization of Kratom raw materials is outsourced to a vendor in Nevada and is

performed on a case by case basis following United States Pharmacopeia (USP) recommendations.

All Quality Control testing is outsourced to a qualified contract testing laboratory and includes identification, heavy metals content (Arsenic, Cadmium, Lead, Mercury) as well as microbiological testing as outlined in the approved specification for each product.

A Master Sanitation Schedule is maintained and applies to all areas requiring cleaning and sanitation. All personnel are responsible for maintaining the facility and grounds in a clean, well-organized state to support onsite operations. Pest control is in place and governed per approved procedure. Both sanitation and pest control are outsourced to qualified vendors. SureTrend, data analysis software, is employed to continuously monitor plant hygiene.

Regulatory Inspection History
PDX Aromatics was inspected by the FDA from 05 March 2018 to 21 March 2018 and were issued a warning letter for failing to ensure that raw materials and other ingredients were not adulterated by pathogenic microorganisms which was satisfactorily closed out by the Agency on 19 June 2018. PDX initiated a voluntary recall of all potentially-impacted finished goods and implemented a robust corrective and preventive action plan including the creation of a comprehensive Food Safety Plan and the review and revision of all procedures, policies and existing training program to effectively address the observations received.

General Facility Tour Comments

All inspected areas of the facility were found to be appropriately segregated, well-organized and clean.

Documentation Review

PDX Aromatics operates via a 21CFR part 11 electronic-based document control system - InstantGMP™. In-house active log documentation is maintained via Google Drive. Paper copies of documentation are available to all personnel, as needed, in the event of an interruption of the electronic system. Unless otherwise specified, documents reviewed were acceptable as found requiring only minor revisions during their next review cycle.

POLICIES

POL-0205.00, Quality Insurance Testing of Consumables
Correct page numbering upon next review of this Policy.

POL-0207.00, Risk Assessment
Responsibilities Section 3.3, states that in the event responsibilities for this Policy are transferred to a vendor, a Quality Agreement should be in place. Write a Quality Agreement SOP.

POL-0300.01, InstantGMP™ Manufacturing

POL-0301.01, Electronic Records and Electronic Signatures
Definition 5.5, GxP – change to GMP

POL-0506.01, Analytical Method Evaluation
Section 4.3, if validation is occurring, a Policy addressing Analytical Method Validation should be created.

POL-0508.01, Regulatory Readiness
Responsibilities, Section 3.1, is not applicable and should be removed.
Section 3.3 and 4.7, state that in the event responsibilities for this Policy are transferred to a vendor, a Quality Agreement should be in place. Write a Quality Agreement SOP. Sections 4.5 and 4.6 are not applicable and should be removed.

POL-0509.01, Quality Management System
Section 4.6, Management Review, is typically a stand-alone SOP which outlines the frequency of management meetings and which quality metrics are to be reviewed (e.g. amount of product produced, released and rejected, deviations, investigations, etc.).
Section 4.9, Self Inspection (also known as internal audits) is typically a stand-alone SOP outlining the frequencies, responsibilities and requirements for this program. Most smaller companies waive this requirement through having a periodic outsourced audit performed by vendor.

Quality and Continuous Improvement Statement
Update “Company” to PDX Aromatics – this document should be linked to POL-0509, Quality Management System

STANDARD OPERATING PROCEDURES

General SOP/Policy comments include:

- In both the Purpose and Scope sections of every SOP and Policy, be sure to always include the organization’s name.
- All references to GxP in documentation should be replaced with GMP as well as any references to “GLP”, “GCP”, “clinical”, “sponsor”, “IND”, etc.
- Per current technical writing standards, avoid word such as “will” or “shall” and write the document in the present tense avoiding the use of pronouns (e.g. “you”).
- There appears to be no SOP addressing the assignment of an expiry or use-by date(s).

SOP-0100.01, Purchasing Requisition

SOP-0101.01, Project Initiation

SOP-0102.01, Standard Operating Procedures
Under Section 2, there is a reference to “Sponsors” which should be removed.

Additionally, in Section 5.1.6, Business Requirements, is listed as a standalone section title however, no “Business Requirements” were observed in any of the SOPs reviewed. Consider removing this section if it is not in effect and/or not valued added for business purposes.

SOP-0103.01, Document Management System
Under Section 7, Definitions, create a definition for cGMP documents (e.g.: An original document, log, form, chart, printout, or other media with recorded information that is the primary

GMP evidence of a performed procedure associated with the manufacturing, testing, releasing, holding or distribution of regulated product and/or any record required by regulatory requirements.)

This is a combination of two (2) SOPs, Document Control and Records Retention. While it is perfectly acceptable to combine Quality Management Systems, it should be clearly stated in the Purpose and Scope the overall intention of the SOP.

Attachment 2: Filing Guide for Paper Documents does not include actual retention times (e.g. batch records will be archived onsite for a period of two (2) years post the date of manufacture.)

FOR EXAMPLE:

Record Description	**Responsible Department**	**File Location**	**Record Retention Time**
Regulatory Files	Regulatory	QA	Product obsolescence date + 1 year
Master Batch Records	QA	QA	Record obsolescence date + 5 yrs
Batch Approval & Lot Disposition Forms	QA	QA	Product life + 2 yrs
Document History Files	QA	QA	Product life + 2 yrs
Validation Protocols/Reports	QA	QA	Process obsolescence date + 2 yrs
Non-conforming Material Reports	QA	QA	Component/Product life + 2 yrs
Deviation Reports	QA	QA	Product life + 2 yrs
Investigation Reports	QA	QA	Product life + 2 yrs
Internal Quality Audits	QA	QA	5 yrs
Contract Service Provider (Vendor) Quality Audits	QA	QA	5 yrs
GMP Training Records	QA	QA	Employee termination + 5 yrs

SOP-0104.01, Change Control

SOP-0105.01, Adverse Events
All references to GCP should be removed. Additionally, although not stated in Part 111 specifically, most organizations log and investigate all adverse events and only report the SAEs to the Agency, as required. This information is reviewed internally during the review of quality metrics in the Management Review. Consider adding this provision to the SOP which currently only applies to SAEs.

SOP-0107.01, Gowning Daily Cleaning
SOP format is not in alignment with other SOPs within the Quality Management System. For example, there is no Purpose, Scope, Responsibilites sections, etc. identified. All SOPs should abide by the master SOP template outlined via the Document Control System SOP. This SOP requires revision and should be converted to the format outlined in SOP-0102, Standard Operating Procedures.

SOP-0209, Material Complaint Handling

Reference SOP-0211 in the event the complaint indicates the need for a potential recall. Reference SOP-0105, Adverse Events in the event a complaint is linked to an AE/SAE. Include an action step for the Quality Manager to re-review all executed production batch records to detect any anomalies in the manufacturing process and the potential need to review others lots of material. In form 2, include the provision to select via a checkbox whether the complaint is potentially linked to an AE/SAE. Consider for future revision, the addition of a classification section for complaint category (e.g. manufacturing, packaging, labeling, etc.) to provide more detailed information for quality metrics and to provide additional guidance around root cause analysis.

SOP-0211.01, Product Recalls
Remove all GCP references (e.g. clinical trials, medical samples, etc.). Include the provision to conduct periodic mock recalls.

SOP-0215.00, Quality Assurance Sample Testing Program

SOP-0221.01, Documentation Practices
Include a section on Data Integrity which outline's the organization's commitment to abiding by ALCOA principles where GMP records will be Attributable, Legible, Contemporaneous, Original and Accurate. As Data Integrity violations continue to escalate, current statistics demonstrate that over 65% of all warning letters cite data integrity and documentation issues. For more information, read the FDA Draft Guidance on Data Integrity.

SOP-0300.01, Specifications

SOP-0303.00, Receiving Process

SOP-0411.01, Pest Control
Include an attachment with this SOP which includes the facility layout drawing designating where the different bait stations or tin cats are located throughout the facility.

SOP-0413.01, Equipment Calibration Program

SOP-0414.01, Equipment Maintenance Program

SOP-0415.01, Waste Control and Management

SOP-0416.01, Storage in Refrigerators, Freezers and Incubators

SOP-0417.00, Clean Room Cleaning
Section 6, Procedure, update Production Supervisor responsibilities upon next SOP revision. There appears to include a typographical error.

SOP-0418.01, Grounds

SOP-0420.01, Facility and Utilities Maintenance and Modifications

SOP-0421.01, Equipment Installation

SOP-0422.01, Utility Maintenance Program

SOP-0423.01, Change Control for Facility, Equipment and Utilities
Under Section 6., Procedure, there is reference to RA yet no responsibilities are listed for RA. It is unclear if this is a reference to Regulatory Affairs and whether or not this is applicable based on the organizational strategy currently in place.

SOP-0426.01, Product Returns
Indicates that re-processing is acceptable. Verify there is a rework/re-processing SOP in place. Consider putting in place a return category classification on returns documentation in order to provide metrics to PDX Management on a routine basis. Include a reference to the Investigations SOP in the event the return is linked to a confirmed product complaint and/or adverse event and requires investigation.

SOP-0427.01, Class 100 Clean Room Cleaning
This SOP does not appear to be relevant to PDX operations.

SOP-0428-01, Air Compressor Operations Procedure
Purpose and Scope of this SOP appear to relate to a new “manufacturing project” specifically in the Encapsulation Room. Upon next review of this SOP, the Title, Purpose and Scope should be revised to indicate the function of this SOP as it relates specifically to encapsulation activities requiring the use of an air compressor. Additionally, there is no information that activities occurring with this equipment are logged into a corresponding equipment logbook. This should be included in the next revision of the SOP.

SOP-0431.01, Band Sealer Operations Procedure
The Purpose section of this SOP appears to be incorrect stating that the SOP describes the procedure for encapsulating raw materials while the body of the SOP outlines the process for sealing bags of final product (i.e. band sealing). This SOP requires revisions for clarification purposes.

SOP-0432.01, Scale Calibration
SOP format is not in alignment with other SOPs within the Quality Management System. For example, there is no Purpose, Scope, Responsibilites sections, etc. identified. All SOPs should abide by the master SOP template outlined via the Document Control System SOP. This SOP requires revision and should be converted to the format outlined in SOP-0102, Standard Operating Procedures.

Step 10 of this SOP refers to using calibration weights. If weights are used, they should also contain an equipment ID number and be included on the master equipment list. All calibration activities should be logged in the corresponding equipment logbook for the specific scale. Step 10 additionally includes a comment which should be omitted in the next revision of this SOP as it is not value added for this procedure.

SOP-0500.01, Computer System Inventory

SOP-0501.01, Computer System Operation
This SOP should include periodic audit trail reviews to ensure metadata is accurate for that particular system. This can be included via an internal audit or self-inspection.

SOP-0502.01, Computer System Security

SOP-0503.01, Computer Systems Validation
Under Section 3, Responsibilities, there is reference to Functional Requirements and System Specifications while under Section 6, Procedure there is reference to Design Specifications. Ensure that language and nomenclature used in the SOP is clearly defined per Section 7, Definitions/Acronyms.

SOP-0504.01, Electronic Signatures
This SOP should include information that outlines what the different levels of signatures pertain to for the review and approval of documents. For example, for the review of cGMP documents, when signing one's name, it means:

- *Have read and understood the document*
- *Have provided edits and comments to correct or add value to the document*
- *Agree with the conclusions or have submitted written comments and edits to the contrary*

SOP-0505.01, Batching/Printing Invoices

SOP-0801.01, Disaster Emergency Response
Include a section in the next revision for power outages and mitigation in the event the organization does not have access to GMP computer systems, specifically controlled documents.

TEST METHODS
No test methods were reviewed as all Quality Control laboratory testing is outsourced.

PRODUCTION FLOW DIAGRAMS
There are numerous production flow diagrams over many areas of the organization which are robust and exceptionally detailed.

TRAINING DOCUMENTATION
Training Program 01.01, The cGMPs of Hygiene
Training Program 02.01, cGMP and Food Safety

New employee training includes SOP read/understood performed by the employee independently which is assigned via a training matrix based on role/department. On-the-Job performance-based training is performed, as needed, by qualified trainers depending on the role/department.

PRODUCTION BATCH RECORDS
No executed production batch records were reviewed during this inspection although they were viewed in-progress on the shop floor during the facility tour for in-process products. Master Batch Production Records were reviewed onsite and remotely and found to be acceptable.

VALIDATION DOCUMENTATION
Due to the time constraints of a one-day audit, no validation documentation was reviewed.

Audit Report Attachments

1. Audit Agenda
2. PDX Aromatics SOP Master List
3. PDX Aromatics Policy Master List
4. Audit Certificate

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Prepared by Signature & Date
Jennifer Bruce, Quality Consultant

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Reviewed by Signature & Date
Shantara Rouse, PDX Aromatics Quality Manager