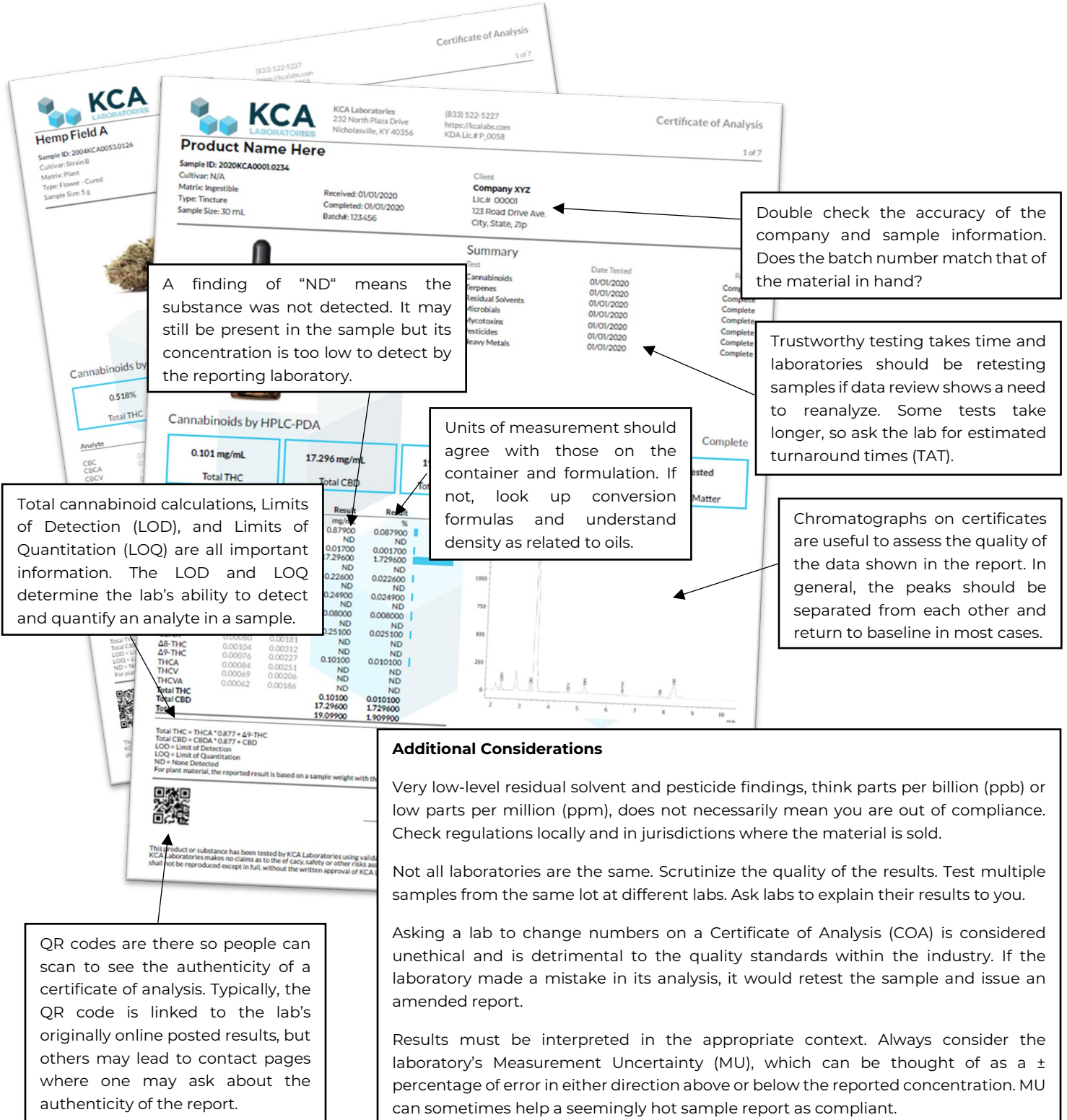


How to Understand and Review a Certificate of Analysis

The team at KCA Labs hopes this guide helps you understand a little more about Certificates of Analysis (COA, CofA) and laboratory testing. Quality testing should be used to understand your product better.



Callout 1: Double check the accuracy of the company and sample information. Does the batch number match that of the material in hand?

Callout 2: A finding of "ND" means the substance was not detected. It may still be present in the sample but its concentration is too low to detect by the reporting laboratory.

Callout 3: Units of measurement should agree with those on the container and formulation. If not, look up conversion formulas and understand density as related to oils.

Callout 4: Trustworthy testing takes time and laboratories should be retesting samples if data review shows a need to reanalyze. Some tests take longer, so ask the lab for estimated turnaround times (TAT).

Callout 5: Total cannabinoid calculations, Limits of Detection (LOD), and Limits of Quantitation (LOQ) are all important information. The LOD and LOQ determine the lab's ability to detect and quantify an analyte in a sample.

Callout 6: Chromatographs on certificates are useful to assess the quality of the data shown in the report. In general, the peaks should be separated from each other and return to baseline in most cases.

Callout 7: QR codes are there so people can scan to see the authenticity of a certificate of analysis. Typically, the QR code is linked to the lab's originally online posted results, but others may lead to contact pages where one may ask about the authenticity of the report.

Additional Considerations

Very low-level residual solvent and pesticide findings, think parts per billion (ppb) or low parts per million (ppm), does not necessarily mean you are out of compliance. Check regulations locally and in jurisdictions where the material is sold.

Not all laboratories are the same. Scrutinize the quality of the results. Test multiple samples from the same lot at different labs. Ask labs to explain their results to you.

Asking a lab to change numbers on a Certificate of Analysis (COA) is considered unethical and is detrimental to the quality standards within the industry. If the laboratory made a mistake in its analysis, it would retest the sample and issue an amended report.

Results must be interpreted in the appropriate context. Always consider the laboratory's Measurement Uncertainty (MU), which can be thought of as a \pm percentage of error in either direction above or below the reported concentration. MU can sometimes help a seemingly hot sample report as compliant.