



Hemp Industry Interlaboratory Program

Summary Report #3-Summer 2023

Introduction to the Hemp Program

Key for Web Summary Report

Analysis Analysis Name

Hemp: Cannabinoids

9601	Δ 9-Tetrahydrocannabinol (THC)
9602	Δ 9-Tetrahydrocannabinolic Acid (THCA)
9603	Cannabidiol (CBD)
9604	Cannabidiolic Acid (CBDA)
9605	Total Δ 9-Tetrahydrocannabinol (THC)
9606	Total Cannabidiol (CBD)
9607	Cannabichromene (CBC)
9612	Cannabichromenic (CBCA)

Hemp: Heavy Metals

9631	Arsenic (As)
9632	Cadmium (Cd)
9633	Lead (Pb)
9634	Mercury (Hg)

Hemp: Terpenes

9661	Myrcene or β -Myrcene
9662	Limonene
9663	α -Pinene
9664	Humulene
9665	β -Caryophyllene
9666	Caryophyllene Oxide
9667	α -Bisabolol

Hemp: Moisture Content

9691	Moisture Content
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About the Hemp Interlaboratory Program

This interlaboratory testing program is administered and operated by Collaborative Testing Services, Inc. (CTS). The purpose of the program was to evaluate laboratory performance and assess the performance of the industry. Participants can expect to receive results that are clear, concise, and easy to understand and act upon. This program allows laboratories to compare periodically the level and uniformity of their testing with that of other laboratories in the Hemp industry.

A two-sample set of ground hemp plant material of differing THC concentration were provided to the participants. Sample materials used in this program adhere to the legal requirement of having THC concentration of 0.3% or below. In each report, there is a summary of the statistics for the analysis and a graphical representation of the data for each test. Also shown are notes concerning specific laboratory results, as well as significant findings related to other testing variation. Please refer to the section *Key for Web Summary Report* for an explanation of terms and guidelines to interpreting the results.

About CTS

Founded in 1971, Collaborative Testing Services, Inc. (CTS) is a privately - owned company that specializes in interlaboratory tests for a variety of sectors: including ALP, rubber, plastics, fasteners and metals, containerboard, paper, wine and color, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality assurance objectives. Labs from the U.S., as well as more than 100 countries, currently participate in the CTS programs.

For further information concerning this report contact:

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Key for Web Summary Report (Page 1 of 2)

WebCode	Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Hemp Web Summary Report published on the CTS web site. The WebCode for each analysis can be found in the Performance Analysis Report mailed to each participant.
Lab Mean	The average of the test results obtained by the participant.
Grand Mean	The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.
Difference from Grand Mean	The difference of the LAB MEAN from the GRAND MEAN.
Between-Lab Standard Deviation	An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).
Comparative Performance Value	An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.
Data Flag	DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

<u>DATA FLAG</u>	<u>STATISTICALLY INCLUDED/EXCLUDED</u>	<u>ACTION REQUIRED</u>
*	INCLUDED	CAUTION - Review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	STOP - Immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See specific notes following each table for more information on why the data is excluded.
M	EXCLUDED	PROCEED - Lab was unable to report data for one sample. Or lab was unable to report numeric data for both samples.

Graph - For each laboratory, the LAB MEAN for the first sample (x-axis) is plotted against the LAB MEAN for the second sample (y-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the GRAND MEANS for each sample. When 20 or more laboratories are in the statistics, an ellipse is also drawn so that 95% of the time a randomly selected laboratory will be included inside the ellipse. Plotted data flags are explained above.

Common Problems Highlighted in Footnotes

1. **Extreme data** - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. The participant is advised to immediately review his data and/or testing procedure.
2. **Systematic bias** - The laboratory's results are either consistently high or low for both samples when compared to the other participants (the plotted point falls near the top or bottom of the ellipse). This indicates that the participant is performing the test with a constant bias. Causes of systematic errors include improper calibration, the particular make/model of equipment or a modification to the testing procedure.
3. **Inconsistency in testing between samples/sample sets** - The laboratory's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the CPVs for the two samples, such as a +1.5 CPV for sample A and a -2.2 CPV for sample B. CTS also will specify if the laboratory's data for one sample are high/low compared to the other participants. If this inconsistency is slight, the lab's plotted point will be an * that falls on the edge of the ellipse.
4. **Inconsistency in testing within a sample** - The laboratory's within-lab standard deviation for a specified sample is high when compared to the other participants, often causing the lab's plotted point to fall outside of the ellipse.

Labs flagged with an * are not typically included in the footnotes of a data table. These labs may locate their position in the control ellipse and use the definitions above to help identify the type of testing error. An * should serve as a caution flag, a "yellow light", to a lab. If this error is repeated in future rounds, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm. Interlaboratory tests conducted at regular intervals permit a lab to recognize trends in testing.



CTS Hemp Industry Interlaboratory Testing Program

**Report #3
Summer 2023**

Analysis 9601

Δ9-Tetrahydrocannabinol (THC)

Percent (%)

WebCode	Data Flag	Sample CB05			Sample CB06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2LZMHW		0.0847	-0.0095	-0.35	0.0696	-0.0071	-0.31
4P9PHX		0.0679	-0.0262	-0.97	0.0369	-0.0398	-1.76
7X2G4W		0.0879	-0.0063	-0.23	0.0799	0.0032	0.14
9CB46P		0.1010	0.0069	0.26	0.0845	0.0078	0.34
G6KL4K		0.0826	-0.0116	-0.43	0.0827	0.0059	0.26
GC3UTG		0.0950	0.0009	0.03	0.1000	0.0233	1.03
KN4PDG		0.1567	0.0625	2.32	0.0500	-0.0267	-1.18
VZYHE3		0.1050	0.0109	0.40	0.1100	0.0333	1.47
W98AG6		0.0665	-0.0276	-1.03	0.0770	0.0003	0.01

Grand Means		Summary Statistics	
0.0941	Percent (%)	0.0767	Percent (%)
Std Dev Btwn Labs		0.0227	Percent (%)
0.0269	Percent (%)	Statistics based on 9 of 9 reporting participants	

Hemp tested: CB05: The Grand

CB06: Cherrywine

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

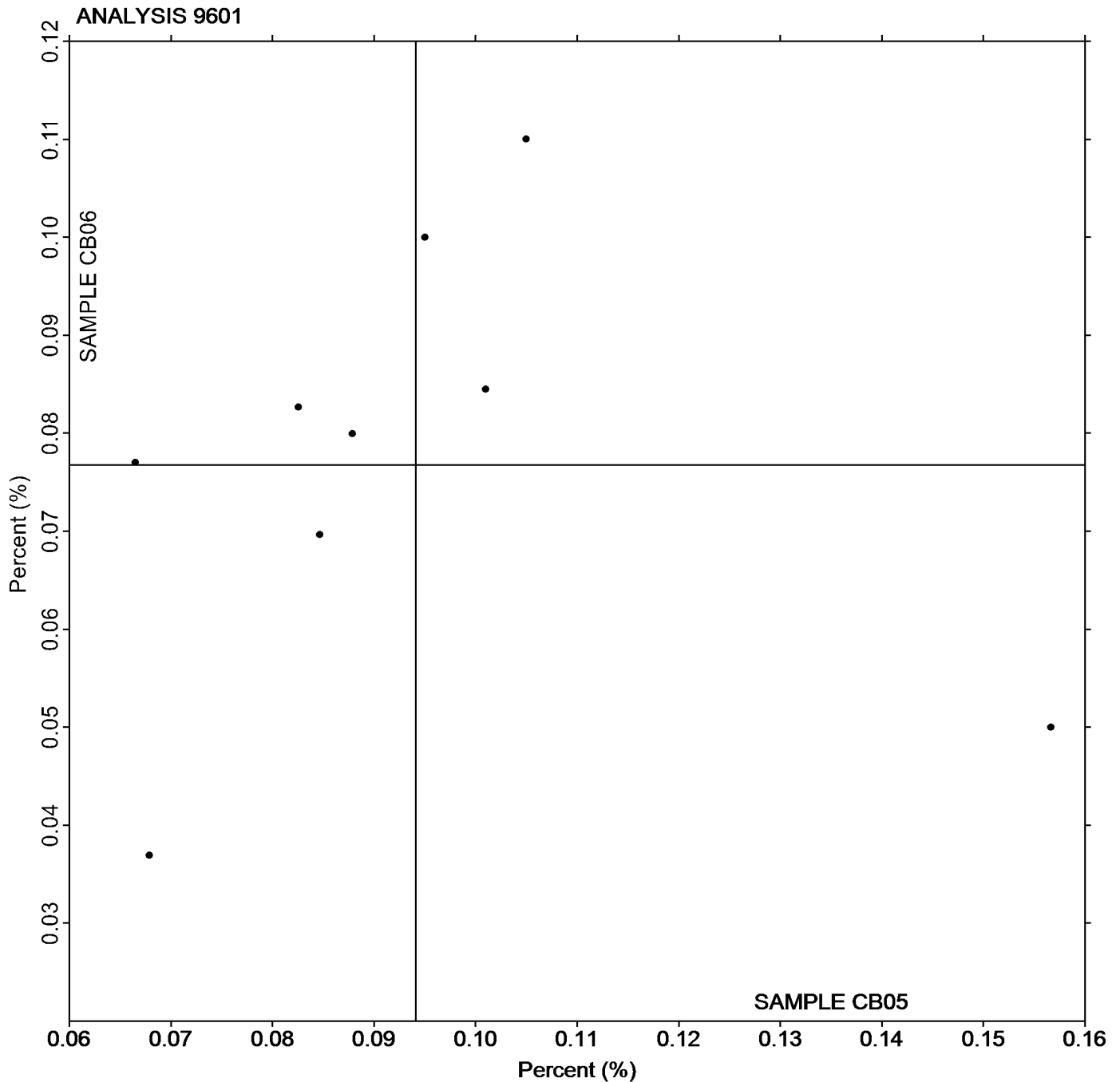


Analysis 9601

$\Delta 9$ -Tetrahydrocannabinol (THC)

Percent (%)

Grand Mean Sample CB05: 0.09 Percent (%) Grand Mean Sample CB06: 0.08 Percent (%)



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program

**Report #3
Summer 2023**

Analysis 9602

Δ9-Tetrahydrocannabinolic Acid (THCA)

Percent (%)

WebCode	Data Flag	Sample CB05			Sample CB06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2LZMHW		0.0691	-0.0146	-0.50	0.0125	-0.0331	-0.75
4P9PHX		0.0735	-0.0102	-0.35	0.0132	-0.0324	-0.73
7X2G4W		0.0967	0.0130	0.45	0.0838	0.0382	0.86
9CB46P		0.0960	0.0123	0.42	0.0480	0.0024	0.05
G6KL4K		0.0663	-0.0174	-0.60	0.0228	-0.0229	-0.52
KN4PDG		0.1367	0.0530	1.82	0.1267	0.0810	1.83
W98AG6		0.0475	-0.0362	-1.25	0.0125	-0.0331	-0.75

Summary Statistics			
Grand Means	0.0837	Percent (%)	0.0456
			Percent (%)
Std Dev Btwn Labs	0.0290	Percent (%)	0.0443
			Percent (%)
Statistics based on 7 of 7 reporting participants			

Hemp tested: CB05: The Grand

CB06: Cherrywine

Reporting Limit

No labs reported data indicating the Detection or Quantification limit



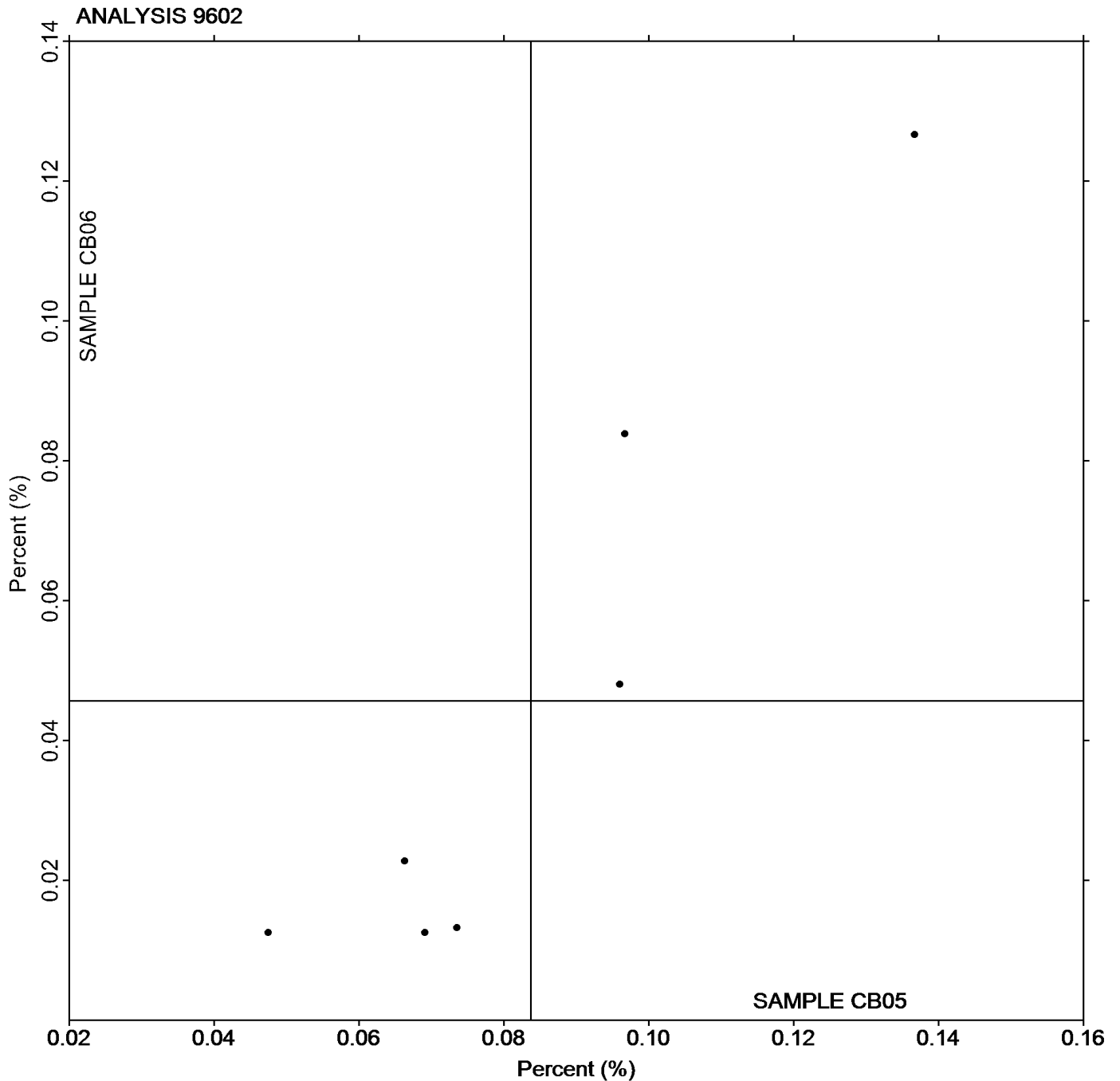
Analysis 9602

$\Delta 9$ -Tetrahydrocannabinolic Acid (THCA)

Percent (%)

Grand Mean Sample CB05: 0.08 Percent (%)

Grand Mean Sample CB06: 0.05 Percent (%)



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program
Analysis 9603
Cannabidiol (CBD)
mg/g

Report #3
Summer 2023

WebCode	Data Flag	Sample CB05			Sample CB06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2LZMHW		16.57	1.22	0.51	36.83	-0.19	-0.05
4P9PHX		12.10	-3.25	-1.38	33.30	-3.73	-0.92
7X2G4W		18.46	3.11	1.31	40.41	3.38	0.84
G6KL4K		15.03	-0.32	-0.13	41.77	4.74	1.17
KN4PDG		14.60	-0.75	-0.32	32.83	-4.19	-1.04

Grand Means		Summary Statistics	
	15.35 mg/g		37.03 mg/g
Std Dev Btwn Labs			4.04 mg/g
	2.36 mg/g		
Statistics based on 5 of 5 reporting participants			

Hemp tested: CB05: The Grand

CB06: Cherrywine

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

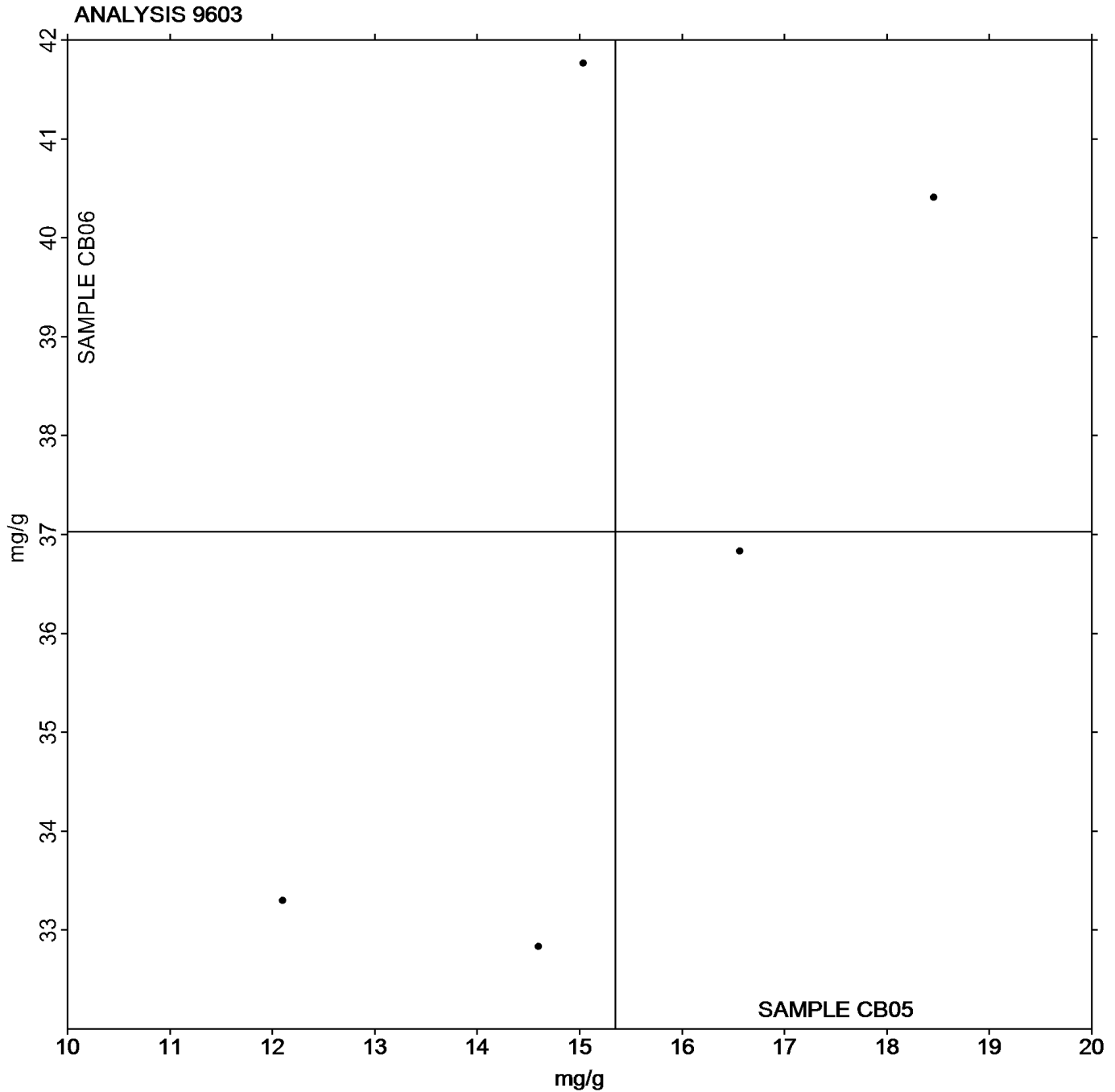


CTS Hemp Industry Interlaboratory Testing Program

**Report #3
Summer 2023**

**Analysis 9603
Cannabidiol (CBD)
mg/g**

Grand Mean Sample CB05: 15.35 mg/g Grand Mean Sample CB06: 37.03 mg/g



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program

Report #3
Summer 2023

Analysis 9604

Cannabidiolic Acid (CBDA)

mg/g

WebCode	Data Flag	Sample CB05			Sample CB06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2LZMHW		23.53	0.08	0.02	19.47	-1.43	-0.23
4P9PHX		20.20	-3.26	-0.71	18.90	-2.00	-0.32
7X2G4W		31.01	7.55	1.66	30.89	9.99	1.61
G6KL4K		19.53	-3.92	-0.86	21.30	0.40	0.06
KN4PDG		23.00	-0.46	-0.10	13.93	-6.96	-1.12

Grand Means		Summary Statistics	
	23.46 mg/g		20.90 mg/g
Std Dev Btwn Labs			6.21 mg/g
	4.56 mg/g	Statistics based on 5 of 5 reporting participants	

Hemp tested: CB05: The Grand

CB06: Cherrywine

Reporting Limit

No labs reported data indicating the Detection or Quantification limit



CTS Hemp Industry Interlaboratory Testing Program

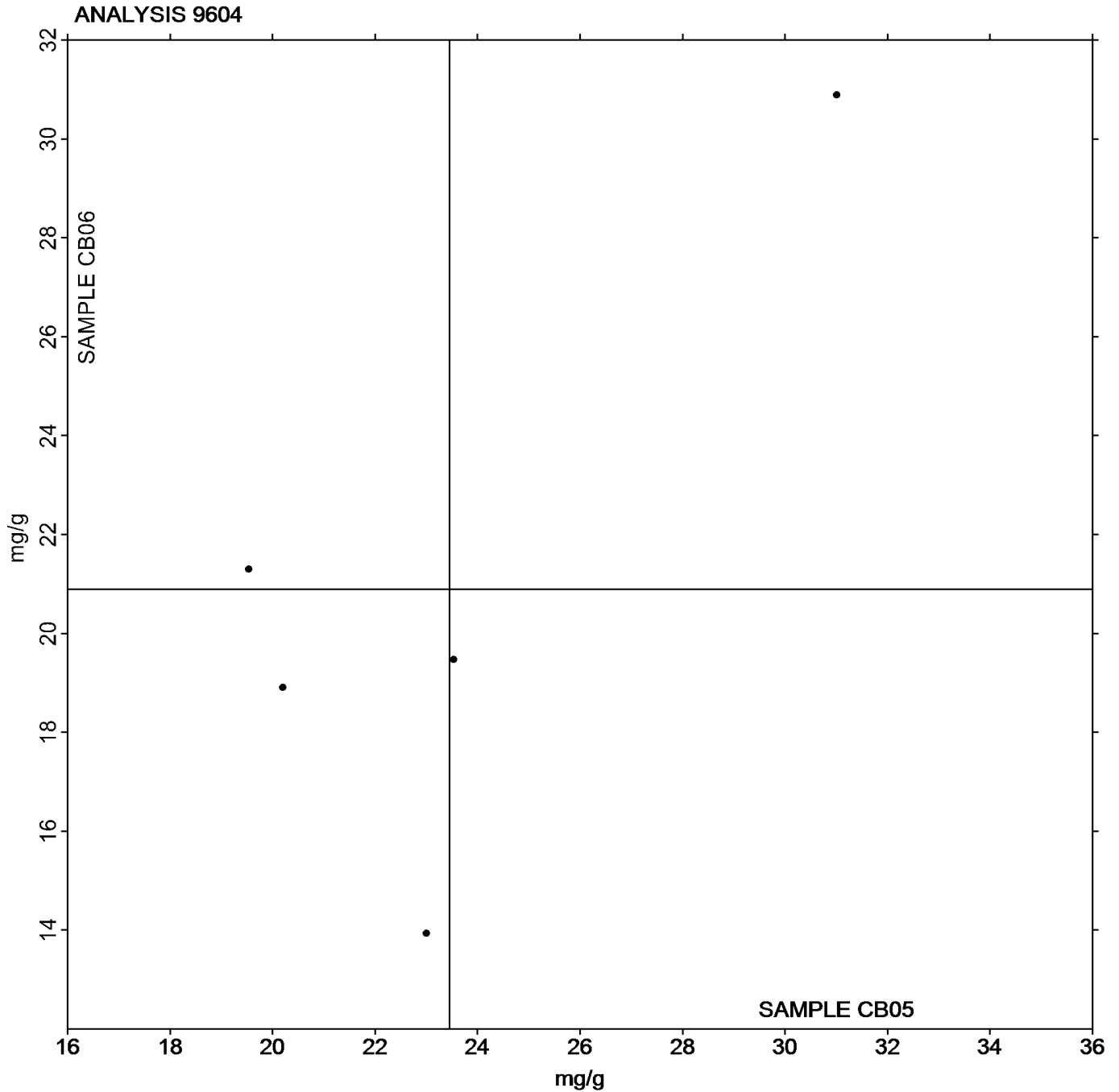
**Report #3
Summer 2023**

Analysis 9604

Cannabidiolic Acid (CBDA)

mg/g

Grand Mean Sample CB05: 23.46 mg/g Grand Mean Sample CB06: 20.90 mg/g



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program

**Report #3
Summer 2023**

Analysis 9605

**Total Δ9-Tetrahydrocannabinol (THC)
Percent (%)**

WebCode	Data Flag	Sample CB05			Sample CB06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2LZMHW		0.1453	-0.0113	-0.17	0.0806	-0.0272	-1.04
4P9PHX		0.0679	-0.0888	-1.32	0.0810	-0.0268	-1.03
7X2G4W		0.1846	0.0280	0.42	0.1079	0.0001	0.00
9CB46P		0.1850	0.0283	0.42	0.1265	0.0187	0.72
G6KL4K		0.1407	-0.0160	-0.24	0.1023	-0.0055	-0.21
KN4PDG		0.2933	0.1367	2.03	0.1567	0.0489	1.87
MJ3ZAE		0.1291	-0.0276	-0.41	0.1198	0.0120	0.46
W98AG6		0.1075	-0.0492	-0.73	0.0875	-0.0203	-0.78

Grand Means		Summary Statistics	
0.1567	Percent (%)	0.1078	Percent (%)
0.0673	Percent (%)	0.0261	Percent (%)
Statistics based on 8 of 8 reporting participants			

Hemp tested: CB05: The Grand CB06: Cherrywine

Reporting Limit

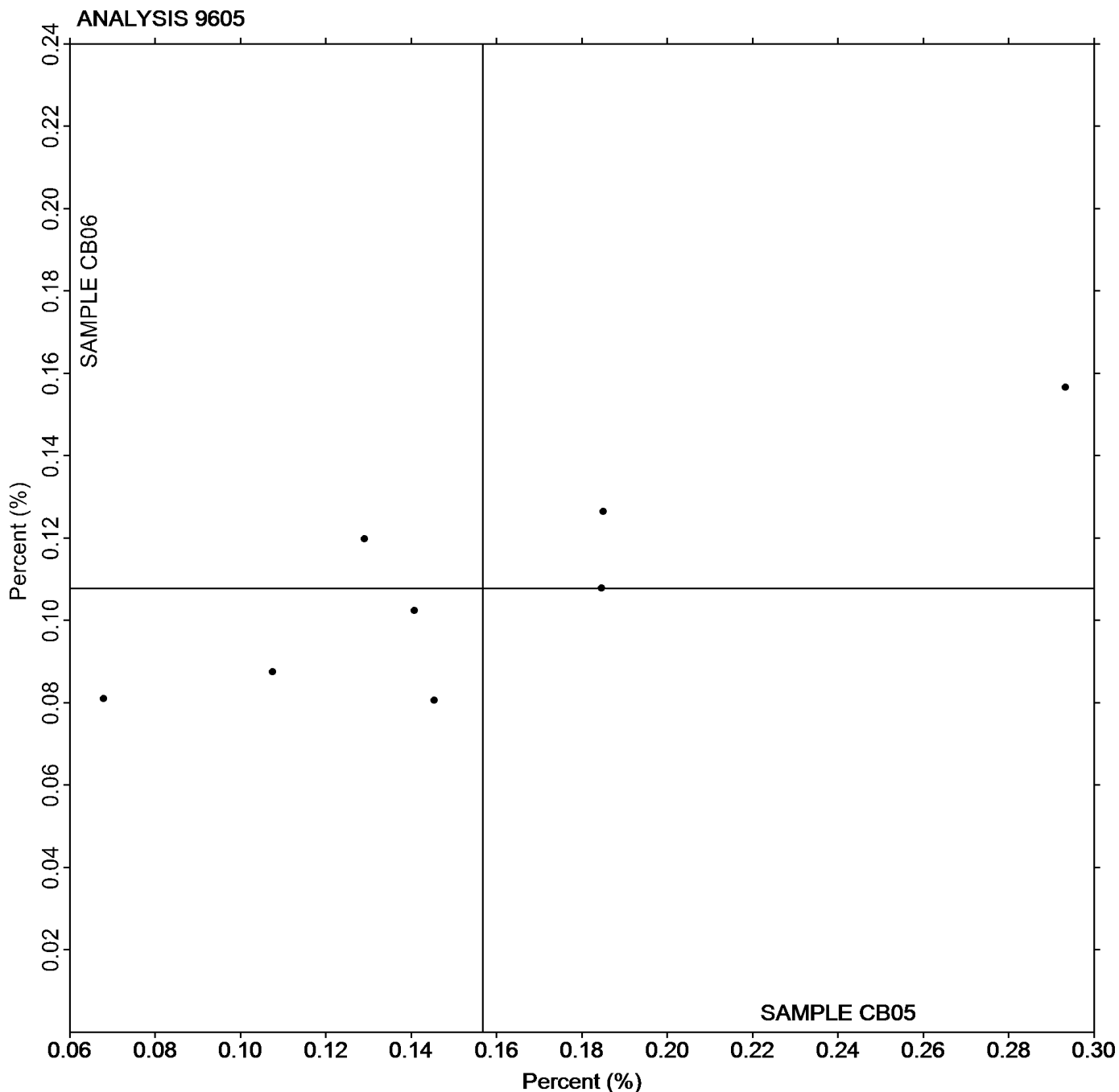
No labs reported data indicating the Detection or Quantification limit



Analysis 9605

Total Δ9-Tetrahydrocannabinol (THC)
Percent (%)

Grand Mean Sample CB05: 0.16 Percent (%) Grand Mean Sample CB06: 0.11 Percent (%)



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program

**Report #3
Summer 2023**

Analysis 9606

Total Cannabidiol (CBD)

mg/g

WebCode	Data Flag	Sample CB05			Sample CB06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2LZMHW		37.20	4.76	0.39	53.90	1.97	0.15
4P9PHX		12.10	-20.34	-1.68	33.30	-18.63	-1.42
7X2G4W		49.47	17.03	1.40	71.29	19.36	1.48
G6KL4K		32.13	-0.30	-0.02	60.43	8.50	0.65
KN4PDG		34.03	1.60	0.13	46.07	-5.87	-0.45
MJ3ZAE		29.68	-2.75	-0.23	46.60	-5.33	-0.41

Grand Means		Summary Statistics	
	32.44 mg/g		51.93 mg/g
Stnd Dev Btwn Labs			13.12 mg/g
	12.14 mg/g		
Statistics based on 6 of 6 reporting participants			

Hemp tested: CB05: The Grand

CB06: Cherrywine

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

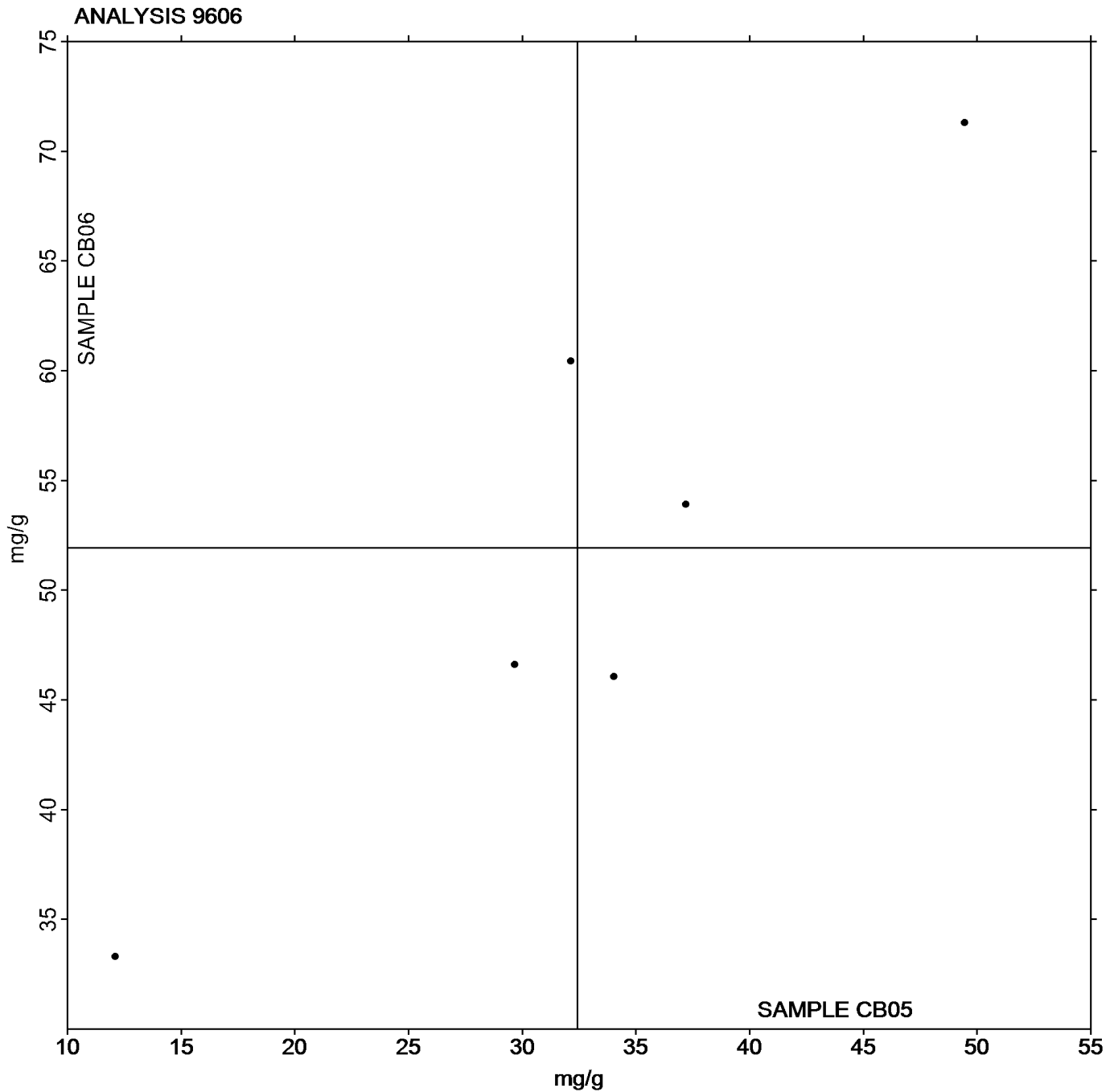


Analysis 9606

Total Cannabidiol (CBD)

mg/g

Grand Mean Sample CB05: 32.44 mg/g Grand Mean Sample CB06: 51.93 mg/g



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program
Analysis 9607
Cannabichromene (CBC)
Percent (%)

Report #3
Summer 2023

WebCode	Data Flag	Sample CB05			Sample CB06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2LZMHW		0.0694	-0.0028	-0.26	0.1793	-0.0110	-0.42
4P9PHX		0.0585	-0.0137	-1.26	0.1780	-0.0123	-0.47
7X2G4W		0.0861	0.0139	1.27	0.2233	0.0329	1.27
G6KL4K		0.0670	-0.0052	-0.48	0.2110	0.0207	0.80
KN4PDG		0.0800	0.0078	0.72	0.1600	-0.0303	-1.17

		Summary Statistics	
Grand Means	0.0722 Percent (%)	0.1903	Percent (%)
Std Dev Btwn Labs	0.0109 Percent (%)	0.0260	Percent (%)
Statistics based on 5 of 5 reporting participants			

Hemp tested: CB05: The Grand

CB06: Cherrywine

Reporting Limit

No labs reported data indicating the Detection or Quantification limit



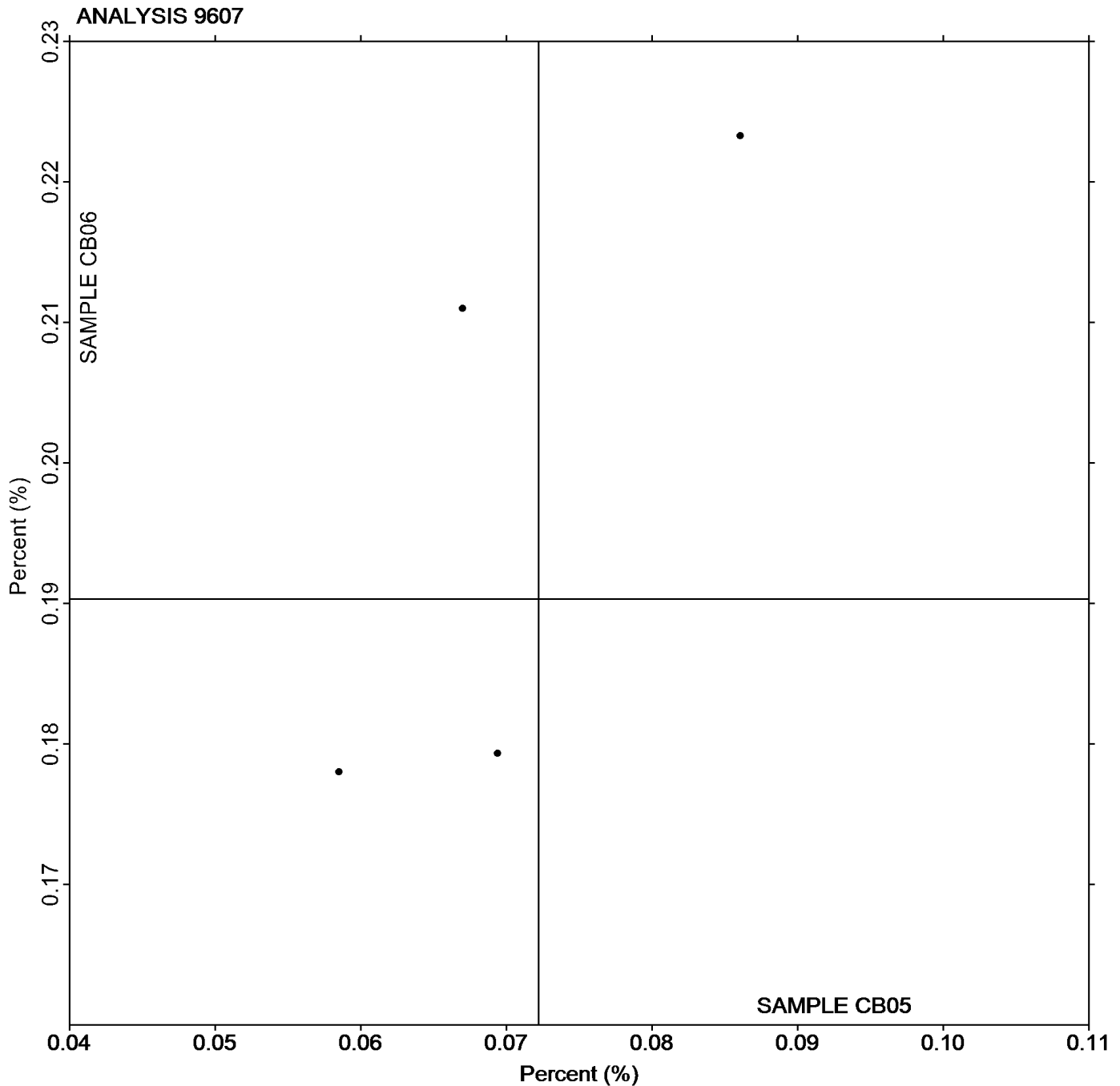
Analysis 9607

Cannabichromene (CBC)

Percent (%)

Grand Mean Sample CB05: 0.07 Percent (%)

Grand Mean Sample CB06: 0.19 Percent (%)



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program
Analysis 9612
Cannabichromenic (CBCA)
Percent (%)

Report #3
Summer 2023

WebCode	Data Flag	Sample CB05			Sample CB06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
2LZMHW		0.0892			0.0762		
4P9PHX		0.0908			0.0820		

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program
Analysis 9631
Arsenic (As)
ug/g

Report #3
Summer 2023

WebCode	Data Flag	Sample HM05			Sample HM06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7QHDWU	M	0.0757			Numeric data not provided, see Reporting Limit section		
7X2G4W		0.1419			0.0844		
G6KL4K		0.0629			0.0506		
QZBNNB	M	Numeric data not provided, see Reporting Limit section			Numeric data not provided, see Reporting Limit section		

Reporting Limit

7QHDWU	We don't report below LOQ
QZBNNB	<0.0200

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.

Comments on Assigned Data Flags for Test #9631

- QZBNNB (M) - Participant did not submit numeric data for both samples.
- 7QHDWU (M) - Participant did not submit data for sample HM06.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program
Analysis 9632
Cadmium (Cd)
ug/g

Report #3
Summer 2023

WebCode	Data Flag	Sample HM05			Sample HM06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7QHDWU		0.0650	-0.0266	-0.74	0.0663	-0.0084	-0.69
7X2G4W		0.1327	0.0411	1.14	0.0887	0.0140	1.15
G6KL4K		0.0770	-0.0146	-0.40	0.0691	-0.0056	-0.46
QZBNNB	M	Numeric data not provided, see Reporting Limit section			Numeric data not provided, see Reporting Limit section		

Grand Means		Summary Statistics	
	0.0916 ug/g		0.0747 ug/g
Std Dev Btwn Labs			0.0122 ug/g
	0.0361 ug/g		
Statistics based on 3 of 3 reporting participants			

Hemp tested: HM05: The Grand

HM06: Cherrywine

Reporting Limit

7QHDWU	We don't report below LOQ
QZBNNB	<0.003

Comments on Assigned Data Flags for Test #9632

QZBNNB (M) - Participant did not submit numeric data for both samples.



CTS Hemp Industry Interlaboratory Testing Program

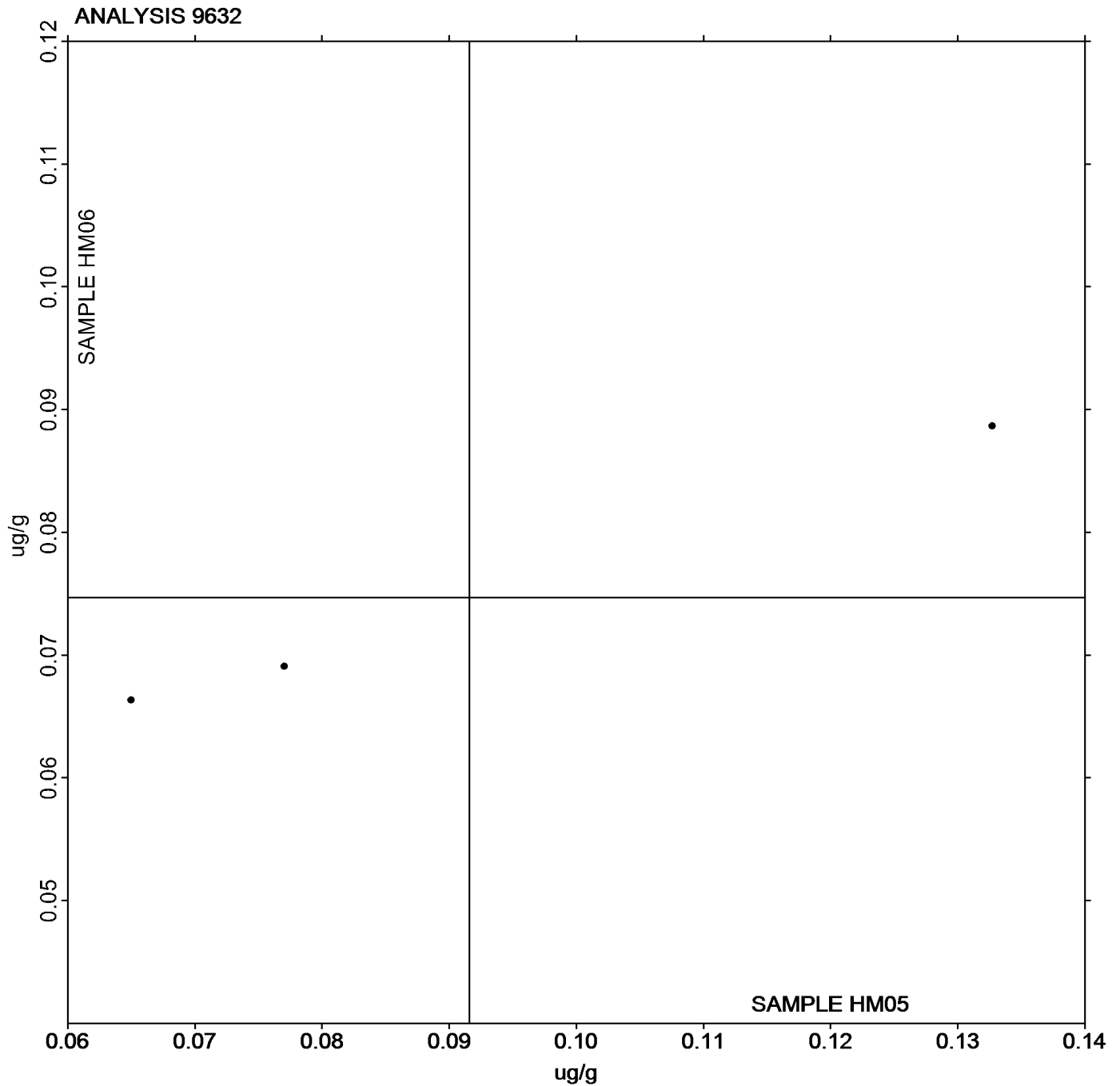
**Report #3
Summer 2023**

Analysis 9632

Cadmium (Cd)

ug/g

Grand Mean Sample HM05: 0.09 ug/g Grand Mean Sample HM06: 0.07 ug/g



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program

Report #3
Summer 2023

Analysis 9633

Lead (Pb)

ug/g

WebCode	Data Flag	Sample HM05			Sample HM06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7QHDWU		1.479	-0.138	-0.35	0.2860	0.0212	0.80
7X2G4W		2.059	0.442	1.13	0.2733	0.0085	0.32
G6KL4K		1.313	-0.304	-0.78	0.2350	-0.0298	-1.12
QZBNNB	M	Numeric data not provided, see Reporting Limit section			Numeric data not provided, see Reporting Limit section		

Grand Means		Summary Statistics	
	1.617 ug/g		0.2648 ug/g
Std Dev Btwn Labs			0.0265 ug/g
	0.391 ug/g		
Statistics based on 3 of 3 reporting participants			

Hemp tested: HM05: The Grand

HM06: Cherrywine

Reporting Limit

7QHDWU	We don't report below LOQ
QZBNNB	<0.0300

Comments on Assigned Data Flags for Test #9633

QZBNNB (M) - Participant did not submit numeric data for both samples.

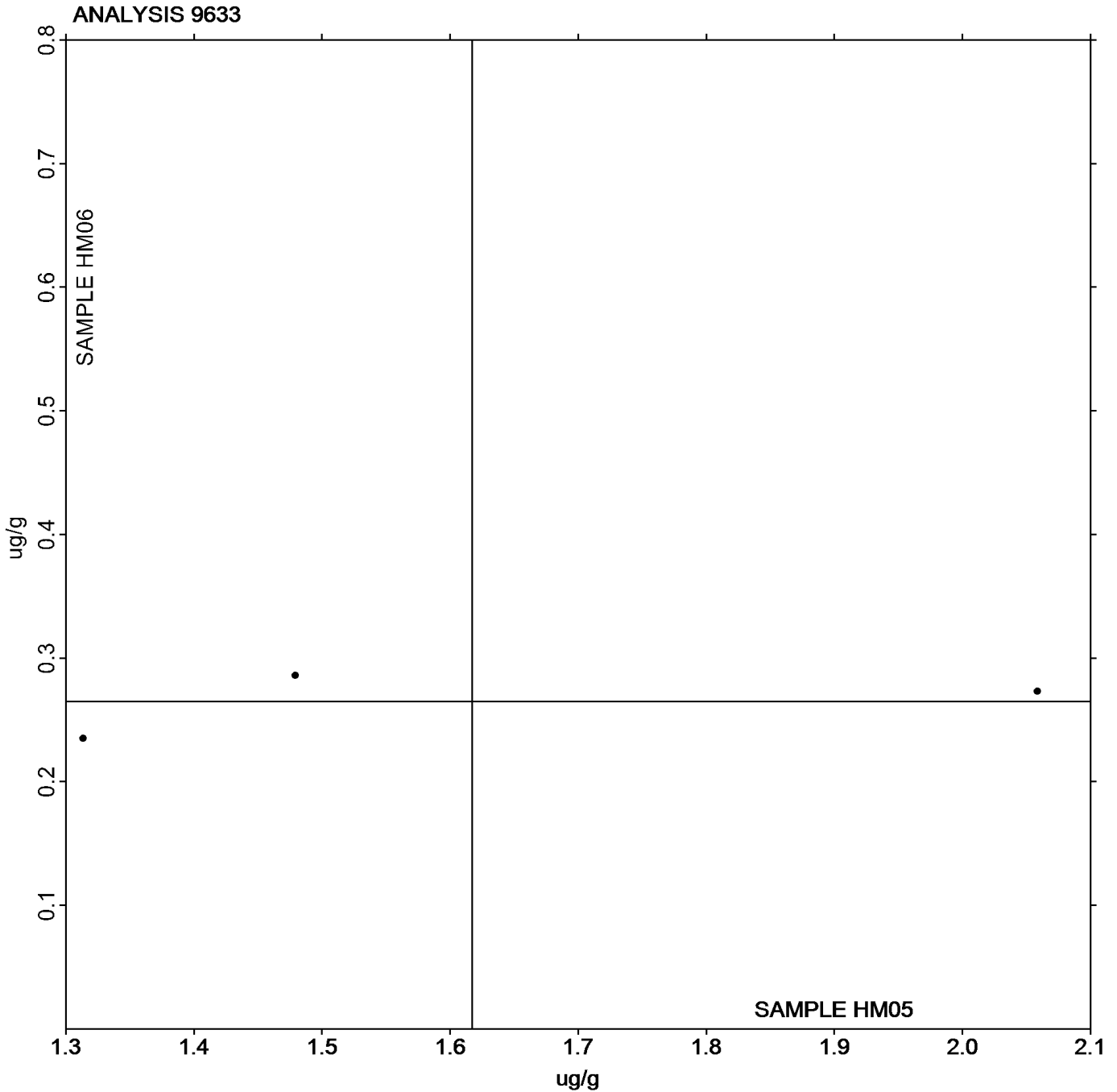


Analysis 9633

Lead (Pb)

ug/g

Grand Mean Sample HM05: 1.62 ug/g Grand Mean Sample HM06: 0.26 ug/g



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program
Analysis 9634
Mercury (Hg)
ug/g

Report #3
Summer 2023

WebCode	Data Flag	Sample HM05			Sample HM06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7QHDWU	M	Numeric data not provided, see Reporting Limit section			Numeric data not provided, see Reporting Limit section		
7X2G4W		0.0109			0.0119		
G6KL4K		0.0062			0.0078		

Reporting Limit

7QHDWU We don't report below LOQ

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.

Comments on Assigned Data Flags for Test #9634

7QHDWU (M) - Participant did not submit numeric data for both samples.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program

Report #3
Summer 2023

Analysis 9661

Myrcene or β -Myrcene

mg/g

WebCode	Data Flag	Sample TP05			Sample TP06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4P9PHX	M	0.1700			Numeric data not provided, see Reporting Limit section		
G6KL4K	M	0.3070			Numeric data not provided, see Reporting Limit section		

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.

Comments on Assigned Data Flags for Test #9661

4P9PHX (M) - Participant did not submit data for sample TP06.

G6KL4K (M) - Participant did not submit data for sample TP06.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program

Report #3
Summer 2023

Analysis 9662

Limonene mg/g

WebCode	Data Flag	Sample TP05			Sample TP06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4P9PHX	M	0.0510			Numeric data not provided, see Reporting Limit section		
G6KL4K	M	0.0898			Numeric data not provided, see Reporting Limit section		

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.

Comments on Assigned Data Flags for Test #9662

4P9PHX (M) - Participant did not submit data for sample TP06.

G6KL4K (M) - Participant did not submit data for sample TP06.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program

Report #3
Summer 2023

Analysis 9663

α -Pinene
mg/g

WebCode	Data Flag	Sample TP05			Sample TP06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4P9PHX	M	0.1200			Numeric data not provided, see Reporting Limit section		
7X2G4W	M	0.7656			Numeric data not provided, see Reporting Limit section		
G6KL4K	M	0.1280			Numeric data not provided, see Reporting Limit section		

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.

Comments on Assigned Data Flags for Test #9663

- 4P9PHX (M) - Participant did not submit data for sample TP06.
- G6KL4K (M) - Participant did not submit data for sample TP06.
- 7X2G4W (M) - Participant did not submit data for sample TP06.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program

Report #3
Summer 2023

Analysis 9664

Humulene

mg/g

WebCode	Data Flag	Sample TP05			Sample TP06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4P9PHX		0.2600			0.2600		
G6KL4K		0.3367			0.3073		

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program

Report #3
Summer 2023

Analysis 9665 β-Caryophyllene mg/g

WebCode	Data Flag	Sample TP05			Sample TP06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4P9PHX		0.4400	-0.0448	-1.14	0.3700	-0.1342	-0.64
7X2G4W		0.5131	0.0283	0.72	0.7460	0.2418	1.15
G6KL4K		0.5013	0.0165	0.42	0.3967	-0.1076	-0.51

Grand Means		Summary Statistics	
	0.4848 mg/g		0.5042 mg/g
Stnd Dev Btwn Labs			0.2098 mg/g
	0.0392 mg/g		
Statistics based on 3 of 3 reporting participants			

Hemp tested: TP05: The Grand

TP06: Cherrywine

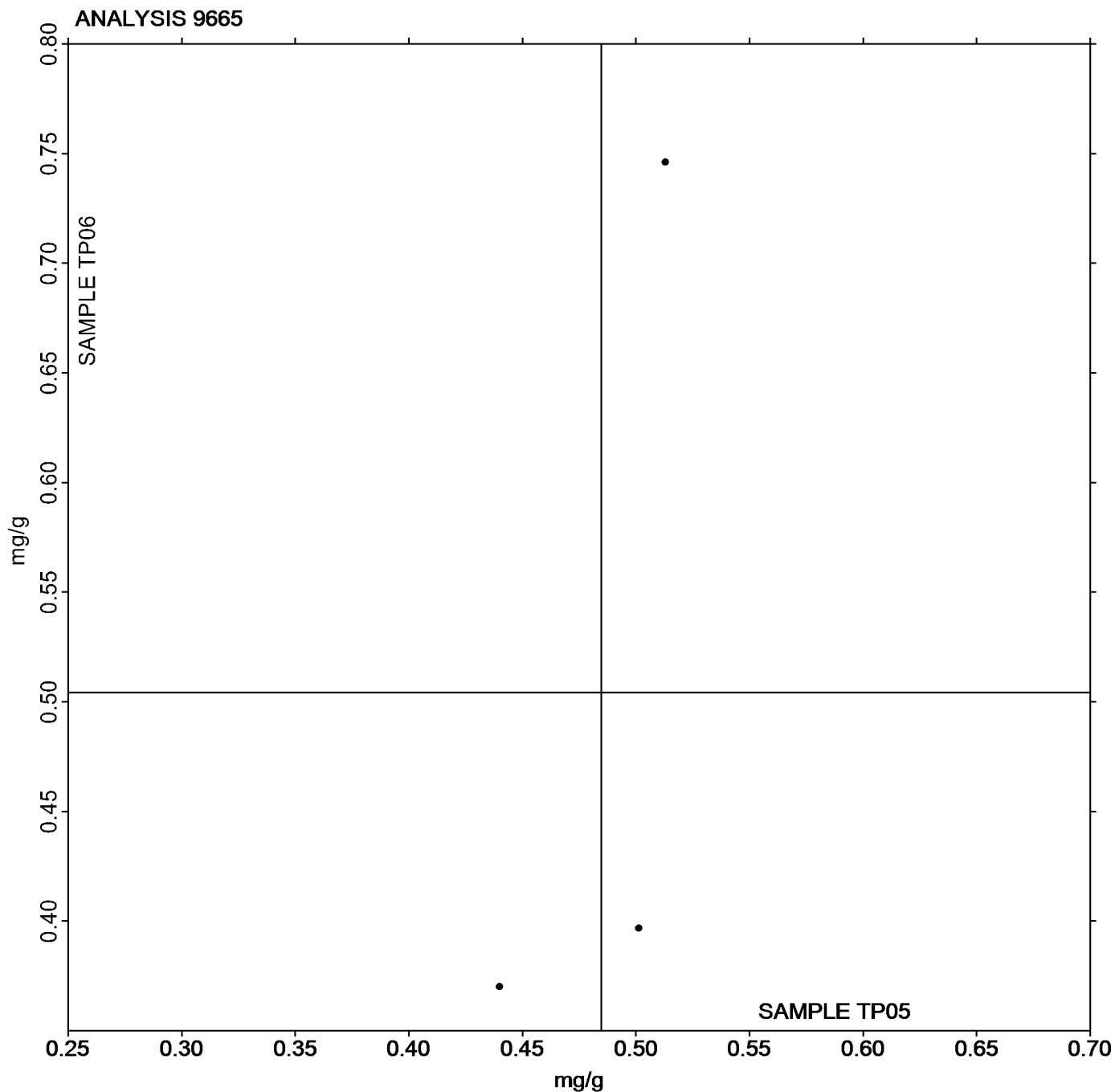
Reporting Limit

No labs reported data indicating the Detection or Quantification limit



Analysis 9665
 β -Caryophyllene
mg/g

Grand Mean Sample TP05: 0.48 mg/g Grand Mean Sample TP06: 0.50 mg/g



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.



CTS Hemp Industry Interlaboratory Testing Program

Report #3
Summer 2023

Analysis 9666

Caryophyllene Oxide

mg/g

WebCode	Data Flag	Sample TP05			Sample TP06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4P9PHX		0.0990			0.2900		
G6KL4K	M	Numeric data not provided, see Reporting Limit section			0.4730		

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.

Comments on Assigned Data Flags for Test #9666

G6KL4K (M) - Participant did not submit data for sample TP05.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program
Analysis 9667
α-Bisabolol
mg/g

Report #3
Summer 2023

WebCode	Data Flag	Sample TP05			Sample TP06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
4P9PHX		0.2100			1.0000		
7X2G4W	M	Numeric data not provided, see Reporting Limit section			1.4249		
G6KL4K		0.5307			0.6510		

Reporting Limit

No labs reported data indicating the Detection or Quantification limit

Please note: Statistical Analysis has not been provided due to the low population of participants reporting numeric data.

Comments on Assigned Data Flags for Test #9667

7X2G4W (M) - Participant did not submit data for sample TP05.



No graph is available due to the low population of participants reporting numeric data.



CTS Hemp Industry Interlaboratory Testing Program
Analysis 9691
Moisture Content
Percent (%)

Report #3
Summer 2023

WebCode	Data Flag	Sample MC05			Sample MC06		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
7QHDWU		8.070	2.013	0.90	7.550	1.941	0.87
7X2G4W		6.433	0.377	0.17	6.110	0.501	0.22
G6KL4K		3.667	-2.390	-1.07	3.167	-2.442	-1.09

Grand Means		Summary Statistics	
6.057	Percent (%)	5.609	Percent (%)
Std Dev Btwn Labs		2.234	Percent (%)
2.226	Percent (%)	Statistics based on 3 of 3 reporting participants	

Hemp tested: MC05: The Grand

MC06: Cherrywine

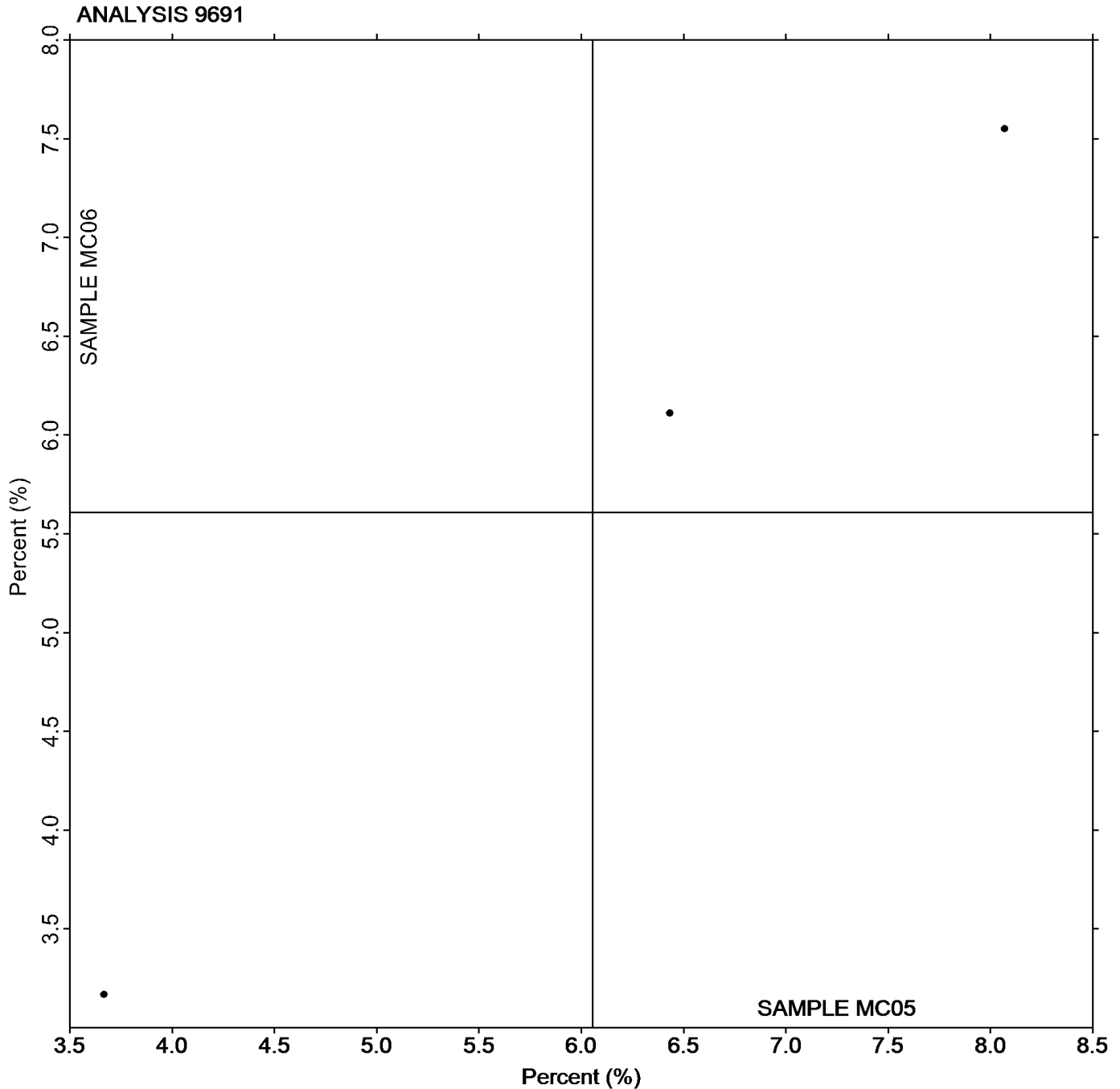
Reporting Limit

No labs reported data indicating the Detection or Quantification limit



Analysis 9691
Moisture Content
Percent (%)

Grand Mean Sample MC05: 6.06 Percent (%) Grand Mean Sample MC06: 5.61 Percent (%)



If fewer than 20 laboratories are included in an analysis, a control ellipse will not be drawn on the two-sample plot.

-End of Report-