

Houston Forensic Science Center

INTEROFFICE MEMO

To: Erika Ziemak, Quality Director

From: Callan Hundl, Quality Specialist
Maddisen Neuman, Quality/Research Associate

Date: April 30, 2021

Re: 2021 Quarter I Blind QC Report

Callan
Hundl

Digitally signed by
Callan Hundl
Date: 2021.04.30
09:03:45 -05'00'

Maddisen
Neuman

Digitally signed by
Maddisen Neuman
Date: 2021.04.30
12:04:18 -05'00'

The Houston Forensic Science Center facilitates a blind quality control (QC) program to ensure continuous quality improvement, test the company's entire quality management system, strengthen the proficiency testing program, add confidence to staff testimony, and evaluate the competence and performance of staff. All of this in return confirms to HFSC's stakeholders that we provide them with accurate and reliable results in normal casework.

In March, a Toxicology blind was reported with unexpected results. The reported alcohol concentration was lower than historically reported in the sample lot. Further testing was consistent with the initial analysis, indicating that the sample was not homogeneous with the rest of the sample lot. A similar instance occurred and was reported in Quarter III of 2020. The expected concentrations for these two samples was the same however they were different sample lots and prepared separately by the manufacturer, therefore reanalysis was conducted. There are no concerns with the Toxicology section's analysis. A memo was drafted to explain the investigation into this issue, and it is attached to this report.

HFSC continues to face challenges regarding workflow changes and staffing mitigations in response to the COVID-19 pandemic. Some sections have been impacted more than others, which may be reflected by the column of completed cases in the table below.

The table below shows the number of blind QC cases that have been created by the Houston Forensic Science Center's Quality Division, dropped into the system like normal casework, and completed by the analysts as blind tests between January 1 and March 31, 2021. During the first quarter of 2021, all but 1 Biology, 1 Firearms, and 1 Forensic Multimedia cases were completed without analysts knowing they were working a blind case.

Section	Dropped	Completed	Satisfactory	No. Completed Blind
Toxicology	48	68	68	68
Seized Drugs	30	15	15	15
Biology (screening/DNA)	12	12/5	12/5	11/5

Firearms	3	3	3	2
Firearms Blind Verification	2	3	3	n/a
Latent Print Processing	3	3	3	3
Latent Print Comparison	18	5	5	5
Latent Print Comparison Blind Verification	2	4	4	n/a
Digital Forensics	3	2	2	2
Forensic Multimedia	3	3	2*	2

*One forensic multimedia blind has not been reviewed for satisfactory results due to other pending requests in the case. Multimedia cases require the evidence to be recalled from the property room in order to be reviewed.

The tables below depict the names or initials of staff members who have participated in blind QCs in this quarter and may include the reagents and software used in the case.

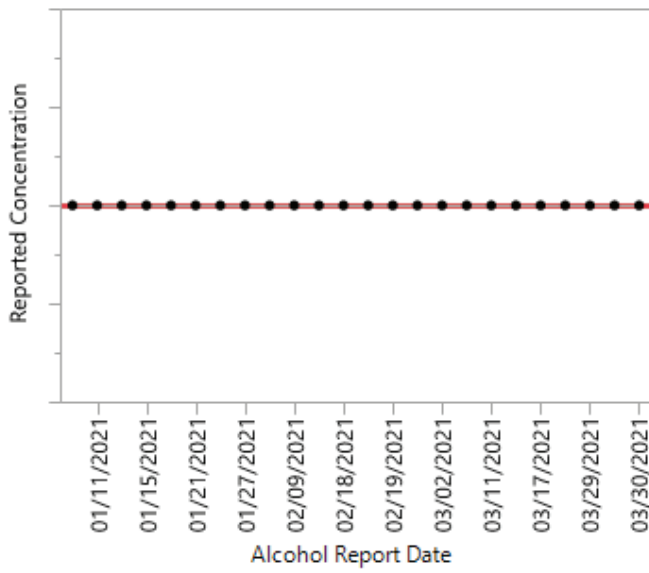
Toxicology

Alcohol Batches with Blind QCs	Headspace Used	Hamilton Pipette Used
ALC_20201203_AAJ	3	1742
ALC_20201119_DM	3	1742
ALC_20201203_JP	2	1742
ALC_20201201_EP	3	1742
ALC_20201207_EP	3	1742
ALC_20201204_DM	2	1742
ALC_20201210_JP	3	1742
ALC_20201208_EP	3	1742
ALC_20201214_EP	2	1742
ALC_20201211_CLR	2	1742
ALC_20201215_EP	2	1742
ALC_20201214_VC	3	1742
ALC_20201217_AAJ	3	1742
ALC_20201218_AAJ	2	1742
ALC_20210107_CLR	2	1742
ALC_20210104_EP	3	1742
ALC_20210105_EP	3	1742
ALC_20210114_JP	3	1742
ALC_20210112_EP	3	1742
ALC_20210111_VC	2	1742
ALC_20210121_MR	2	1742

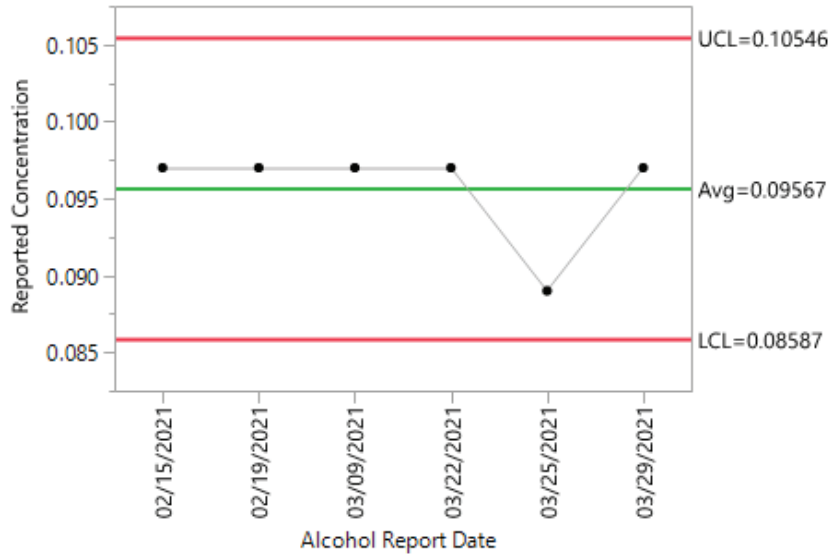
ALC_20210114_AAJ	2	1742
ALC_20210113_HM	3	1742
ALC_20210128_DM	3	7903
ALC_20210120_JP	2	1742
ALC_20210125_VC	2	1742
ALC_20210201_EP	2	7903
ALC_20210126_HM	2	7903
ALC_20210128_MR	2	1742
ALC_20210201_HM	3	7903
ALC_20210204_JP	3	1742
ALC_20210203_JP	2	7903
ALC_20210204_MR	3	7903
ALC_20210204_DM	2	1742
ALC_20210209_EP	3	1742
ALC_20210208_EP	3	7903
ALC_20210209_EC	2	1742
ALC_20210210_HM	3	1742
ALC_20210211_MR	2	7903
ALC_20210224_HM	3	7903
ALC_20210224_EC	2	1742
ALC_20210225_JP	2	1742
ALC_20210226_CLR	3	7903
ALC_20210302_HM	2	1742
ALC_20210303_MR	2	7903
ALC_20210304_JP	2	7903
ALC_20210304_MR	3	1742
ALC_20210309_EP	3	1742
ALC_20210309_HM	2	7903
ALC_20210310_HM	3	7903
ALC_20210311_AAJ	2	1742

Note: Some alcohol analysis batches may have contained more than one blind QC sample.

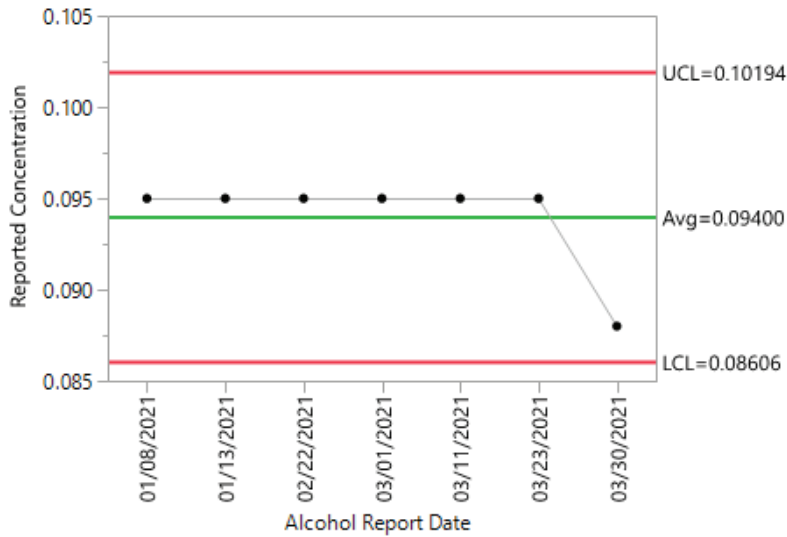
Control Chart Target Concentration from Vendor = 0.0000
Leavey Jennings of Reported Concentration



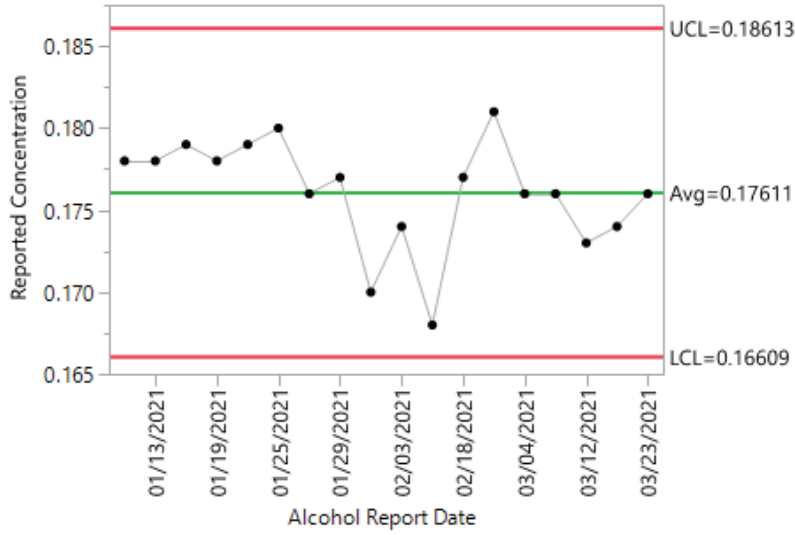
Control Chart Target Concentration from Vendor = A = 0.10%
Leavey Jennings of Reported Concentration



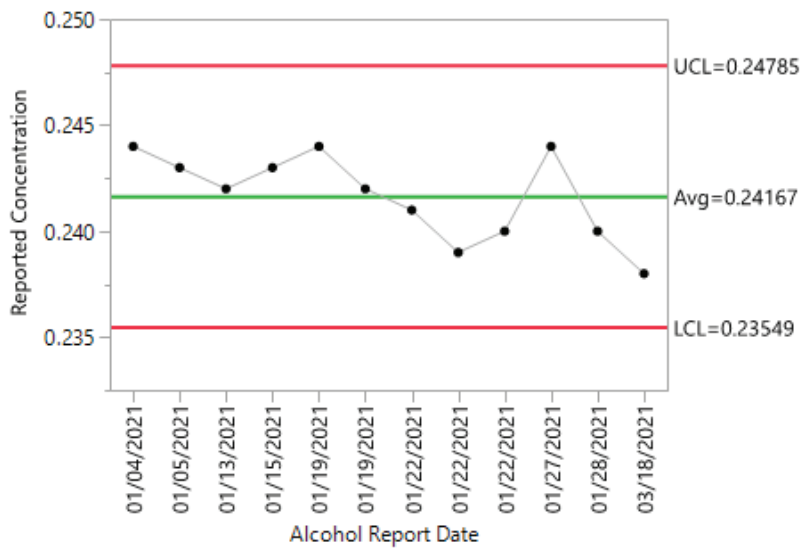
Control Chart Target Concentration from Vendor = B = 0.10%
 Levey Jennings of Reported Concentration



Control Chart Target Concentration from Vendor = C = 0.18%
 Levey Jennings of Reported Concentration



Control Chart Target Concentration from Vendor = D = 0.24%
Leavey Jennings of Reported Concentration



ELISA Batches with Blind QCs
 EIA_20200902B_AAJ

EIA_20200618B_AAJ
EIA_20200715B_CLR
EIA_20200806B_AAJ
EIA_20200819B_DM
EIA_20201026B_VC
EIA_20201105B_AAJ

There were no toxicology blind QCs confirmed in-house for drugs during this quarter.

Seized Drugs

Analyst	Number of Blinds Completed
Alaina Anderson	2
Angelica Noyola	3
Cloessa Guidry	2
David Huang	2
Mariam Kane	2
Michael Salazar	2
Patrick Tynan	2

Biology – Screening

Analyst	Number of Blinds Completed
Amber Smith	2
Caitlyn Fisher	2
Fatima Torres Perez	3
Hanna Wines	3
Kelly Freeman	2

Biology - Technician

Analyst	Number of Blinds Completed
Aja Moss	2
Belinda Salinas	1
Daniela Anane-Bediakoh	3
Marcel Weigert	1
Melissa Abreu	1
Tania Guerra	2

Note: More than one technician is associated with each blind QC completed during this quarter. Some blind QCs were outsourced during this time.

Biology – DNA Analyst

Analyst	Number of Blinds Completed
Mary Georges	4
S. Adam Vinson	1

Note: DNA cases would have previously been reported as completed for screening. Also, if an HFSC staff member’s DNA is used to create a blind sample, the DNA analyst is expected to discover during report

writing that the DNA belongs to staff which ensures the profile is not uploaded into CODIS and proper usage of the elimination database. In these instances, the Quality Division considers the cases complete when the DNA analysts report that the sample(s) matches an elimination database sample and is confirmed to be a blind. These cases are deemed as completed blind because all work up until that point was completed without the screener, technician, and analyst knowing that it was a blind case.

Firearms

Primary Examiner	Second Examiner	Comparison	Microscopes	Caliper	Primary Examiner Result	Second Examiner Result
Chandler Bassett	Jill Dupre	1	2, 3	n/a	ID	ID
		2	2, 3	n/a	ID	ID
		3	2, 3	n/a	ID	ID
		4	2, 3	n/a	ID	ID
		5	2, 3	n/a	ID	ID
		6	2, 3	n/a	ID	ID
		7	2, 3	n/a	ID	ID
		8	2, 3	n/a	ID	ID
		9	2, 3	n/a	ID	ID
		10	2, 3	n/a	ID	ID
		11	2, 3	n/a	ID	ID
Ryan Hookano	Kim Downs	1	6, 1	n/a	Inc	Inc
		2	6, 1	n/a	ID	ID
		3	6, 1	n/a	ID	ID
		4	6, 1	n/a	Elim	Elim
		5	6, 1	n/a	Elim	Elim
		6	6, 1	n/a	Un	Un
		7	6, 1	n/a	Un	Un
		8	6, 1	n/a	Un	Un
Ryan Hookano	Kaitlyn Bongiorno	1	6, 8		ID	ID
		2	6, 8		ID	ID
		3	6, 8		ID	ID
		4	6, 8		ID	ID
		5	6, 8		Insuf	Insuf
		6	6, 8		Insuf	Insuf
		7	6, 8		ID	ID
		8	6, 8		ID	ID
		9	6, 8		ID	ID

Conclusion abbreviations: ID = Identification, Elim = Elimination, Inc = Inconclusive, Un = Unsuitable, Insuf = Insufficient

Firearms Blind Verification

Primary Examiner	Second Examiner	Forensic Case Number	Agency Case Number
Chandler Bassett	Jill Dupre	2020-16810	161457520
Kim Downs	Kasi Kirksey	2020-13947	135476820
Melissa Nally	Lucy Tea	2020-12356	120820620

Note: For Firearms blind verifications, the second examiner is aware they are conducting the verification; however, the primary examiner's conclusions are masked. Therefore, the second examiner is making his/her own conclusions separately and independently from the primary examiner's conclusions. All blind verifications were conducted on actual casework, blind QCs, or proficiency tests.

Latent Print Processing

Analyst	Sequential Processes
Adam White	Vis-ALS/Laser/White, Cyanoacrylate, IND, Ninhydrin, R6G, R6G; Vis-ALS/Laser/White, Cyanoacrylate, IND, Ninhydrin, R6G, R6G
Laurissa Pilkington	Vis-ALS/Laser/White, Cyanoacrylate, R6G
Tina Perine	Vis-ALS/Laser/White, Cyanoacrylate, IND, Ninhydrin, R6G, R6G

Latent Print Comparison

Examiner	Verifier	Number of Blinds Completed
Julian Harley	Shanaihi Patel	1
Julian Harley	Stacie Gardner	1
Laurissa Pilkington	Cassandra Barnes	1
Laurissa Pilkington	Rebecca Green	1
Leah Carmichael	Brenda Georgi	1

Latent Print Comparison Blind Verification

Primary Examiner	Verifier	Forensic Case Number	Agency Case Number
David Hyde	Cassandra Barnes	2020-08824	083892420
Jeniffer Molina	Maranda Harper	2016-13805	090274816
Julian Harley	Rebecca Green	2020-10878	094832920
Shanaihi Patel	Leah Carmichael	2020-10683	049624120

Note: For Latent Prints blind verifications, the verifier is aware they are conducting the verification; however, the primary examiner's conclusions are masked. Therefore, the verifier is making his/her own conclusions separately and independently from the primary examiner's conclusions. All blind verifications were conducted on actual casework or blind QCs.

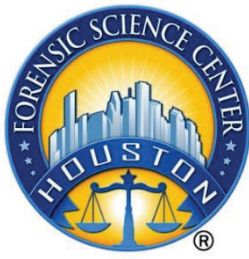
Digital Forensics

Analyst	Forensic Equipment Used
Christine Sotomayer	Digital Workstation, Kronos Xi, DME 30 Cellebrite UFED 4PC, 7.42

	<p>Cellebrite Physical Analyzer, 7.43 UFED Premium, 7.17 Ramsey Faraday Enclosure, FARADAY 7</p>
Preston Coleman	<p>Falcon Northwest Talon Workstation, DME05 Ramsey Electronics Shielded Enclosure, FARADAY 6 Cellebrite UFED4PC, 7.40.0.85</p>

Forensic Multimedia

Analyst	Forensic Software/ Hardware
Jose Ramirez	<p>Forensic Workstation DME29 Quick Hash, 2.6.9.2 MediaInfo, 0.7.90 Amped FIVE, Build date: 20181105 Revision: 12076 VLC media player, 3.0.8 Vetinari Microsoft Photos, 2020.20110.11001.0</p>
Jose Ramirez	<p>Forensic Workstation DME31 Quick Hash, 2.6.9.2 MediaInfo, 20.09 Amped FIVE, Build date: 20201027 Revision: 18800 Microsoft Photos, 2020.20110.11001.0</p>
Spencer Ledesma	<p>Forensic Workstation DME14 Quick Hash, 2.6.9.2 MediaInfo, 18.12 Windows Media Player, 12.0.19041.662 Amped FIVE, Build date 20200306, Revision 16112 Microsoft Photos, 2020.20110.11001.0</p>



Houston Forensic Science Center

500 Jefferson St., 13th floor Houston, TX 77002

To: Peter Stout, President/CEO

Cc: Dayong Lee, Toxicology Manager
Amy Castillo, Vice-President/COO

From: Erika Ziemak, Quality Director Erika Ziemak Digitally signed by Erika Ziemak
Date: 2021.04.30 19:08:30
-0500

Date: April 29, 2021

Re: Toxicology Blind Quality Control 2021-19046

A Toxicology report issued on March 30, 2021 for the DWI collection kit blind quality control (QC) case 2021-19046 indicated that the ethanol concentration detected in item 001-01 (one blood tube) was 0.088 ± 0.008 g/100 mL. The target result for this blind submission was 0.100 g/100 mL and while the reported concentration was still within the acceptable uncertainty of measurement range, it was significantly lower than the target concentration and previously reported concentrations of other samples in the same lot (lot #12198-41-6). This occurrence is similar to the issue discussed in a previous memo issued on November 12, 2020 and included with the 2020 quarter III blind QC report. This sample contained the same target concentration of ethanol as the case sample discussed in the 2020 quarter III blind QC report, 2020-02088; however, it was a different sample lot and therefore prepared by the manufacturer separately. Since this sample was prepared separately, the Quality Division requested the Toxicology section to reanalyze the sample in the same manner as with case 2020-02088.

Blind QC 2021-19046 item 001-01 was retested by another analyst utilizing a different instrument. This reanalysis yielded a 0.086 ± 0.008 g/100 mL BAC. The reanalysis results were consistent with the original report, and therefore the Quality Division was able to determine that the section's method and procedures were not the cause of the relatively lower ethanol test result. Since an extensive investigation was conducted with case 2020-02088, other potential causes, such as a tube manufacturing issue or a transport issue, were previously eliminated. Similar to the investigation in case 2020-02088, the most likely cause for the observed result was again the lack of homogeneity in the manufacturing of the sample. The blind QC results were determined to be acceptable and laboratory analysis correctly identified the ethanol concentration of the blood tube.

The Quality Division met with the Toxicology Manager and formulated a guideline for investigating unexpected results to ensure consistency. The process map of the procedure is attached.

