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Update from The Bureau of Consular Affairs and DNA Presented by Rachel Hilton, Visa Specialist

at the AABB Annual Meeting during Relationship Testing Sig II, October 9, 2010

There has been an update to the Foreign Affairs Manual (**FAM**) to increase oversight and decrease fraud. There are two sections to the manual, 9 FAM 42.44 DNA Guidance for Visa (issued in September of 2009) and 7 FAM 1100 Appendix A, DNA Testing and Citizenship (issued in June 2010). The manual is available for public review.

The major changes affected procedures and policy on the oversight of the chain of custody of DNA kits and sampling for immigration and American citizen cases.

During the past year several of the following considerations or requests have come to light:

1) There is a distinct difference between a Department of Homeland Security/U.S. Citizenship and Immigration Service (DHS/USCIS) for DNA testing versus a consular DNA test request involving a visa or citizenship case. When the USCIS domestic Service Center requests a DNA test during the petition adjudication stage, the Consular office has no knowledge that a DHS request is being suggested nor is there an active visa case with the consular section at the overseas U.S. Embassy or Consulate. Therefore the lab may get questions concerning the USCIS case, when a kit arrives, unless the petition information has been shipped with the kit. Consular Affairs will be working with the USCIS in the future to review and improve guidance on DNA testing for immigration cases.

2) Send the kits for DHS/USCIS cases directly to the USCIS section at posts where they are co-located at the U.S. Embassy or Consulate.

Consular officers cannot perform the collection, witness nor process a USCIS case if USCIS staff is also located at the post. Currently there are 29 posts worldwide where USCIS staff is co-located. There should be a broader clarification on how this works within the next year.

3) Laboratories have been asked to please provide clear instructions for each case. Provide information on the number of people testing, their testing roles and what relationship is being tested. Provide the specific and complete name as listed on their documentation or verification (3 names etc.).

The State Department only accepts paternity testing. If a consular officer requests a siblingship case please notify Rachel Hilton, so she can contact the officer. The USCIS may request a siblingship, which is at their discretion, but the Consular officers will not.

4) There is a need for a standardized DOS chain of custody form for ease of use for the cleared American witness of the consular collection. A form will be developed working with the Standards Committee.

5) A lot of consular sections are unable to provide thumbprints and signatures on the photos. The posts not providing these should be sending a letter for notification with the kit. The cleared American witness or consular officer performing the collection is taking the responsibility for proper identification and this information is not needed for their cases.

6) Training has begun for the Consular officers. This training will include how to read results, how to appropriately communicate with the laboratory and ask the correct questions.

Upcoming Changes in the future

- A standard DOS chain of custody DNA form
- A standard DOS attestation signed by a cleared American witness.
- Creation of standard website language for DNA testing
- Clarifications and minor updates to the 9 FAM 42.44

Rachel Hilton is now the primary contact at the U.S. Department of State Bureau of Consular Affairs. She can be contacted at the following email addresses or phone number. Please contact her by email and allow 24-48 for a response (Do not call at the same time). The AABB email is monitored by several staff besides Rachel and may have a quicker response.

AABB_Query@state.gov
HiltonRF@state.gov
202.663.1164

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MEETING RECAP

**Session: Relationship Testing SIG I:
Forensic Science
Current Topics and Case Studies**

**Held: Saturday, Oct. 9, 2010
10:30 am – 12:00 pm**

Director/Moderator: Mary Mount, MT(ASCP)

Speakers: Robert Bever, PhD; Todd Bille; Nathan Himes

Intended Audience: Physicians, Scientists, Technologists,
Nurses, Managers/Supervisors

3 speakers from the forensic arena presented talks at the RT I morning session on October 9, 2010. A special thank you to Susan Greenspoon, PhD, Forensic Molecular Biologist with the Virginia Department of Forensic Science for providing the speakers for this session.

Dr. Robert Bever from Bode Technology gave a talk entitled Approaches to Low Copy Number Touch Evidence. After explaining the differences between touch and low copy number DNA casework, he discussed methods of optimizing the DNA collection process. As touch DNA often has cellular debris spread over a relatively large area, taking a cutting may result in a DNA extract with few cells but many PCR inhibitors. Scraping with a scalpel works well on some types of clothing. Various tape lift methods are good for some fabrics, ropes, or some types of surface. Lastly, the wet/dry swabbing technique is often the best choice for rougher substrates such as gun grips. Not surprisingly, the DNA extraction must also be optimized to match the collection method. QIA Micro, EZ1 and organic extraction results were the methods of choice, and were matched to their best collection technique. Methods of removing inhibitors were also covered. Finally, some case examples were given. It was quite clear from these cases that the intelligent application of collection, extraction and clean up procedures can yield interpretable profiles from samples that were considered risky or marginal only a few years ago.

The second speaker was Matthew Farr from ATF. This presentation built on the ideas of Dr. Bever, as most of ATF's

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samples are touch DNA. A number of experiments were presented in which the recovery of DNA off various substrates was measured as a function of age of the sample and collection technique. Again, several extraction methods were studied. The QIAAmp Micro kit was compared to the Investigator kit. When carrier RNA was added, followed by 2 elutions and a Microcon concentration step, very good yields of the input DNA were seen. The Investigator kit was the more effective. Finally, the PreCR kit for repair of damaged DNA was shown to have promise in increasing the yield of interpretable allele peaks, although additional study and validation will be needed before implementation in casework.

The final speaker was Nathan Himes of the VA Dept. of Forensic Science. He presented a very interesting cold case in which the CODIS "hit" to the assailant turned up the name of a man who has an identical twin brother! Resolution of the case hinged upon the DNA match, narrowing the field to 2 suspects, followed by old fashioned detective work. It was determined by dermal fingerprints as well as the documented travel of the 2 brothers that one of them could be excluded as the depositor of the matching DNA profile.

Session: Relationship Testing SIG II:
Held: Saturday, Oct. 9, 2010
2:00 pm – 5:30 pm

Director/Moderator: Mary Mount, MT(ASCP)

Speakers: George C. Maha, JD, PhD, MT(ASCP); George Riley, PhD; Michael Baird, PhD, Rachel Hilton, Michelle Beckwith, BS

Intended Audience: Physicians, Scientists, Technologists, Nurses, Managers/Supervisors

Guidelines for Mass Fatality DNA Identification Operations

At the request of the Relationship Testing Standards Program Unit, Michelle (Shelly) Beckwith from Paternity Testing Corporation, along with a number of her colleagues in the scientific community, developed a set of Guidelines for Mass Fatality DNA Identification Operations which are available on the AABB web site (www.aabb.org). Shelly gave an overview of the content of the Guidelines that includes program management and oversight, technical considerations, data review, screening, statistics, reporting, and special considerations. A number of appendices are also included to provide examples of calculations, methods to accommodate genetic inconsistencies, and other useful tables. Since mass fatalities unfortunately occur far too often due to natural and

**The AABB Relationship
Testing Annual Report
Summary**

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http://www.aabb.org/Content/Accreditation/Parentage_Testing_Accreditation_Program/ptpr.org.htm

human made disasters, these Guidelines provide a comprehensive overview of the issues involved in a response to a mass fatality.

Annual Report - Summary for Testing in 2009

There was very poor response to the annual report questionnaire, with only 26 laboratories submitting data by the AABB 2010 Annual Meeting. With the poor participation, the number of cases completed was reported at 319,320 in 2009 compared with 414,843 in 2008. The average exclusion rate was similar to 2008, with 2009 at 21.57% \pm 7.04 exclusions. As discussed in the past, this is not a measure of men who are misled into believing they are fathers. Of the total case volume reported, the percent non-legal testing was 1.83% and legal testing was 98.17%. Some laboratories refused to distinguish between the two types of testing, thus the non-legal tests are understated. In the past, non-legal tests have been about 5% of the total. The choice of minimum likelihood ratio remains similar to the past with about 50% of reporting laboratories using 100 to 1. The number using this minimum value increases with one parent cases and decreases for reconstruction cases. Technology choice indicates that STRs were used in about 99.47% of cases, 0.08% used RFLP methods, and 0.06% of cases used HLA Class I molecular testing. Buccal swabs are the specimen of choice with 98.16% of tested samples. Other samples included blood, amniotic fluid, CVS tissue, hair and others.

Also during this section the AABB/CAP Paper challenges PAR-A and PAR-B were reviewed. Examples of how to derive the equations and the expected answer were given. There is wide variation in how some of these problems are approached. While there are wide approaches, they should all obtain the same answer, something that is not happening. As these are currently not graded, they make good tools for laboratory continuing education.

Lastly, data on the question of linkage between Penta E and FES/FPS was presented. In the study of 406 informative families (families with multiple children), the percent recombination was calculated at 16.226%. Suggestions on how to incorporate these loci into the combined likelihood ratio were made. These could be developing appropriate haplotype tables or reporting, at the preference of the laboratory, either the highest or lowest likelihood ratio obtained for one of the two loci. Multiplying the likelihood ratios for the two loci together is not appropriate. Regardless of the approach, it should be documented in the laboratory's operating procedures.

GREAT RESOURCES

Did you know ?

- 1) Additional questions or uncertainties regarding any standard can be submitted to the Relationship Testing Accreditation Program Unit for review as a topic for the newsletter and/or educational topic at the National AABB Meeting. Forward topic suggestions to nikkib@aabb.org
- 2) Questions encountered during an onsite assessment can be addressed immediately by calling 301.215.6492.

✚ Marsha E. Klieger Garcia joined AABB January 3, 2011 as the lead assessor for the Relationship Testing Program. Marsha joins AABB after more than 15 years serving in different roles for the forensic genetic testing company now known as Orchid Cellmark in Nashville. Most recently, she was manager of the forensic laboratory. In previous roles, she was manager of quality assurance and facilities, and, before that, paternity and quality assurance. Earlier, she worked as a paternity laboratory supervisor and paternity analysis supervisor. She began her career there as a medical technologist. A certified lead auditor for ISO/IEC 17025 since 2005, Marsha is a member of numerous professional societies, including the Association of Forensic Quality Assurance Managers, American Academy of Forensic Sciences and American Society of Clinical Pathologists. Recently earning her MBA from the University of Phoenix, she studied to become a medical technologist at St. Thomas Hospital School of Medical Technology in Nashville. She also holds a bachelor's degree in biology from California State University in Fullerton, Calif. Please join HR in welcoming Marsha to AABB.

✚ Currently, the Consular Section of the United States Embassy in San Salvador uses AABB Accredited Laboratories to process DNA results for immigrant visa applications.

Previously, Department of State policy required the Consular Section to have a hard copy of the results in hand before proceeding with the visa application process. However, under the new guidance that will soon be published in the Foreign Assistance Manual, Consular Sections will be allowed to proceed using electronic copies.

As such, please only send the Consulate in San Salvador an electronic copy to the address below:
DNASanSalvador@state.gov

If you have any questions or concerns, please contact the Immigrant Visas Unit Consular Section at 202-216-6366, Ext. 2672.

✚ As you may be aware, Yemen is the highest volume DNA post worldwide, with a combined consular and USCIS caseload of 400-500 new requests per month. Of those, USCIS accounts for approximately 80-90 percent. In November 2010 both inbound and outbound courier service to Yemen was suspended. While inbound service has resumed, outbound service remains on hold. This means that there is not current transport of DNA kits with completed samples out of the country and to the labs for processing. An SOP was developed in order to ship consular DNA tests from Sana'a while preserving the chain of custody to the extent possible. (Note, these procedures will not initially apply to kits processed for USCIS. Once all consular related test kits are processed, the options for USCIS kits will be reviewed) The new procedures should be transparent except that the labs will receive kits with markings on the shipping envelopes that are outside of Sana'a.

In addition, because of contingency planning for a possible slow down or suspension of services in Yemen, we are trying to cut the amount of paper that must be processed. We would like to request, until further notice, all test results for consular cases out of Sana'a be sent via email. Sana'a has a dedicated email box for DNA, In addition to emailing the results to DNASanaa@state.gov also include AABB_Query@state.gov . This is to ensure that if an evacuation occurs we will continue to have access to any results being submitted.

*For cases for Certifications or Birth Abroad (CRBAs) or passports, please include the subject line: "CRBA/PPT-FATHER SURNAME(S), Father first name(s) -case number".

*For visa cases, please include the subject line: "IV-FATHER SURNAME(S), Father first name(s) -case number".

*For USCIS cases, please include the subject line: "USCIS-FATHER SURNAME(S), Father first name(s) -case number".

*If labs do not know the case type, please include the subject line: "FATHER SURNAME(S), Father first name(s) -case number".

Also, we request that if possible labs could expedite these cases, especially DNA needed to make a citizenship determination, because of the concern for possible evacuation.

Rachel Hilton, Visa Specialist, US Department of State

- ✚ As of January 25th the consular section in Lusaka, Zambia will be in their new chancery. This means there is a change from their mailing address to the following:

U.S. Embassy
Ibex Hill
Lusaka
Zambia
Tel: +260-211-357-000

- ✚ Standards for Relationship Testing Laboratories Update for 10th Edition.

The Relationship Testing Standards Program Unit has completed a draft of the 10th Edition of Standards that is scheduled to become effective on January 1, 2012. After an internal review by the AABB, the draft RT Standards have been published on the AABB web site (www.aabb.org) and are now available for public comment. During this time, you are encouraged to comment on the draft RT Standards. All comments are reviewed by the RT Standards Program Unit and appropriate modifications made to the draft. After a second round of internal AABB review, the document is sent to Publications. The 10th Edition of Standards for Relationship Testing Laboratories will be available at the Annual AABB Meeting in San Diego in October 2011. The publication will again contain a CD of the Guidance for Standards for Relationship Testing Laboratories, 10th Edition as well as a cross walk to identify the changes from the previous edition. A portion of the Relationship Testing SIGs at the Annual Meeting will be devoted to addressing the changes in the 10th Edition of Relationship Testing Standards.

- ✚ Laboratories can ease their reporting of data for the AABB RT Annual report by using tools included in commercial calculation software or by programming their own tools in their home-built programs.
- ✚ Of interest is the push toward using STR testing with commercially available kits for authentication of cell lines widely used in research. Read Nature Reviews Cancer | AOP, published online 7 May 2010, "Cell line misidentification: the beginning of the end" for a review.

- ✚ You can obtain a list of Accredited Relationship Testing Laboratories at the following link:
http://www.aabb.org/Content/Accreditation/Parentage_Testing_Accreditation_Program/AABB_Accredited_Parentage_Testing_Laboratories/aboutptlabs.htm
- ✚ The AABB Career Link is a good way to bring together great job opportunities and great candidates. To find out more information visit the following link:
http://www.aabb.org/Content/Professional_Development/CareerLink/careerlink.htm

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WANTED

RTAPU or RTSPU Member

Are you currently an assessor? Would you like to be involved in planning for sessions at the AABB Annual Meeting? Would you like to review corrective action plans for process non-conformances? Would you like to be involved in the newsletter? If these issues are of interest to you, the **Relationship Testing Accreditation Program Unit** would like to have you as a member.

Are you currently an AABB Member? Would you like to be involved in creating and revising the Relationship Testing Standards? Would you like to review the requests for variance from the Standards? Would you like to be involved in creating and revising the Guidance for the Standards? If these issues are of interest to you, the **Relationship Testing Standards Program Unit** would like to have you as a member.

Please contact Nikki Bass at the AABB National Office at nikkib@aabb.org.

Articles

Do you have an interesting case or question you would like to share through this newsletter? Or is there a topic or issue you would like us to write about? Email us at nikkib@aabb.org

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