



Idaho State Police Forensic Services

CODIS METHODS

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Revision History

Revision #	Description of Changes
1	Original issue in new template
2	Added Emergency Confirmation Policy, added workflow using unreviewed Indexes, clarified AFIS searches to accessing print cards in AFIS, changed AFIS to ABIS throughout, added Forensic Targeted Index, updated STR Data entry options
3	Updated options for remote CODIS entry methods, changed ABIS to MBIS throughout
4	Changed location for saving staff searches
5	Administrative formatting updates throughout, updated CODIS hit confirmation process to allow the use of concordant partial profiles obtained during initial testing or subsequent reanalysis

CODIS Sample Data Entry and Upload (BI-500)

1.0 Background/References

1.1 The implementation of the Combined DNA Index System (CODIS) in forensic DNA laboratories has provided an additional tool in assisting law enforcement agencies in solving or linking crimes that otherwise may not have resulted in the identification of a suspect. Accurate data entry for upload to NDIS (National DNA Index System) is essential.

It is the responsibility of the Forensic Scientist to generate profiles from convicted offender and/or forensic samples, determine CODIS eligibility, review other scientists' profiles, enter their profiles into CODIS and notify the CODIS Administrator of any potential problems associated with their CODIS DNA profiles. The CODIS Administrator is responsible, in part, to serve as the laboratory's chief point of contact for all CODIS communications, maintain CODIS software updates and security, update/add/remove CODIS users, and upload profiles to NDIS.

DNA profiles entered into CODIS will be done so according to CODIS and NDIS Operational Procedures. Idaho currently allows for data entry into the following Indices: Offender (convicted offender); Unidentified Human Remains (deduced missing person, unidentified person); Missing Persons (alleged father/mother, biological child/father/mother, sibling, deduced missing person, missing person, maternal/paternal relative); Forensic Mixture; Forensic Partial; Forensic Unknown, Forensic Targeted; and State Only. Profiles entered into the Forensic, Mixture, Partial, Targeted, and State Only Indices include both solved and unsolved cases in which the profile is associated with a crime and believed to be attributable to the putative perpetrator. Suspect reference samples and profiles matching the victim(s) and/or any elimination samples (e.g. consensual partner samples) may not be entered. Profiles in the Forensic Indices must meet the NDIS eligibility requirements, including applicable match estimation criteria. Profiles in the State Only Index must include a minimum of 7 loci, and meet a match estimation of no more than 1 in the current size of the Idaho database. Exceptions can be made to the State Only MME threshold with approval of the CODIS Administrator. Specimens in this index will not be uploaded to NDIS.

2.0 Scope

2.1 To provide a mechanism to ensure accurate data entry for all offender and forensic database samples

3.0 Equipment/Reagents

- CODIS Computer Workstation
- Allele Tables and/or CMF files generated from sample analyses.

4.0 Procedure

4.1 SAMPLE DATA VERIFICATION:

- 4.1.1 Genotypic data (allele calls) are checked for accuracy and verified during the technical review process and documented on the appropriate form [Form 306-BI for database and in the Idaho Laboratory Information System (ILIMS) for casework].
- 4.1.2 CODIS eligibility of profiles and index are documented in the CODIS entry matrix in the ILIMS. The criteria are verified during the technical review process.
- 4.1.3 Additionally, when 'STR Data Entry' is used to enter individual sample data (generally forensic samples) verification of allele calls and specimen category is performed prior to an SDIS search and NDIS upload.

4.2 SAMPLE DATA ENTRY IN CODIS:

- 4.2.1 Once sample data accuracy (forensic and offender) has been verified, data may be entered into the CODIS database either by use of the 'STR Data Entry' module to enter specimen ID/info and allele calls for individual samples or by using the 'Import' function for the entry of batches of data contained in a .cmf (or equivalent) file. Refer to the learning management system modules for specific steps in accomplishing these tasks.
 - 4.2.1.1 For forensic specimens, analysts will enter eligible profiles into the Unreviewed Forensic Index prior to submitting the case for technical review. A copy of the CODIS entry sheet, documenting the intended index (i.e. Forensic Unknown) and case number shall be attached in ILIMS, along with any necessary match estimations. Staff searches performed in the CODIS software should be saved to the appropriate batch data folder (see 5.5). During the technical review process, the reviewer will verify the case number, specimen ID, allele calls, and relevant match estimations. Once accurate, the reviewer will initial and date the CODIS entry sheet and provide it to the CODIS Administrator/Alternate.

Alternately, samples may be entered into the Unreviewed Forensic Index by the CODIS Administrator/Alternate on behalf of the reporting analyst prior to technical review. If the CODIS administrator/ Alternate is the technical reviewer, a second qualified analyst will complete the review for the CODIS entry sheet. They will initial and sign the completed CODIS entry sheet and provide it to the CODIS Administrator/Alternate.

The CODIS Administrator/Alternate will then update the sample to the appropriate specimen category and mark it for upload as applicable. Specimen Audit Trails will be attached in ILIMS for each sample to document its entry into the final specimen category.

4.2.1.2 For Offender specimens, most profiles will be batch uploaded into the Offender Index as .cmf files following technical review. For profiles that require hand entry (such as those with microvariants), the sample will be entered into the Unreviewed Offender Index. The CODIS entry sheet and electropherogram will be provided to the CODIS Administrator/Alternate for review, following which the sample will be moved into the Offender Index and marked for upload. A copy of the final CODIS sheet with the updated index will be provided to the database analyst.

4.2.2 A second 'read' must also be entered for the individual samples through 'STR Data Entry'. A 'check' indicates agreement between readers at individual loci and discrepancies in entry must be rectified before saving to SDIS.

4.2.3 When using the 'Import' function, the scientist should validate the .cmf file prior to executing. This will ensure that any typos or inconsistencies (i.e., variant allele definitions/equivalencies) will be identified and corrected prior to importing the batch file data into SDIS.

4.3 CODIS DATA UPLOAD:

4.3.1 Prior to uploading eligible samples to NDIS, a search of SDIS is to be performed to identify any potential matches at the state level. This is typically done by running the 'Autosearcher' function in the software. See BI-501 for verification of any candidate matches identified during the autosearch.

4.3.2 There are various reasons that some samples present at SDIS should not be uploaded to NDIS. Prior to NDIS upload, these samples will be selected in Specimen Manager and 'unmarked for upload'. Generally speaking, an incremental upload will be performed. In Specimen Manager, 'incremental upload' is checked on the 'upload' pull-down menu and 'send upload' is selected. The upload is sent to NDIS as a message attachment via Message Center. If any 'candidate matches' are identified at NDIS, a match message will appear in Message Center and they will also be reflected in Match Manager. For hit verification see BI-501.

5.0 Comments

5.1 Refer to the learning management system modules for more specifics if necessary.

5.2 The CODIS software is redundant and there is generally more than one way to accomplish many tasks. Using a mechanism other than that listed here is acceptable.

5.3 The CODIS software is updated periodically and any necessary changes in procedure provided with new updates supercedes those in procedures written prior to update, if appropriate.

- 5.4 The sample history for convicted offender samples in DNA Tracker will be updated to reflect dates of sample analysis (in progress, complete, failed as appropriate), date sample was outsourced for testing, and/or date profile was entered into CODIS. This is accomplished for individual samples under the 'Samples' tab for the Offender by clicking on the appropriate sample and choosing 'Add History Event'. Multiple samples may be updated using the 'Batch Samples' function at the top of the screen. The current disposition box must be checked as appropriate for the history(s) added.
- 5.5 Eligible forensic profiles of unknown origin (i.e. profiles not matching any of the known reference samples) identified in the course of casework analysis must first be compared against the 'staff' index before entering the profile into the database, if not previously staff-searched in STRmix. Following entry in STR Data Entry into the Unreviewed Forensic Index, the sample can be searched against the Staff Index. Samples that return a valid match should be deleted from CODIS. The search results should be saved in the appropriate batch data folder.
- 5.6 'Searcher' is also used for performing one-time keyboard searches of forensic unknown profiles. The DNA profile must have been generated by or on behalf of a criminal justice agency, by an accredited laboratory, in compliance with the FBI Director's Quality Assurance Standards (QAS), and must be maintained by a Federal, State, or Local NDIS participating laboratory. Additionally, requests for one-time searches of non-ISPFs profiles must be received from the CODIS Administrator of the laboratory that maintains the profile. When performing a one-time search, the requesting agency will be notified either verbally, or in writing in the event of a negative search result. See BI-501 for verification of candidate matches identified during the one-time search.

CODIS Database Hit Verification (BI-501)

1.0 Background/References

1.1 The implementation of the Combined DNA Index System (CODIS) in forensic DNA laboratories has provided an additional tool in assisting law enforcement agencies in solving or linking crimes that otherwise may not have resulted in the identification of a suspect. This is accomplished by the electronic storage and maintenance of DNA profiles at the local, state and national levels. Hits are obtained when a candidate match(es) is identified through a database search at any level. Hit verification involves evaluating the candidate match to determine if it is a true match and verification of CODIS offender sample data where necessary and possible.

1.2 References

1.2.1 NDIS CODIS Hit Disposition Reporting & Confirm an Interstate Candidate Match – Operational Procedures

2.0 Scope

2.1 To provide a method of sample verification to be performed prior to law enforcement agency notification of a database hit to ensure reporting of only true, confirmed matches.

3.0 Equipment/Reagents

- CODIS
- NDIS Procedure Manual
- DNA Tracker
- MBIS
- Offender Database Sample(s)
- Equipment/Reagents for STR Analysis

4.0 Procedure

4.1 MATCH VERIFICATION (Forensic):

4.1.1 For 'hits' / matches involving an ISP Forensic Biology evidentiary sample (either case-to-case or case-to-offender and including one-time keyboard searches) the primary responsibility for match verification follow-up and disposition lies with the Idaho CODIS Administrator.

4.1.2 The CODIS Administrator or designee (typically the case analyst) will first evaluate the 'Candidate Match' in Match Manager to determine if there is a basis for exclusion and, therefore, disposition as 'No Match'. A 'No Match' disposition doesn't require further verification or, where applicable, notification of the other laboratory involved with the match.

- 4.1.3 If evaluation in Match Manager demonstrates that the candidate match consists of potential high stringency (e.g., exclusions attributable to different typing systems, Promega v. Applied Biosystems), or possibly moderate stringency in the event of a forensic mixture or degraded sample, the disposition is changed from 'Candidate Match' to 'Pending' until the verification process is complete. In general, for case-to-case matches, the verification will consist of communication between scientists regarding the data and case status, while case-to-offender matches typically necessitate sample verification at the 'offender lab'.
- 4.1.4 Once the status of the 'candidate match' has been resolved, the disposition is set accordingly (e.g., 'No Match', 'Offender Hit', 'Forensic Hit', 'Conviction Match', 'Investigative Information', etc.) and 'Investigations Aided' filled in as appropriate and as outlined in the NDIS 'CODIS Hit Disposition Reporting' procedure.
- 4.1.5 If verification results in a 'hit', a hit report is issued by the case analyst. A copy of the CODIS match report is scanned and attached to the associated case file in ILIMS. The appropriate law enforcement agency is notified of the 'hit'. If the law enforcement agency submits a sample from the identified offender, appropriate analysis and issuance of a supplemental report will be performed as in 4.2.5.
- 4.2 MATCH VERIFICATION (Offender):
- 4.2.1 For 'hits'/matches involving an ISP Forensic Biology convicted offender sample the primary responsibility for match verification follow-up lies with the CODIS Administrator for the laboratory with the forensic (evidentiary) sample. However, the initial evaluation in Match Manager (see 4.1.2-4) and MBIS sample verification (see 4.2.2) will be initiated as soon as feasible once a verification request has been received from the forensic laboratory. For laboratories requesting the immediate release of the associated offender name, the Emergency Offender Confirmation Policy will be followed (4.2.7).
- 4.2.2 Once a potential match has been confirmed and a verification request received, the associated offender sample will be retrieved from the laboratory. If fingerprint verification was not already done, the offender fingerprint card will be retrieved from the MBIS terminal to perform a thumbprint verification of the offender sample.
- 4.2.3 Following MBIS verification of the thumbprint, re-analysis of the offender sample will be performed as appropriate, prior to agency notification. Samples that have undergone duplicate analysis as part of a QC function, duplicate sample, or were requeued during the original testing do not necessarily need to be retested. For requeues, at least 7 complete statistical loci must have been obtained on the previous run(s) to be considered as a verification sample for the CODIS confirmation process. For samples being reanalyzed for a CODIS match, at least 7 complete statistical loci, concordant with the original profile, must be obtained for confirmation. Although only 7 are required, moderate stringency matches may benefit from the expanded loci. Offender samples missing these additional loci may need further testing. In situations where a thumbprint was not received with the DNA sample, or is of insufficient quality for verification, a notation will be made and re-analysis for confirmation may proceed. The forensic laboratory (or law enforcement agency for Idaho cases) will be notified that the Offender could not be verified through thumbprint confirmation.

4.2.4 Following sample verification (MBIS and re-analysis as appropriate) the forensic case laboratory, in the case of an interstate hit, or submitting law enforcement agency will be notified of the confirmed hit. Laboratory notification may be made verbally and relevant documentation will be provided to the forensic case laboratory as requested. In Idaho, initial notification as well as the request for a new DNA sample from the identified offender, may be made verbally. However, written notification and a formal request for a new DNA sample, in the form of a hit report, will be sent to the appropriate law enforcement agency. For moderate stringency matches or forensic partial matches in which the offender confirmation results in additional genetic information (expanded loci), the requesting lab will be notified of the additional information and will be given an opportunity to review the new data in Match Manager before determining if the match is still a hit.

4.2.5 For intrastate offender hits, where possible, a newly obtained DNA sample from the offender will be analyzed with all deliberate speed. The analysis of the forensic sample may also be repeated, though this is not required. A supplemental report will be issued delineating the match in the usual manner (i.e., same treatment as for matching suspect sample submitted with case evidence).

4.2.6 The sample history in DNA Tracker will be updated to reflect the date the hit was confirmed for the offender sample.

4.2.7 For hits to active cases which involve immediate public safety concerns, the CODIS administrator, technical lead, and laboratory manager have the authority to release the offender name prior to thumb print verification and re-analysis. Following the release, the sample will undergo the standard confirmation procedures as outlined above. This confirmation will be performed as expeditiously as possible and a hit letter will be issued. The emergency request must come from the associated casework laboratory. A copy of the written request will be maintained with the hit confirmation paperwork associated with the hit letter. For verbal requests, a conversation log will be created to document the request and maintained with the hit confirmation paperwork. For emergency requests outside of normal business hours, the laboratory manager will be the 24/7 point of contact.

5.0 Comments

5.1 A good faith effort will be made to resolve matches within 30 business days from the date of the match or from the date of the verification request for interstate matches involving an Idaho offender.

CODIS Sample Removal (BI-502)

1.0 Background/References

1.1 Participation in the National DNA database, in accordance with the DNA Analysis Backlog Elimination Act of 2000, necessitates provisions for DNA profile expungement in the event that a qualifying offender's conviction is overturned. Additionally, the Idaho DNA Database Act of 1996 addresses court-granted expungement requests (I.C. §19-5513). Removal of DNA profile data and/or destruction of biological samples obtained from Convicted Offenders may be necessary as a result of conviction reversal or sample collection/submission errors. Expungement is defined as the removal of DNA profile data from local (LDIS), state (SDIS) and national (NDIS) databases in response to a court order overturning the offender's conviction of a qualifying offense. Expungement will include the removal of identifying information from other laboratory documentation and destruction of the biological sample from which the offender database DNA profile was generated. Administrative removal is defined as the destruction of a DNA sample and removal of any records relating to that sample. Examples for which administrative removal may be warranted include, but are not limited to, the collection of a sample from a non-qualifying offender, or the notification by the collection agency that removal is warranted. Generally, the determination that a DNA sample does not qualify for inclusion in the database occurs prior to entry of the profile into DNA Tracker and subsequently CODIS (see BI-301); however, there may be instances when the collection agency provides notification of an error after the profile has been generated. In these circumstances, the profile will be removed from the local, state, and national databases as part of the administrative removal.

1.2 References

1.2.1 NDIS Expunge a DNA Profile – Operational Procedures

1.2.2 Idaho Statutes: Title 19, Criminal Procedure, Chapter 55 "The Idaho DNA Database Act of 1996"

2.0 Scope

2.1 To provide a protocol for CODIS sample expungement and administrative removal that protects an individual's rights to privacy and maintains the integrity of the Idaho DNA database program. All procedures will be documented on the CODIS Sample Removal Checklist (Form 500-BI).

3.0 Equipment/Reagents

- CODIS Workstation
- DNA Tracker Database

4.0 Procedure

4.1 EXPUNGEMENT

Prior to removal of any DNA profile data, source identification, or biological sample destruction, the CODIS Administrator or designee will verify: 1) the request for expungement is accompanied by a certified court order that meets the requirements outlined in I.C. §19-5513, 2) that the offender has no other qualifying offense(s) and 3) the identification of the original DNA database sample where possible.

- 4.1.1 A search of DNA Tracker is performed to establish whether or not the specified sample has been received in the laboratory and if so, whether or not a DNA profile has been generated and/or entered into CODIS.
- 4.1.2 If the sample has been received in the laboratory, a criminal history check in ILETS will be performed to ensure that the offense for which the expungement is requested is the only qualifying offense. If the Offender has a separate qualifying offense, the sample will not be expunged and a copy of the criminal history check will be retained for documentation.
- 4.1.3 The associated offender sample folder will be retrieved from the laboratory and undergo a thumbprint verification to verify identification of the offender, if not already done. The absence of a thumbprint or a poor quality thumbprint does not preclude the sample expungement from proceeding.
- 4.1.4 The offender record will be removed from DNA Tracker and a sample removal report generated.
- 4.1.5 The DNA profile, if applicable, will be deleted from CODIS, followed by an upload to NDIS for removal at that level. A written notification of the expungement will be made to the NDIS Custodian and a request for verification of deletion at the national level.
- 4.1.6 A copy of the sample folder will be marked expunged, along with the scientist's initials and date of expungement.
- 4.1.7 The DNA sample will be destroyed and witnessed by a second scientist.
- 4.1.8 Administrative paperwork documenting the event will be retained in the CODIS file. The paperwork may contain some administrative information about the sample/individual it was collected from and will include the following, as applicable: the court order/request for expungement, criminal history check and thumbprint verification, DNA Tracker sample removal report, CODIS deletion report(s), NDIS correspondence, CODIS sample removal checklist, and copies of any correspondence with the requesting party.
- 4.1.9 An expungement notification letter (or letter indicating why expungement did not occur), the DNA collection report or folder copy, and a copy of the CODIS sample removal checklist will be sent to the requesting party.

4.2 ADMINISTRATIVE REMOVAL

Prior to removal of any DNA profile data, source identification, or biological sample destruction, the CODIS Administrator or designee will verify: 1) the request for administrative removal is in writing from the collecting agency and includes a description of the error resulting in the removal request and 2) that the offender has no other qualifying offense(s).

Removal resulting from an entry error on the part of ISP Forensic Biology staff does not require a written request; although, the nature of the error should be documented. Requests for administrative removal from a party other than the collecting agency or due to biology staff error will be referred to ISP legal staff for a determination of the appropriate action to be taken.

- 4.2.1 A search of DNA Tracker is performed to establish whether or not the specified sample has been received in the laboratory and if so, whether or not a DNA profile has been generated and/or entered into CODIS.
- 4.2.2 If the sample has been received in the laboratory, a criminal history check in ILETS will be performed to ensure that the offense for which the administrative removal is requested is the only qualifying offense. If the Offender has a separate qualifying offense, the sample will not be removed and a copy of the criminal history check will be retained for documentation.
- 4.2.3 The offender record will be removed from DNA Tracker and a sample removal report generated.
- 4.2.4 The DNA profile, if applicable, will be deleted from CODIS, followed by an upload to NDIS for removal at that level.
- 4.2.5 A copy of the sample folder will be marked expunged, along with the scientist's initials and date of removal.
- 4.2.6 The DNA sample will be destroyed and witnessed by a second scientist.
- 4.2.7 Administrative paperwork documenting the event will be retained in the CODIS file. The paperwork may contain some administrative information about the sample/individual it was collected from and will include the following, as applicable: the request for administrative removal, criminal history check, DNA Tracker sample removal report, CODIS deletion report(s), CODIS sample removal checklist, and copies of any correspondence with the collection agency.
- 4.2.8 A sample removal notification letter (or letter indicating why removal did not occur), the DNA collection report or folder copy, and a copy of the CODIS sample removal checklist will be sent to the requesting party, or submitting agency in the event of an internal entry error.

5.0 Comments

- 5.1 An Offender cannot be deleted from DNA Tracker if there are any samples and/or court orders associated with the offender.
- 5.2 A sample cannot be expunged or deleted from DNA Tracker if there are qualifying offenses associated with the Offender.

5.3 The 'Delete Sample' function will be used to remove a sample from DNA Tracker for an Administrative Removal.

5.4 The 'Expunge Sample' function will be used to remove a sample from DNA Tracker for an Expungement.

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