

Report for QIS OQI as of 28/06/2022 11:06:29 AM

Report for QIS OQI -**20437 No Title Provided****OQI Details**

Status	Closed Approved
Subject	<p>CWIQEXT20080630_01 : Whilst this process was running on the robot the operator noted that the plate was misaligned on the deck, resulting in the 8tip arm contacting the lysate plate. The operator noted that the disposable conductive tip at position 6 was bent and appeared to have made contact with the well of position 14 (adjacent).</p> <p>Position 6 did not result in a DNA profile. (QT700518732, UUMV, Greenslopes) Position 14 resulted in an incomplete male DNA profile. (QT800323269, burglary, Noosaville)</p> <p>During further checks of this extraction batch, it was discovered that the DNA profile in position 5 matched the DNA profile in position 7.</p> <p>Position 5 contained extract from the oral swab of a SAIK (QT800131925, Townsville), and this DNA profile matches to the DNA profiles obtained from the other intimate samples from the SAIK of that case, so it appears to be a true result.</p> <p>Position 7, however, was supposed to contain extract from a swab from the right throttle of a motorbike involved in the UUMV case mentioned above (QT700518732). The other sample for this case was in position 6, which did not result in a profile, and no reference samples were received in relation to this matter for further comparison.</p> <p>Summary : position 5 (sample [REDACTED]) from a sexual assault case has matched to position 7 (sample [REDACTED]) from an apparently unrelated unlawful use of motor vehicle case in another part of the State.</p>
Source of OQI	Internal Problems (QHPSS)
Date Identified	21/08/2008

OQI Creator Contact Details

Creator	Amanda REEVES
Organisational Unit/ s	Reporting 3
Service/ s	
Site Location/ s	Coopers Plains

Investigator/ Actioner Contact Details

Actioner	Allan MCNEVIN
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Investigation Details

Investigation Completed
Investigation Details

23/10/2008 **Root Cause Type** | Procedure/Method/Process

Samples ██████████ were extracted on extraction batch CWIQEXT200800630_01 in positions 7, 6 & 14 respectively. During the processing of this extraction batch there were some instrument errors encountered. Whilst removing the lysate supernatant (during the second step of removal) the probe of the instrument intended to access position 6 (sample of ██████████) crashed into position 14 (sample ██████████) thereby contaminating sample ██████████ with the DNA from ██████████. During the investigation, the stored lysate and the stored substrate for both samples was re-extracted. Throughout this investigation, both the results from the initial extraction and any re-extracted material was analysed using Genemapper-IDX software with a peak detection threshold of 20RFU in order to gain the most information. Profiles obtained from the stored lysate for both samples yielded the same DNA profile, however no DNA profile could be obtained from the stored substrate. Therefore the true source of the DNA profile obtained could not be truly ascertained (although sample ██████████ in position 6 is the most likely). During a review of all results obtained from samples extracted using the automated DNA IQ extraction procedure it was noted that sample ██████████ from extraction batch CWIQEXT200800630_01 position 7 matched to sample ██████████ from position 5 on the same extraction batch. Given the nature of the samples and the nature & other results obtained from the two different cases involved, it was thought that sample ██████████ (position 7) was contaminated by sample ██████████ (position 5). During the investigation, the stored lysate for both samples were re-extracted, as well as the stored substrate. Throughout this investigation, both the results from the initial extraction and any re-extracted material was analysed using Genemapper-IDX software with a peak detection threshold of 20RFU in order to gain the most information. The re-extraction of the stored lysate (i.e. material retained after removal from para-magnetic resin during the automated DNA IQ extraction process) for both samples gave results consistent with that obtained from the initial extraction process. From these results, it can be concluded that the contamination of sample ██████████ from sample ██████████ must have occurred prior to the separation of the lysis solution and the para-magnetic resin. The re-extraction of the stored substrate (i.e. the material originally submitted for DNA extraction that passed through the initial stages of the original extraction process) gave differing results. No DNA profile could be obtained from the substrate of ██████████. However the substrate of sample ██████████ yielded a DNA profile that that obtained from the initial extraction process. This indicates that the DNA profile from this sample truly originated from that sample. This profile was also consistent with that obtained from other samples of a similar intimate nature from the same case. The results obtained from the investigation therefore indicate that contamination of sample ██████████ from sample ██████████ has occurred after the manual lysis of the substrates (off-deck lysis procedure), but prior to completion of the removal of lysed material from para-magnetic resin during the automated portion of the extraction procedure. The potential steps at which contamination may have occurred are outlined in Actions below.

Performed By Quality Information System

Action Details

Action Complete 23/10/2008 **Action Fix Type** | Changed Process

Title **Action Description** The potential steps at which contamination may have occurred are: 1. During the transfer of

the lysate obtained from manual lysis into the deep-well plate via the use of the Storstar. This however is considered unlikely. This is because lysate was added to well 5 prior to the addition of well 7 and with the two wells separated by well 6 (that failed to show evidence of contamination from the same profile) and the nature of the pipetting process whereby individual care is taken whilst performing the process.

2. During the removal of the adhesive seal used to seal the deep-well plate containing stored lysates awaiting automated DNA IQ extraction. This is the most likely as it was noted during Audit 8227 that condensation on the seal that could not be removed by centrifugation was a contamination risk.

3. There may have been operator error during the manual addition of DNA IQ para-magnetic resin during the start of the automated extraction procedure (i.e. incorrect pipetting procedure), however this is unlikely as staff are trained to perform such pipetting steps with due diligence and care.

4. During the 1st stage of removal of lysate from the para-magnetic resin to the storage plate. This procedure occurs twice during the automated extraction protocol (fresh disposable tips for each step). If there was bubbling of the lysate containing unbound DNA and this was to burst, contamination from well 5 into well 7 may account for the contamination event. However, the physical movement of the 8-tip arm during this liquid transfer makes this an unlikely proposition (i.e. once the tip retracts from well 5, it does not move directly over well 7).

Actions As a result of previous OQI's raised and concerns identified around the automated DNA IQ extraction process, the extraction of samples using the automated DNA IQ procedure was halted on the 28-7-2008. Prior to this Audit 8227 had been commissioned and carried out. A number of areas for improvement were identified through the audit, and these have been implemented or are under investigation as outlined in OQI's 20367, 20368 and 20369. After the cessation of the automated DNA IQ extraction protocol, a review of all batches processed through this protocol was carried out by a specially commissioned team. A number of potential contamination events were identified and each is to be investigated on batch-by-batch basis. Additionally, careful review of results obtained from samples processed through the automated DNA IQ extraction procedure prior to reporting will be carried out. Every DNA result obtained from these samples will be interpreted with caution. Modifications have been made to the automated DNA IQ extraction procedure (including the use of an alternative to the adhesive seal and an alternative resin mixing procedure). This modified procedure will undergo extensive verification and approval from the DNA Analysis management team prior to re-introduction. The contamination events and concerns and improvements etc. that surround the automated DNA IQ extraction procedure have been discussed at various departmental and team meetings.

Task Details

No Tasks found

Follow-up And Approval

Follow-up Status	Accepted
Follow-up Status Comment	<u>27/11/2008 2:48:15 PM Amanda REEVES:</u> No comment was recorded
Approver	
Approval/ Rejection Date	01/12/2008
Approval/ Rejection Comment	<u>1/12/2008 12:00:00 AM Paula TAYLOR:</u> No comment was recorded

Associations

No Associations found

Records

No Records found

20437 No Title Provided

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