Deviation Request Form (DRF)

Directions: The Initiator will complete Sections A through C. Additional continuation pages can be included if necessary.

Initiator	MJ DeHaan	**Date**	12/03/2020

A. Requested deviation applies to (Technical Procedure – include specific section):

Procedure for the Use of an Alternate Light Source Section 5.4

B. Requested deviation:

Insert new 5.4.1 wording: Reporting of ALS results in cases where samples are taken for additional analysis (e.g. swabbing in Sexual Assault Evidence kits) is not required. ALS is being used as a visual screening tool to aid the analyst in analysis. ALS results will be reported in cases where no further testing is being performed on the item(s).

C. Necessity for the deviation:

To clarify when reporting statements are required.

D. Technical review and Authorization (to be completed by the Quality Manager and/or Technical Leader)
Comments(to include merits and impacts):

Approved	☑	Yes	☐	No	Duration	until next version	
Signature	Mackenzie DeHaan Digitally signed by Mackenzie DeHaan DN: C=US, OU=Forensic Biology, O=NCSCL, CN=Mackenzie DeHaan, E=mdehaan@ncdoj.gov Reason: I have reviewed this document Location: Date: 2020-12-03 15:08:55 Foxit PhantomPDF Version: 9.3.0				Date	12/3/2020	

E. Quality Assurance Authorization (to be completed by the Quality Manager, Forensic Scientist Manager or designee)

Acceptable within general QA guidelines and good laboratory practice?	☑	Yes	☐	No
Significant negative impact to Crime Laboratory Quality System?	☐	Yes	☑	No

Restrictions/limitations:

☑	Authorized	☐	Rejected	Signature	Jody H. West Digitally signed by Jody H. West DN: cn=Jody H. West, o=DOJ, ou=State Crime Laboratory, email=jwest@ncdoj.gov, c=US Date: 2020.12.03 15:23:07 -05'00'	Date	12/3/2020

Procedure for the Use of an Alternate Light Source

1.0 Purpose - This procedure specifies the methods for using an alternate light source in forensic casework to observe body fluids.

2.0 Scope - This procedure applies to those Forensic Scientists who have been released to use an alternate light source in forensic casework.

3.0 Definitions – Alternate Light source (ALS) – an instrument that uses wavelengths of light that are not visible to the naked eye to enhance potential stains on evidence.

4.0 Equipment, Materials and Reagents

- Crime-Lite 82S, Blue 420nm-470 nm, Blue-green 445 nm-510 nm and Crime-Lite 82S IR or equivalent light
- Surface Pro Tablet or equivalent (for the Crime-Lite IR)
- Goggles (Orange OG 550 AG or Yellow GG 495 AG or equivalent)
- Permanent marker

5.0 Procedure

5.1 The evidence shall be viewed with the ALS under normal lighting.

5.1.1 The blue and blue-green ALS lights may be used to examine articles with suspected semen and /or saliva stains.

5.1.2 The Infrared (IR) light may be used to visualize dark and/or patterned clothes for potential bloodstains.

5.2 Visualizing Stains with Blue and Blue Green Lights

5.2.1 Put on the applicable goggles for visualizing stains using the blue and blue green ALS lights.

5.2.1.1 The yellow goggles shall be used with the blue light (420nm – 470 nm).

5.2.1.2 The orange goggles shall be used with the blue-green light (445nm – 510nm).

5.2.2 Power on the ALS.

5.2.3 Scan the evidence using the ALS. The optimal light can depend on the surface material and the stain itself. The blue and blue-green lights can be interchanged to best visualize the stain.

5.2.4 Mark the areas that fluoresce with a permanent marker according to the Forensic Biology Section Procedure for Semen and Sperm Analysis.

5.2.5 When the analysis is complete, turn off the light and remove goggles. Clean the goggles by wiping with alcohol.

5.3 Visualizing Stains with (IR) Light

5.3.1 The tablet computer will be needed to visualize stains using the IR light.

5.3.2 Power on the ALS.

5.3.3 Turn on the tablet and open the software for use with the IR light

5.3.4 Scan the evidence using the ALS. The optimal light can depend on the surface material and the stain itself.

5.3.5 Mark the areas that absorb light with a permanent marker.

5.3.6 When the analysis is complete, turn off the light and tablet after closing the software.

5.4 Reporting Guidelines

5.4.1 This phrase shall be used when only a visual examination is performed for semen and/or saliva, no stains of interest are observed, and no chemical analysis is performed.

A visual examination (with an alternate light source, if used) of _____ (Item(s) _____) failed to reveal the presence of semen like and/or saliva like stains.

5.4.2 This phrase shall be used when a visual examination is performed using an ALS for semen, no stains of interest are observed, and chemical analysis is performed.

A visual examination with an alternate light source of _____ (Item(s) _____) failed to reveal the presence of semen like stains; however, sample(s) were taken for further analysis.

5.4.3 This phrase shall be used when only a visual examination is performed for semen and stains of interest are observed; however, no further chemical analysis is performed.

A visual examination (with an alternate light source, if used) of _____ (Item(s) ___) revealed areas of interest; however, no further chemical analysis was performed.

5.4.4 This phrase will be used when a visual examination with the alternate light source causes the entire item to fluoresce due to interference from the substrate.

A visual examination with an alternate light source of _____ (Item(s)____) was performed. Due to possible interference of the substrate, no interpretable results were obtained.

5.5 Standards and Controls – Prior to using an alternate light source a quality control check shall be performed and the results recorded.

5.5.1 Blue and Blue-green lights – The ALS shall be checked using both a swatch of cloth with a known semen stain and a swatch of cloth with no stain to verify fluorescence.

5.5.2 IR light – The ALS shall be checked on a both a swatch of dark cloth (black or similar) with a known blood stain and a swatch of dark cloth with no blood stain to verify absorption.

5.6 Calibration – N/A

5.7 Maintenance – N/A

5.8 Sampling – No sampling is performed using this procedure. Areas that were marked with a permanent marker during the examination may be further evaluated by additional body fluid testing.

5.9 Calculations - NA

5.10 Uncertainty of Measurement – N/A

6.0 Limitations – Many items/ substances other than body fluids will fluoresce/absorb light using the ALS.

7.0 Safety – Protective goggles shall be worn when operating the ALS with the blue and blue green lights.

8.0 References

Crime-Lite 82S manual

9.0 Records – N/A

10.0 Attachments - N/A

Revision History		
Effective Date	Version Number	Reason
04/06/2016	1	Original Document
11/02/2017	2	Add like to reporting guideline for 5.4.2. Add reporting statement for interference from substrate
01/25/2019	3	5.5 add ALS QC check