

## **NDSL Leakage Study**

- 1) Prepared four (4) boxes under DON collection guidelines (i.e., labeled bottles plus tamper-resistant tape, cardboard bottle dividers, dual absorbent pads, and appropriate plastic containment). Numbered twelve (12) bottles for each box.
- 2) In one of the two "middle" positions in each of the four boxes, placed a highly-concentrated 6AM (4,000 ng/mL), THC (8,000 ng/mL), DAMP (100,000 ng/mL), or BZE (500,000 ng/mL) sample. The highly concentrated specimen bottles contained 30 mL urine and were "undertight" (bottle lid finger-tightened and then unscrewed 1/8th turn).
- 3) Surrounded the highly-concentrated sample in each box with 11 negative samples containing 30 mL certified negative urine. Three (3) bottles were "undertight", five (5) bottles were finger-tight, and three (3) bottles were "overtight" (bottle lid finger-tightened and then screwed an additional 1/8th turn).
- 4) Sealed boxes and shipped to NDSL-GL FedEx. Asked that they receive and return unopened to NDSL-JAX. Once received back at JAX, took note of the approximate volumes in each bottle (including the positive) and any indications of leakage. Upon receipt it was evident that all four boxes had been opened and that the plastic box liner had been cut open.
- 5) Analyzed the urine in the negative samples from each box that still contained urine. Results



Leakage study  
Batch B

Drug: 6AM  
Conc: 4ug/mL

Box pos: 3 Lid: Under End vol: 10mL Conf: B3 <b>On col: 6.65</b>	Box pos: 6 Lid: Over End vol: 30mL Conf: B6 On col: 0.00	Box pos: 9 Lid: Normal End vol: 30mL Conf: B9 On col: 0.00	Box pos: 12 Lid: Normal End vol: 30mL Conf: B5 On col: 0.00
Box pos: 2 Lid: Over End vol: 30mL Conf: B2 On col: 0.00	Box pos: 5 Lid: Under End vol: 0mL Conf: -- On col: -- <b>6AM 4ug/mL</b>	Box pos: 8 Lid: Over End vol: 30mL Conf: B8 On col: 0.00	Box pos: 11 Lid: Under End vol: 28mL Conf: B11 <b>On col: 8.61</b>
Box pos: 1 Lid: Normal End vol: 30mL Conf: B1 On col: 0.00	Box pos: 4 Lid: Under End vol: 0mL Conf: -- On col: --	Box pos: 7 Lid: Normal End vol: 40mL Conf: B7 <b>On col: 190.76</b>	Box pos: 10 Lid: Normal End vol: 30mL Conf: B10 <b>On col: 3.13</b>

Leakage study  
Batch A

Drug: BZE  
Conc: 0.5mg/mL

Box pos: 3 Lid: Normal End vol: 30mL Conf: A3 On col: 0.00	Box pos: 6 Lid: Normal End vol: 30mL Conf: A6 On col: 0.00	Box pos: 9 Lid: Over End vol: 30mL Conf: A9 On col: 0.00	Box pos: 12 Lid: Over End vol: 30mL Conf: A8 On col: 0.00
Box pos: 2 Lid: Under End vol: 15mL Conf: A2 On col: 0.00	Box pos: 5 Lid: Under End vol: 0mL Conf: -- On col: --	Box pos: 8 Lid: Under End vol: 0mL Conf: -- On col: -- <b>BZE 0.5mg/mL</b>	Box pos: 11 Lid: Normal End vol: 30mL Conf: A11 On col: 0.00
Box pos: 1 Lid: Over End vol: 30mL Conf: A1 On col: 0.00	Box pos: 4 Lid: Normal End vol: 30mL Conf: A4 On col: 0.00	Box pos: 7 Lid: Normal End vol: 30mL Conf: A7 On col: 0.00	Box pos: 10 Lid: Under End vol: 12mL Conf: A10 <b>On col: 20579.65</b>

Leakage study  
Batch D

Drug: dAMP  
Conc: 100ug/mL

Box pos: 3 Lid: Normal End vol: 30mL Conf: A3 On col: 0.00	Box pos: 6 Lid: Normal End vol: 30mL Conf: A6 On col: 0.00	Box pos: 9 Lid: Over End vol: 30mL Conf: A9 On col: 0.00	Box pos: 12 Lid: Under End vol: 0mL Conf: -- On col: --
Box pos: 2 Lid: Over End vol: 30mL Conf: A2 On col: 0.00	Box pos: 5 Lid: Over End vol: 30mL Conf: A5 On col: 0.00	Box pos: 8 Lid: Under End vol: 0mL Conf: -- On col: -- <b>dAMP 100ug/mL</b>	Box pos: 11 Lid: Normal End vol: 30mL Conf: A11 On col: 0.00
Box pos: 1 Lid: Under End vol: 0mL Conf: -- On col: --	Box pos: 4 Lid: Normal End vol: 30mL Conf: A4 On col: 0.00	Box pos: 7 Lid: Under End vol: 0mL Conf: -- On col: --	Box pos: 10 Lid: Normal End vol: 30mL Conf: A10 On col: 0.00

Leakage study  
Batch C

Drug: THC  
Conc: 8ug/mL

Box pos: 3 Lid: Over End vol: 30mL Conf: C3 On col: 0.00	Box pos: 6 Lid: Under End vol: 0mL Conf: -- On col: --	Box pos: 9 Lid: Normal End vol: 28mL Conf: C9 <b>On col: 19.39</b>	Box pos: 12 Lid: Over End vol: 30mL Conf: C2 On col: 0.00
Box pos: 2 Lid: Under End vol: 0mL Conf: -- On col: --	Box pos: 5 Lid: Under End vol: 0mL Conf: -- On col: -- <b>THC 8ug/mL</b>	Box pos: 8 Lid: Over End vol: 30mL Conf: C8 On col: 0.00	Box pos: 11 Lid: Under End vol: 0mL Conf: -- On col: --
Box pos: 1 Lid: Normal End vol: 10mL Conf: C1 On col: 0.00	Box pos: 4 Lid: Normal End vol: 30mL Conf: C4 <b>On col: 0.83</b>	Box pos: 7 Lid: Normal End vol: 30mL Conf: C7 On col: 0.00	Box pos: 10 Lid: Normal End vol: 30mL Conf: C10 On col: 0.00