Drugs on Money Testing:
Polymer Banknote Update

The polymer banknotes took on increased importance for drugs on money testing when the £10 note was introduced last year. Polymer banknotes represent more than 30% of the total circulation so it is important to have methods to support the testing of them for drugs on money cases.

**Coordinated effort**

Working in cooperation with the Bank of England and UKAS for nearly 3 years, we’ve developed an accredited method for testing polymer banknotes that is as robust and accurate as the methods used for conventional banknotes. Our polymer banknote database now has over 3000 banknotes and is as statistically significant as our other banknote backgrounds.

**Recovering proceeds of crime**

As the only UKAS-accredited lab for the rapid testing of both polymer and conventional paper banknotes for drugs, Mass Spec Analytical works with police services in the UK and abroad providing forensic analysis of drugs on money and other trace detection services. To date, we’ve helped UK police recover over £20 million in cash from proceeds of crime cases.

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Mass Spec Analytical is the only UKAS-accredited lab for the rapid testing of both polymer and conventional paper banknotes for drugs.
With the introduction of multiple methods in our labs to deal with the introduction of polymer banknotes in the UK, we decided to look at how our pricing was structured to ensure we were delivering the best value to our customers. We’ve decided to change the way we charge for our work, moving from a monetary value based system to one based on the effort and complexity of the case. We feel this will make it easier for our customers to decide whether trace analysis is the best way to demonstrate an association between cash seized at a crime scene and the alleged perpetrators.

Although this memo discusses UK banknotes, we can test banknotes from all jurisdictions upon request.

**New Forensic Analysis Pricing**

**Drugs on money analysis**

- **Police deliver evidence to MSA**
- **Booking in:**
  - Case and first exhibit: £135
- **Screening test**
  - Drugs?
  - **Yes**
    - Analyse exhibits
  - **No**
    - Produce negative screen letter*, waive charges
- **Additional exhibits**
  - £20 each

* Negative screen charges waived until 31 Dec 2018

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You will notice that the bands are sufficiently wide enough to deal with variations in packaging, that way it is easy for you to estimate how much a case will cost to test. Note that we will weigh the exhibits without packaging at the time of processing - that is the basis that we will charge you on - so you don't have to worry about removing any miscellaneous packaging to reduce the cost of processing; it's always best to manipulate the evidence as little as possible prior to testing.

These changes deliver real value for larger exhibits. A case consisting of 4000 banknotes across 5 exhibits works out nearly 50% less than the previous scheme. Smaller exhibits of 500 banknotes are typically 20% less.

**Robust protection during the transition**

As the Bank of England transitions between paper and polymer banknotes, Mass Spec Analytical is committed to ensuring that British Police Services can continue to rely on robust drugs on money evidence to support their cases.

<table>
<thead>
<tr>
<th>Analyse the exhibits, priced by weight to estimate banknote count: weight used is the unpackaged exhibit weight.</th>
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</thead>
<tbody>
<tr>
<td><strong>Total Exhibit Weight</strong></td>
</tr>
<tr>
<td>1g - 500g</td>
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<tr>
<td>500g - 1kg</td>
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<td>1kg - 5kg</td>
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<tr>
<td>5kg - 10kg</td>
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<tr>
<td>10kg - 20kg</td>
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<td>Over 20kg</td>
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The Science and Fact behind Defensible Evidence

The methods, science and technology that we employ at Mass Spec Analytical have been used in tens of thousands of court cases and helped in the recovery of millions of pounds in cash. One of the ways that we maintain the robustness of the evidence we submit in court is to continuously monitor the background levels of drugs on banknotes in circulation. We created our banknote background database in 2002 and continue to maintain it today with both paper and polymer banknotes.

A study that we conducted last year has recently been the topic of an article in ‘Significance’ magazine and featured on the BBC Radio 4 programme ‘More or Less.’ It originally appeared in Forensic Science International entitled ‘Distribution of cocaine on banknotes in general circulation in England and Wales’ (C.G.G. Aitken, A. Wilson, R. Sleeman, B.E.M. Morgan, J. Huish). The study looks at what has changed since the background database was first created in 2002 and whether location matters.

Following discussions with experts at the Bank of England, it was learnt that more than 75% of all banknotes issued are circulated via automatic telling machines (ATMs), the rest goes to banks, Post Offices and other outlets. Money is paid by businesses into banks, and this is typically returned to one of approximately 20 – 25 cash redistribution centres within England. At the centres, money is sorted, and unfit notes are weeded-out and sent back to the Bank of England for processing and destruction.

Fit for purpose

For this study, access to unfit notes was requested from the Bank of England. The older notes are likely to be the most worn, and therefore most likely to be declared unfit, and it is also reasonable to assume that older notes have had the most exposure to ‘environmental contamination’ with cocaine.

The data collected and analysed in an earlier 2007 study and the results of this new study provide evidence that the current database of banknotes used by Mass Spec Analytical to represent banknotes in general circulation is confirmed as fit for purpose. The new study also noted that, whilst it may be true that the quantities of cocaine on banknotes have increased in the time since the study reported on in 2007 was conducted, there is no evidence to suggest the variation in quantities of cocaine has changed.

If you would like more information on the study, visit our news page at www.msaltd.co.uk where you will also find links to the BBC Radio 4 broadcast, or contact us at service@msaltd.co.uk.