May 2023

Keith Borer CONSULTANTS

THIS ISSUE

TEAM NEWS

We recently expanded our Cell Site Analysis team. **Mark O'Brien** joined us from Durham Constabulary and has particular experience in mobile phone call data analysis and location data analysis in covert operations.

Mark Gascoigne joined the Collision Investigation team earlier this year and brings considerable experience, including police driver training.

NEWS ARTICLES

Have you looked at our website recently?

We've published articles on:

- Video image quality and forensic analysis
- 3D printed and improvised firearms
- EDIT - Evidential Drug Identification Testing
- Pepper sprays and the law
- Forensic computing - prohibited images of children

Unlocking the Secrets of the End User Drugs Market: Insights from a Forensic Drugs Analyst

Alex Bretherton has experience as a forensic drugs analyst in the night-time economy and shares his knowledge of festival drug circulation using advanced techniques like Fourier Transform Infrared Spectroscopy (FTIR).

How it works

Behind the scenes, a pop-up laboratory in a shipping container comes to life at music festivals, where unknown substances are collected from amnesty bins, police seizures, and on-site paramedics. Reagent testing kits, similar to those used in EDIT (evidential drug identification testing), give an indication of the composition of powders or crystals and FTIR analysis provides a confirmation. By combining these methods, the identification of drugs, as well as cutting agents used to dilute them, becomes possible. A solvent wash technique can determine the MDMA (ecstasy) content in tablets.

What the Analysis Reveals

By far the most commonly encountered drugs on-site at festivals are MDMA, ketamine, and cocaine, with varying trends observed over time. Between 2017 and 2019, cocaine was the most adulterated of the three, with cutting agents such as benzocaine (a local anaesthetic), hydroxychloroquine (an anti-malarial), or levamisole (anti-worming agent). These adulterants were discovered in around 1 in 10 samples of suspected cocaine, the majority analysed being unadulterated. The majority of suspected MDMA and ketamine were as expected, with the occasional sample being a cathinone-based drug masking as MDMA.

Challenges in the Supply Chain

2020 saw most events closed, but during post-Covid 2021, the landscape shifted dramatically, with almost half of suspected MDMA samples turning out to be a different substance altogether. The prolonged lockdowns in 2020 and extended shutdown of production in the Netherlands (a major source of MDMA for the UK), led to the increase in copycat chemicals such as the cathinones N-ethylpentylone and 4-CMC being sold as MDMA. These substitutes initially produce similar psychoactive effects as MDMA but are often followed by prolonged uncomfortable stimulation. Interestingly, caffeine crystallised to resemble MDMA emerged in a significant proportion of suspected MDMA samples from 2021 onwards, revealing the dynamic and ever-evolving nature of the end user drugs market. As global supply chains faced disruptions, the purity of cocaine also suffered, with creatine, a bodybuilding supplement, becoming increasingly prevalent as a cutting agent. Despite these challenges, the majority of cocaine and ketamine samples analysed still showed high purity levels, with minimal cutting agents.

A New Composition Emerges

In 2022, a seemingly new substance made its way into the market. Originating from South America, and known in Spanish as 'Tusi,' a pink-coloured powder showed up in Lincolnshire. Marketed as 'pink cocaine,' this powder was found to contain anything but. Analysis revealed a composition of starch, pink dye, MDMA, ketamine, and caffeine. This seemingly novel drug was, in fact, a repackaged version of old drugs, showcasing the ingenuity and adaptability of the end user drugs market. As the market continues to evolve, forensic drugs analysis remains a crucial tool in understanding and addressing the challenges posed by illicit drugs.

Looking for an expert in...

MOBILE PHONES

Thomas Marryat | Louie Holbrook | Richard Wilkinson

The mobile telephone team specialises in the extraction and interpretation of data from mobile devices, such as smartphones, tablet computers and wearable devices. With over 20 years' combined experience, the team can assist with all manner of evidence, from calls and texts, to messaging apps, and hidden, encrypted and deleted data. Even damaged devices can often be examined.

Instructing a Mobile Telephone Expert

In order to provide you with an estimate of our costs, we need to know:

- **Make and model of mobile telephone** – The forensic software we use provides different support for different phones. Providing the make and model helps the expert determine what we will be able to achieve and manage expectations.
- **Is it deleted?** - Whether it be photographs, videos or messages, it is important to know if the content of interest has been deleted from the mobile telephone. Different techniques might need to be employed to attempt to recover the data.
- **Has the mobile telephone been examined previously?** - If a mobile telephone has been examined by the Police, we might not need to examine it ourselves. We can use the data obtained by the Police during our investigation rather than needing to carry out another examination.
- **Do you know the PIN?** – If a device is PIN-protected, it helps to know what it is. If the PIN is unknown, don't worry, we may be able to bypass it, however, this depends on the make and model of the mobile phone.
- **What is of interest?** – Giving us specific detailed instructions will help us prepare an estimate. For example, if communications are of interest, how many applications were used? Specifically, which ones are of interest? How many parties were involved?

Get in touch if you have a case involving this type of evidence.

@KBCforensics
You can follow Keith Borer Consultants on Twitter for up to date details of CPD training seminars for solicitors and barristers, links to news articles and case excerpts that may be useful to your case.

CrimeLine CPD Podcasts
If you are a CrimeLine subscriber, you can catch up with the experts at KBC in a series of forensic podcasts. Topics include CBD oil, IP addresses & cloud storage, fingerprints, indecent imagery, DNA, fire investigation and handwriting analysis. Look out for new podcasts being added to the series. You'll find them under CPD.

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CONTACT US

Email: kbc@keithborer.co.uk
Tel: 0191 332 4999

DURHAM OFFICE:
Locard House
Belmont Business Park
Durham DH1 1TW

HUNTINGDON OFFICE:
Tel: 01480 432 794

...and in Scotland:
Tel: 01835 822 511