

## Keeping Prisons Clean of Controlled Substances

Throughout the United States, the operators of correctional facilities struggle to prevent controlled substances such as drugs out of prisons. Detecting narcotics or other illicit drugs within correctional facilities, or ideally before they enter the facilities, is crucial for maintaining safety and supporting rehabilitation. Authorities at Folsom State Prison in California explained how Raman spectroscopy provides both the detection and the data reporting abilities they need.



### Introduction

Contraband may enter correctional facilities by being surreptitiously transported through vehicle entry ports, hidden in incoming mail, or smuggled past guards by pedestrians. The prison system has an obvious motivation to prevent the introduction of narcotics or other drugs into its facilities, and the state government has a responsibility to check on the effectiveness on various programs designed to address this. An audit of four prisons in California took place from March 2019 to January 2022. The audit was authorized under the authority of California Penal Code section 6126, with the aim of evaluating the effectiveness of the California Department of Corrections and Rehabilitation's (CDCR) processes in preventing drugs from entering through various pathways, and also to investigate the potential sources of any drugs found. Additionally, the audit assessed the reliability of CDCR's data collection and reporting related to drug discoveries.

### Challenges

Despite various strategies that had been implemented by the CDCR, the audit identified several operational weaknesses in their drug interdiction efforts. These weaknesses included deficiencies in entrance screening, routine searches of incarcerated individuals' living areas, searches of incarcerated workers, and investigations into the sources of discovered drugs. The audit also highlighted issues with data collection and reporting. Some of these issues may have been more procedural than technical, necessitating more tightly enforced protocols or better training of staff. However, one significant finding was the underutilization of electronic drug detection devices, despite research supporting their effectiveness. The CDCR has legal authority to use these resources more extensively but, on the whole, has not fully leveraged them.

## Methods and motivations

The features of the Thermo Scientific™ TruNarc™ Handheld Narcotics Analyzer address multiple issues around drug screening. Besides being easy and intuitive to use—which should make for greater adoption by facilities personnel—the handheld narcotics analyzers provide rapid, contactless, and reliable identification of narcotics for presumptive testing. Using lab-proven Raman spectroscopy, substances can be safely and reliably identified in a single, definitive test.

Raman spectroscopy uses a laser to irradiate a sample, causing most light to scatter at the same wavelength (Rayleigh scattering) and a small fraction at different wavelengths (Raman scattering) due to molecular vibrations. These wavelength shifts create a unique spectral fingerprint that reveals the sample's molecular structure and composition. By analyzing the Raman spectrum, scientists can identify and characterize the sample's chemical properties. No two molecules give exactly the same Raman spectrum, and the intensity of the scattered light is proportional to the amount of material present. Thus Raman provides both qualitative and quantitative information about the sample.

Because Raman technology is non-destructive and non-contact, analyzers can scan directly through sealed glass and plastic containers. This feature helps ensure officer safety by reducing exposure and is particularly useful for preserving evidence.

## Solution

The feedback from Folsom State Prison's investigators indicate that the TruNarc narcotics analyzer provided a significant number of benefits to the prisons in identifying drugs and reporting their findings. One impact of the TruNarc's ability to generate accurate, real-time reports was that the incarcerated individuals who were in possession of the illegal narcotics more frequently admitted to the drug discoveries when confronted with the results. In many cases, they signed waivers regarding the identification of the substances. Obtaining these signed waivers eliminated the need for the prison to have an outside laboratory confirm that the substance found was indeed a drug before the prison took disciplinary action. The waivers enable prison investigators to close their cases faster and conduct more investigations than they otherwise would.

In addition, because the TruNarc analyzer can test a substance through most packaging without exposing anyone to the contents of the package, the prison's investigators found it to be instrumental in identifying fentanyl, a substance that in small amounts can lead to significant health-related complications and death.

Also, as one prison manager explained, when outside laboratory confirmations are required, testing is more efficient because the TruNarc analyzer has already identified the specific type of drug discovered. Since the laboratory can focus their tests to verify the presence of a known compound, rather than running through a spread of possible tests to determine what the suspected substances might be, the laboratory saves on reagents and reduces the processing time required.

Depending on the jurisdiction and instrument utilized, a TruNarc analyzer's test results may be used as presumptive evidence. TruNarc analyzers automatically capture all scan results, including time-and-date stamps and system self-checks, with no opportunity for data manipulation. Once a substance is analyzed, full results are automatically stored for reporting and evidence submission. Rapid results combined with automated reports can streamline the path to prosecution, reducing administrative burden and dramatically impacting the time and expense of drug-related cases.

To read the full 95-page report from the California Office of the Inspector General, you may follow this link: <https://www.oig.ca.gov/wp-content/uploads/2023/01/CDCR-Controlled-Substances-Contraband-Interdiction-Efforts-Audit.pdf>. Electronic drug detection devices are discussed in Chapter 2, starting on page 25, with the Folsom information on page 31.

## Conclusions

The Office of the Inspector General (OIG), who conducted the report, recommended that the CDCR should take steps to strengthen its drug interdiction program at entry points and improve detection, discovery, and investigation processes within prison perimeters. By using TruNarc handheld narcotics analyzers to screen both people and mail for drugs and to conduct cell searches, the California Department of Corrections and Rehabilitation found they can better protect the health and safety of staff and the incarcerated population. Consistent implementation of these devices, which the department acknowledged to be effective, would likely lead to reductions in violence, medical trauma, and overdose deaths resulting from drug use in prisons.

The Thermo Scientific™ TruNarc™ Handheld Narcotics Analyzer has been trusted for over a decade by law enforcement and government agencies worldwide. Now, the Thermo Scientific™ TruNarc™ Delta and Tau expand on that legacy with a continuously updated library that contains over 1200 substances, performance improvements for faster readings, improved differentiation of fentanyl and methamphetamine with the H2 Kit, and more.



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