IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN
DETROIT DIVISION

MAXWELL LORINCZ, JASON POE, EARL CANTRELL CARRUTHERS, and BRANDON SHOBE, individually and on behalf of a class of all others similarly situated, Plaintiffs, v. COL. KRISTE KIBBEY ETUE, in her official capacity as the Director of the Michigan State Police and INSPECTOR SCOTT MARIER, in his official capacity as the Interim Director of the Michigan State Police Forensic Science Division, CAPT. JOE QUISENBERRY, in his official capacity as Commanding Officer of the Forensic Services Laboratory for Oakland County, and MICHAEL BOUCHARD, in his official capacity as Sheriff of Oakland County, Michigan, Defendants.	§ §	C.A. No. 2:16-cv-12290 CLASS ACTION SUIT JURY DEMAND

CLASS ACTION COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF

Maxwell Lorincz ("Maxwell"), Jason Poe ("Poe"), Earl Cantrell Carruthers ("Carruthers"), and Brandon Shobe ("Shobe") (collectively, "Plaintiffs"), individually and on behalf of a class of all others similarly situated, bring this Class Action Complaint against Colonel Kriste Kibbey Etue, in her official capacity as the Director of the Michigan State Police, Inspector Scott Marier, in his official capacity as the Interim Director of the

Michigan State Police Forensic Science Division (the "State Defendants"), Captain Joe Quisenberry, in his official capacity as commanding officer of the Forensic Services Laboratory, and Michael Bouchard, in his official capacity as Sheriff of Oakland County, (the "County Defendants") (State Defendants and County Defendants, collectively "Defendants"), and allege as follows:

I. NATURE OF ACTION

1. This is a civil action under 42 U.S.C §§ 1983 and 1988 seeking declaratory and injunctive relief. Specifically, Plaintiffs bring this action because of the serious risk of deprivation of Plaintiffs' liberty interests, rights under the Fourth Amendment of the Constitution, and right to substantive and procedural due process. These deprivations result from the Michigan State Police Forensic Science Division (the "Forensic Division") intentionally misrepresenting test results regarding marijuana, at the behest of the Prosecuting Attorneys Association of Michigan ("PAAM") and other law enforcement agencies, to support the charging of felonies when none occurred. In fact, the State Defendants instituted an official policy, which is still in place, that ignores the basic tenets of forensic science and leads to the systematic reporting of inaccurate test results supporting felony charges. This Constitutional violation is ongoing and affects not only Plaintiffs but thousands of other similarly situated Michigan citizens, in particular the approximate 180,000 registered medical marijuana patients in Michigan.

2. A marijuana plant contains dozens of cannabinoids which are chemicals found almost exclusively in the cannabis plant. The most well known cannabinoid is Delta-9-Tetrahydrocannabinol, which is generally referred to as THC, and is the substance

primarily responsible for the psychoactive effects of marijuana. However, many cannabinoids have little or no psychoactive effect yet are present even when the marijuana plant is converted to an oil or an edible.

3. Under the Michigan Controlled Substances Act ("MCSA") all plant-based cannabinoids and any oils, edibles, or other non-regulated substances containing them are controlled as "Marihuana," and the possession of these substances has for decades been a Schedule 1 misdemeanor.[1] Further, the thousands of Michigan citizens who have a medical marijuana license have a right to possess a defined amount of marijuana, which includes plant-based cannabinoids. However, under the MCSA, possession of synthetic, laboratory-manufactured THC is a Schedule 1 felony.[2] THC does not become "synthetic," and thus subject to felony prosecution for possession, simply because it is extracted from the marijuana plant and converted into an oil or baked into an edible form. The MCSA and courts interpreting it make this clear.

4. Emails obtained through a Freedom of Information Act ("FOIA") request reveal that PAAM acted in concert with the Forensic Division to establish a formal policy to report plant-based cannabinoid oils and other edibles as, at least potentially, Schedule 1 synthetic THC. The policy established by the Forensic Division creates forensic reports contrary to the facts, the forensic science, and the law. At least one reason for the policy

[1] The MCSA uses and defines the term "Marihuana," which is often spelled "marijuana" in general usage. For purposes of this Complaint, either spelling refers to the cannabis plant as defined in the MCSA.

[2] To be clear, Plaintiffs do not complain about what is commonly referred to as synthetic marijuana where a chemical variation of a naturally occurring cannabinoid is manufactured and often mixed with plant materials such as herbs. Plaintiffs' complaint relates to the reporting of THC which has the same chemical composition whether synthetic or naturally occurring in a marijuana plant.

change was to better establish probable cause to arrest medical marijuana patients, obtain forfeiture of their assets, charge them with crimes they did not commit, and to allow felony charges against others for what is at most a misdemeanor.

5. Similarly, the Forensic Science Laboratory for Oakland County (the "County Lab"), the only other public forensic lab in Michigan, under the direction of the County Defendants, have reported and continue to report test results regarding marijuana in a similar manner by reporting marijuana derived oils and edibles as Schedule 1 THC (without any qualification), which allows for the charging of crimes and/or felonies where none occurred.

6. The false reports provided by the Forensic Division and County Lab result in wrongful arrests, detentions, and forfeitures. The reports also enable prosecutors to charge, or threaten to charge, non-existent felonies so as to coerce pleas or falsely convict citizens of a crime unsupported, and indeed contradicted, by the forensic evidence. Approximately 90% of convictions in Michigan are the result of plea deals.

7. Further, the policy appears to be directed in large part at participants in the Michigan Medical Marijuana Program ("MMMP"). As the Massachusetts Supreme Court stated when faced with a crime lab scandal of this magnitude, "This particularly insidious form of misconduct, which belies reconstruction, is a lapse of systemic magnitude in the criminal justice system" and "the [criminally charged] defendant is entitled to a conclusive presumption that egregious government misconduct occurred in the defendant's case." *Commonwealth v. Scott*, 467 Mass. 336, 352 (2014).

II. JURISDICTION AND VENUE

8. This Court has jurisdiction of this case pursuant to 28 U.S.C. § 1331 as this action arises under the Constitution and laws of the United States. This District is an appropriate venue pursuant to 28 U.S.C. § 1391(b)(2) as a substantial part of the events or omissions giving rise to the claim occurred in this District, and 28 U.S.C. § 1391(b)(1) since at least one Defendant resides in this District, and all Defendants are residents of Michigan.

III. PARTIES

9. **Plaintiffs**.

(a) Maxwell is an individual who resides in Ottawa County, Michigan. Maxwell is a licensed medical marijuana patient;

(b) Poe is an individual who resides in Livingston County, Michigan. Poe is a licensed medical marijuana patient; and

(c) Shobe is an individual who resides in Oakland County, Michigan. Shobe is a licensed medical marijuana caregiver.

(d) Carruthers is an individual who resides in Oakland County, Michigan. Carruthers is a licensed medical marijuana patient, and also is a licensed caregiver.

10. **Defendant Colonel Kriste Kibbey Etue**. The Forensic Division has multiple laboratories, and provides forensic services to all Michigan counties except Oakland County. Col. Etue is the Director of the Michigan State Police and has supervisory authority over the Forensic Division. She may be served at her principal place of business,

Michigan State Police Headquarters, 333 S. Grand Avenue, Lansing, Michigan 48909. She is sued in her official capacity.

11. **Defendant Inspector Scott Marier**. Inspector Marier is the Interim Director of the Forensic Division, and is therefore directly responsible for the unconstitutional and illegal reporting practices described herein. He may be served with process at his principal place of business, 7320 N. Canal Road, Lansing, Michigan 48913. He is sued in his official capacity.

12. **Defendant Captain Joe Quisenberry**. Capt. Joe Quisenberry is the commanding officer of the Forensic Services Division of the Oakland County Sheriff's Department which includes the County Lab. He may be served with process at his principal place of business, 1200 N. Telegraph Road, Pontiac, Michigan 48341. He is sued in his official capacity.

13. **Defendant Sheriff Michael Bouchard**. Sheriff Bouchard is the Sheriff of Oakland County who has ultimate authority over the County Lab. He may be served with process at his principal of business at 1200 N. Telegraph Road, Pontiac, Michigan 48341. He is sued in his official capacity.

IV. FACTS

A. FACTS RELATING TO PLAINTIFF MAXWELL

1. Background

14. Maxwell lives with his wife Erica and their 6-year-old son in Spring Lake, Michigan. Maxwell suffers from chronic pain associated with two herniated disks and

severe celiac disease. He has been prescribed numerous opioid painkillers that, while alleviating the pain, adversely affected his physical and psychological health.

15. In 2009, a doctor recommended to Maxwell that medical marijuana might alleviate some of his pain without causing other adverse effects. Max made application for and received his patient card, and is therefore a registered participant in the MMMP. Maxwell, who does not smoke, chose to ingest the medical marijuana in the form of oil extracted from the plant. The treatment worked well and Maxwell's pain faded as did the side effects from the opioids.

16. Erica suffers from bipolar disorder. On September 24, 2014, she suffered a manic episode. It is possible she also ingested one of Maxwell's prescription medications. Maxwell called 911 for assistance, and Erica was taken to the emergency room to receive treatment. A deputy arrived along with the paramedics and confiscated a "black/brown tar-ish residue" that appeared to him to be a residue of hash oil extracted from the marijuana plant. Maxwell presented his marijuana patient documentation. The deputy removed the sample and sent it for testing at the Forensic Division lab in Grand Rapids.

2. <u>Maxwell's Criminal Charge</u>

17. The county prosecutor subsequently charged Maxwell with possession of marijuana. Maxwell refused to plead guilty to this misdemeanor, asserting his immunity under the MMMP. Based on the Forensic Division lab report discussed below, the prosecutor threatened to charge Maxwell with possession of synthetic THC, a felony under Michigan law, if he continued to refuse to plead guilty to misdemeanor marijuana. Maxwell refused to plead.

18. Maxwell was then charged with and bound-over for trial on the felony charge of purportedly possessing synthetic THC, a Schedule 1 controlled substance under the MCSA. The charge was based on a Forensic Division lab report purporting to analyze the oil residue allegedly found in Maxwell's possession.

19. The Forensic Division declared the sample in Maxwell's case to be "Delta-9-Tetrahydrocannabinol Schedule 1 (Origin unknown)." *See* Exhibit A. Under the MCSA, THC is listed in Schedule 1 only as a synthetic, and marijuana (which contains THC among numerous other chemicals) is listed separately. However, the Forensic Division's scientist testified in connection with Maxwell's criminal proceeding that he was "not able to tell which pathway (plant or synthetic) led to the THC (he) identified." *See* Exhibit B, p. 52.

20. In Maxwell's case, the State not only wrongfully charged him with a felony, it also took away his child and placed the 6-year-old with a Christian adoption agency.

21. The felony case against Maxwell was ultimately dismissed because there was no evidence he possessed synthetic THC, although he is still subject to being charged with possession of marijuana. However, that does not end the concerns raised by the Defendants' conduct. Maxwell and the approximately 200,000 other participants in the MMMP face the prospect of being wrongfully detained, searched, and prosecuted as a result of the Forensic Division's official reporting policy regarding marijuana. Indeed, the rights of numerous other Michigan citizens are endangered by this policy of reporting false felonies.

3. The Criminal Charge Against Maxwell was Based <u>on an Intentionally Faulty Lab Report</u>

22. Only possession of synthetic THC is categorized and punishable as a Schedule 1 felony under the MCSA. *See* MCL § 333.7212(1)(d) and (e). Plant-based THC is not, and the possession of it is a misdemeanor subject to greatly reduced penalties. *People v. Campbell*, 72 Mich. App. 411, 412 (1976) ("natural THC to be punished only under the provisions dealing with marijuana"); *People v. Carruthers*, 301 Mich. App. 590, 597; 837, N.W.2d 16 (2013) ("Possession of THC extracted from marijuana is possession of marijuana" under the MCSA, citing *Campbell*). Of course, Maxwell is and was a registered patient entitled to possess marijuana.

23. The Forensic Division's own lab results clearly indicated that the substance at issue in Maxwell's case was plant-based. The results of the gas chromatography test showed the presence of several other naturally occurring cannabinoids, and likely more existed but were not tested for by the Forensic Lab. Therefore, the most reliable scientific conclusion was that the sample was plant-based and not synthetic, particularly when there was no countervailing indication that the THC was synthetic. *See* Exhibit C, Expert Report of Dr. Land.

24. The probability that the substance contained synthetic THC was, in layman's terms, astronomical for several reasons. First, there is no reason anyone would go through the arduous process of synthesizing THC for personal use when it is readily available from marijuana. Second, the lab report implicitly assumes that not only the THC but the other cannabinoids found were synthetic, and there is absolutely no reason to synthesize cannabinoids which have no psychoactive effect on a user. Third, the lab report also implicitly assumes that a person would go through the above processes knowing that

possession of synthetic THC was punishable as a felony, while possession of THC derived from marijuana is still marijuana, and therefore punishable only as a misdemeanor, or for a medical marijuana patient not punishable at all. Finally, the Forensic Division's test results did not provide any countervailing indication that the THC was synthetic as opposed to derived from marihuana.

25. The Forensic Division's scientist essentially admitted this in his testimony at the *Daubert* hearing in Maxwell's criminal case. Even if a sample contained 25 different cannabinoids naturally occurring in marijuana, the Forensic Division's scientist speculated that maybe someone could have synthesized all 25 cannabinoids and put them into the sample. Exhibit B, p. 78-79, 81-82. However, the only reasonable and forensically valid conclusion was that the sample almost certainly contained plant-based marijuana. The Forensic Division's report was based on pure speculation about what might have happened rather than on a scientific approach which takes into account the actual test results obtained.

26. It is clear that this speculation was an attempt to circumvent Michigan law, as the Court of Appeals addressed this precise issue in *People v. Campbell*:

> THC is most commonly found in its natural state, being the active ingredient in marijuana, but it can also be produced synthetically…. In the present case, it was uncontroverted that the substance sold by the defendant contained natural THC. Based on this fact, the defendant contended, both at trial and originally in this appeal, that he should have stood trial for sale of marijuana, a four-year felony, rather than the charged offense. He pointed to the language of the Controlled Substances Act… and argued that *the Act intended to include the sale of only synthetic THC in the category of narcotics carrying a seven-year penalty, while it intended sale of natural THC to be punished only under the provisions dealing with marijuana.* On appeal the prosecution has agreed that the defendant's interpretation of the relevant provisions of the Controlled Substances Act is the correct interpretation of those provisions. This Court agrees. The language of the Act supports this

> conclusion. *Unless the statute is so interpreted, any person selling marijuana could be charged with sale of THC and become subject to the greater penalty since all marijuana contains at least a trace of natural THC. In enacting the Controlled Substances Act, the Legislature did not intend such an anomalous result.*

Campbell, supra at 870-71 (emphasis added).

27. Despite the clear distinction between plant-based and synthetic THC under Michigan law, the Forensic Division reported, and its scientist testified in Maxwell's case, that (a) the sample tested positive for Schedule 1 THC, *i.e.*, it was synthetic because otherwise it would be classified as marijuana under Michigan law, and (b) the origin was unknown. Both of these statements cannot be true. In fact, both are false. If the sample tested positive for Schedule 1 THC, then its synthetic origin is known. If its origin is unknown, it cannot have tested positive for Schedule 1 synthetic THC.

28. Although the Forensic Division claims there is no scientific test that can determine if a sample is plant-based, this is contrary to established forensic science. In fact, the substance that formed the basis of the charge against Maxwell did not test positive for synthetic THC and its almost certain plant origin was knowable and known. Based on the Forensic Division's own test results, several other naturally occurring cannabinoids besides THC were detected in the sample, thus leading to the forensically accurate determination that the sample was almost certainly marijuana. *See* Exhibit C.

29. The Forensic Division should have reported "Schedule 1 marijuana" based on its own lab results. In fact, the Forensic Division reports plant-based THC as marijuana in its reports when, as discussed below, its arbitrary criterion of visible plant matter is met.

B. FACTS RELATING TO PLAINTIFF POE

30. Poe was arrested and charged with possession of marijuana on the basis of a lab report generated by the Forensic Division's Northville Facility that identified one substance as marijuana and another substance as "other," with additional information stating that the presence of Schedule 1 THC was detected but not confirmed. As in the case with Maxwell, the lab report supports the conclusion that the THC was synthetic since it was not reported as marijuana.

31. Although charges against Mr. Poe were dropped, he faces the threat of re-filed charges based on the inaccurate forensic report, which failed to even test for the presence of cannabinoids other than THC in the substance identified as "other."

C. FACTS RELATING TO PLAINTIFF SHOBE

32. Shobe was arrested and charged on the basis of a Forensic Division lab report that identified a substance alleged to be in Shobe's possession as "Delta-1-Tetrahydrocannabinol Schedule 1," with additional information stating that "the origin of the Delta-1-Tetrahydrocannabinol may be from a plant (marijuana) or a synthetic source." Again, the Forensic Division knows, and has the capability to determine, that the substance was almost certainly plant-based and therefore should have identified it as marijuana.

33. Shobe has been charged with possession of marijuana, but faces the possibility of a felony charge for possession of synthetic THC based on the inaccurate lab report.

D. FACTS RELATING TO PLAINTIFF CARRUTHERS

34. Following a traffic stop on January 27, 2011, Carruthers was charged with possession with intent to deliver marijuana and driving with a suspended license. At the

time of the traffic stop, Carruthers had a medical marijuana card for himself, caregiver applications for four patients, and a caregiver certificate. Carruthers had various edibles that contained marijuana for medical use in his vehicle.

35. The edibles were sent to the County Lab which identified the edibles as Schedule 1 THC, with no qualification, meaning the THC was synthetic. Carruthers was convicted of possession of marijuana with intent to deliver and was sentenced to three years probation with 33 days in jail, a sentence he served pending appeal.

36. On appeal, the Appellate Court vacated Carruthers' conviction and remanded the case back to the trial court where Carruthers faces retrial for charges, including potentially a felony charge for possession of synthetic THC, based on an inaccurate lab report generated by the County Lab.

37. Based on information on its website, the County Lab has capabilities at least equal to the Forensic Division. The County Lab has the capability to determine the presence of other naturally occurring cannabinoids when testing samples, and therefore the capability to determine whether THC is in all likelihood plant-based rather than synthetic. Nevertheless, the County Lab in its reports identifies all THC which does not contain visible plant material as "Schedule 1 THC." This intentional misrepresentation leads to the filing of felony charges where none was committed, the ability to manufacture probable cause for search warrants, potential detention, and wrongful plea deals.

E. THE LAB REPORTS IN THE STATE PLAINTIFFS' CASES WERE THE RESULT OF A CONSCIOUS POLICY DECISION

38. Internal Forensic Division documents recently obtained by a FOIA request show a concerted action by Forensic Division leadership, PAAM, and law enforcement to ignore the law and bend the science so as to report all marijuana oils and solids that do not contain visible plant matter as potentially Schedule 1 synthetic THC regardless of (a) what the tests showed regarding the number or type of other naturally occurring cannabinoids in the sample and (b) whether there was any countervailing evidence supporting that the THC was synthetic. In fact, the Forensic Division actually changed its lab manual to require this result from its scientists. This change was made in an attempt to strip medical marijuana patients of their rights and immunities, charge or threaten to charge citizens with greater crimes than they might have committed, obtain plea deals, and increase proceeds from drug forfeiture.

39. As recently as 2013, PAAM pressured the Forensic Division to uniformly report medical marijuana edibles and oils as Schedule 1 THC when plant material was not visible. However, the Forensic Division had long known, as one of its scientists wrote, that "it is highly doubtful that any of these Med. Mar. products we are seeing have THC that was synthesized. This would be completely impractical. We are most likely seeing naturally occurring THC extracted from the plant!" *See* Exhibit D, Email, Penabaker to Chirackle, May 30, 2013.

40. A Forensic Division scientist also noted that "in order to place the actual compound THC in Schedule 1, the criteria of 'synthetic equivalent' should be met…. (W)e can't do this…. Also, by going out on that limb and calling it THC, you now jump from a misdemeanor to a felony charge." *Id.* In other words, the Forensic Division knew that to

report a marijuana sample as Schedule 1 THC was without support and was scientifically unsound.

41. Some Forensic Division scientists also voiced concern over the lab's "responsibility to determine whether the THC found is natural or synthetic" and the fact that "the charge changes to a felony with the identification of THC." *See* Exhibit E, Email, Hoskins, December 13, 2013.

42. These concerns were responded to by Ken Stecker, the traffic safety officer for PAAM: "That is my opinion, THC is a Schedule 1 drug regardless of where it comes from. I hope that helps. Ken." *Id.* The Forensic Division then issued a directive requiring its scientists to report marijuana oils and solids as synthetic THC "when no visible plant material was found" noting that the MCSA "has been clarified by Ken Stecker." *Id.* The lab then set out to change the procedure manual of guidelines for identifying marijuana to require that all forensic scientists report THC Schedule 1 for all "oils, food products and other substances" where plant material could not be visualized. *See* Exhibit F, Email, Hoskins, February 11, 2014.

43. Nevertheless, Bradley Choate, the Controlled Substance Unit Supervisor at the Lansing Laboratory of the Forensic Division strongly objected to the change. Noting that "the Controlled Substances Procedure Manual specifically states that Marijuana is a special case" and that oils and solids extracted from the Marijuana plant are controlled as Marijuana by statute. He then correctly laid out the science and the law: "When THC is identified in a case, the analyst has two choices: (a) identify it as Marijuana which for possession is a Schedule 1 misdemeanor, and (b) identify it as a synthetic equivalent which

for possession is a Schedule 1 felony. There is not a third choice. The question then becomes is the THC from a natural source, *i.e.*, Marijuana or a synthetic source. *The presence of other cannabinoids indicates that the substance is from a natural source.*" *See* Exhibit F, Email, Choate to Hoskins, February 14, 2014.

44. Mr. Choate went on: "Prosecutors rely on our reports to determine what to charge a person with. A report that states Delta-1 THC without any other statement would lead a prosecutor to the synthetic portion of the law…. This could lead to the wrong charge of possession of synthetic THC and the ultimate wrongful conviction of an individual. For the laboratory to contribute to this possible miscarriage of justice would be a huge black eye for the division and the department…. We don't leave it up to the prosecutor to figure this out." *Id*.

45. Despite concerns raised by some of the forensic scientists, other forensic scientists were more than willing to bend the science to suit the alleged needs of prosecutors. For example, emails show that prosecutors were concerned that if oils and edibles were identified as marijuana instead of Delta-1 THC, they would not have probable cause to obtain search warrants and/or arrest medical marijuana patients. The forensic scientists knew that "prosecutors are willing to argue that one speck of marijuana does not turn the larger quantity of oil/wax into marijuana." *See* Exhibit G, January 27, 2015 email from Pierson to other forensic scientists. As noted above, however, the Forensic Division was well aware that plant-based THC was treated as marijuana under the MCSA.

F. THE CRIME LAB PERVERTED SCIENCE AND BROKE THE LAW BY MISREPRESENTING ITS FINDINGS

46. Some Forensic Division scientists tried to incorporate actual science into their analysis, proposing that "the identification of at least three cannabinoids one of which shall be THC" was a sufficient profile to determine a sample to be plant-based. *See* Exhibit F, Email, Choate, February 14, 2014. However, the Forensic Division threw all science out the window; it changed its Laboratory Guidelines section 2.1 to *require* analysts in their lab reports to "clarify that the source of the identified cannabinoid(s) cannot be established." *See* Exhibit G.

47. Even the Forensic Division scientists who supported the policy knew that it was highly unlikely that *any* of the marijuana oils and edibles the various Forensic Division labs were analyzing were synthetic since it also knew that a sample containing THC plus two or three other cannabinoids was plant-based with a high degree of certainty. *See* Exhibit H, March 15, 2014, email from Bowen to Hoskins. The Forensic Division therefore also knew that its policy of requiring a crime lab report to state that oils and edibles contained Schedule 1 THC if no visible plant material was present was scientifically unsupported and would result in medical marijuana patients and other citizens potentially being charged with felonies they did not commit.

48. The actions of the Forensic Division were the opposite of science. Indeed, the official policy turned a blind eye to the truth. A person, let alone a forensic scientist, cannot be "aware of a high probability that something is true" and "deliberately close (one's) eyes to what was obvious." Sixth Circuit Pattern Jury Instruction 2.09. Indeed, forensic scientists often must determine what is most likely or most probable in order to properly fulfill their duty to provide the most accurate information to both prosecutors and

persons who are or could be charged with a crime. Even a DNA test does not purport to establish with 100% accuracy the associated person. Other tests, such as hair and fiber tests, have an even greater degree of uncertainty, but results showing the most likely or percent chance of a match are routinely made by forensic scientists.

49. In mandating the policy, the Forensic Division is declaring that in all cases where marijuana plant material is not visible, the origin of THC in a sample is scientifically unknown and unknowable and is as likely to be synthetic as plant-based. This is false as evidenced by, among other things, the lab results in Maxwell's case. The gas chromatography test of the substance at issue showed other naturally occurring cannabinoids in the sample, thus establishing its plant origin with an extremely high degree of probability.

50. The arbitrary nature of the policy is underscored by the Forensic Division policy to identify a sample as marihuana if there is visible plant material. If a scientist cannot "know" if numerous naturally occurring cannabinoids were synthesized and added to a sample, how can the scientist "know" plant material was not added to synthetic THC in a sample? The answer is a scientist must reach the most reasonable conclusion based on the actual evidence and test results.

51. Further, although apparently not available to Forensic Division or County Lab scientists, a liquid chromatography test would in most cases conclusively determine whether THC is synthetic or natural. It is unknown why the Forensic Division and County Lab have not taken advantage of this test, particularly given the difference in treatment

between synthetic and natural THC under the MCSA, but one reason may be to ensure they can still falsely identify Schedule 1 THC in their reports.

52. In addition, the Forensic Division can test for known synthetic cannabinoids. It purchases "reference standards" of synthetic marijuana, small purified samples of synthetic cannabinoids that it uses to determine if a substance is illegal, from Cayman Chemicals in Ann Arbor. "If we couldn't purchase standards, we wouldn't be able to make the (synthetic) identification," said State Police Crime Lab forensic scientist Kyle Ann Hoskins. "That is a necessity." Detroit Free Press, December 20, 2012.

53. In issuing false lab reports, the Forensic Division in concert with PAAM violated the fundamental constitutional rights of Plaintiffs and other citizens. Maxwell was wrongfully charged with a felony offense, and was denied his right to defend himself with a scientifically sound analysis of the substance at issue. Further, Maxwell, Erica, and their child's liberty interests were also violated since the child was taken by the State and placed for potential adoption, even though the child was eventually returned after Maxwell's criminal case was dismissed. Each and every forensic lab report that was issued stating "THC Schedule 1 (origin unknown)" or "could be plant or synthetic source" was knowingly false and/or grossly inaccurate.

54. The Forensic Division recently updated its policy regarding the reporting of THC found in oils and edibles to require its lab reports to state "the origin of Delta-1-Tetrahydrocannabinol may be from a plant (marijuana) or a synthetic source." *See* Exhibit I. While changing the verbiage, the new Forensic Division policy does not address any of the concerns raised above regarding its prior mandated language. Indeed, the new policy

still allows felony charges for the possession of what the Forensic Division's own test results show to almost certainly be marijuana, which is a misdemeanor and potentially no charge for a medical marijuana patient.

G. THE DEFENDANTS FAIL TO REPORT EXCULPATORY EVIDENCE AND TO PROVIDE TEST RESULTS ESTABLISHING THE EXCULPATORY EVIDENCE

55. As noted above, the existence of other naturally occurring cannabinoids along with THC in a sample establishes with almost certainty that the sample is plant-based, and therefore marijuana. Indeed, Maxwell successfully made that very argument in his criminal case. However, despite testing for and identifying other cannabinoids in a sample, both the Forensic Division and County Lab fail to note in their reports that the presence of other naturally occurring cannabinoids was also detected in a sample. Further, it appears that the Defendants only test a sample for a limited number of naturally occurring cannabinoids even though they have the capability to test a sample for many more naturally occurring cannabinoids.

56. Information regarding the presence of naturally occurring cannabinoids in a sample is clearly exculpatory with respect to a potential charge of possession of synthetic THC, and therefore the Defendants have an obligation, given how they report their findings, to note such information in the reports issued to prosecutors and given to criminal defendants.

57. Compounding this issue, neither Defendant provides actual test results to prosecutors, and therefore prosecutors do not turn over the test results to persons charged with a crime based on a lab report that identifies Schedule 1 THC. Indeed, none of the

Plaintiffs were provided such information, but rather were informed that it could only be obtained from Defendants through a Freedom of Information Act request. This practice is contrary to the Defendants' constitutional obligation to provide exculpatory evidence without request.

58. Further, the failure to note the exculpatory evidence in the actual report, and the failure to test for additional naturally occurring cannabinoids, requires a criminal defendant to engage the services of an expert to interpret the test results generated by the Defendants. For example, Maxwell was required to engage an expert since the test results could not be fully interpreted by a layman. This practice also violates Defendants' obligation to provide exculpatory evidence to Plaintiffs.

V. FACTS RELATING TO CLASS CERTIFICATION

59. The Court, pursuant to Fed. R. Civ. P. 23, should certify a class as follows:

> Every participant in the MMMP who uses marijuana edibles or oils, with a sub-class of MMMP participants who have been prosecuted or who have had property seized under Michigan law based in whole or in part on a lab report stating "Schedule 1 THC," but the source is unknown or source could be plant or synthetic.

60. The class should be certified because (a) the affected parties are so numerous that joinder of all members is impracticable; (b) there are questions of fact and law common to both classes; (c) the claims of the Plaintiffs are typical of the claims of the proposed class which all arise from the same pattern or practice and are based on the same legal theories; and (d) the representative parties will fairly protect the interests of the class.

61. There are approximately 180,000 active registered medical marijuana patients in Michigan, and approximately 33,000 registered medical marijuana caregivers

in Michigan. A large number of medical marijuana patients use marijuana oils and edibles in order to avoid having to smoke the marijuana. These individuals are likely to be in possession of marijuana oils and edibles at all times so that their medical condition can properly be treated. Accordingly, these medical marijuana patients and caregivers are all at risk from the Defendants' reporting practices described above.

62. The Defendants have also acted, or refused to act, on grounds that apply generally to the proposed class so that final declaratory relief and corresponding injunctive relief is appropriate with respect to the class as a whole. Further, separate actions by proposed class members would create a risk of inconsistent or varying adjudications that would establish an incompatible standard of conduct for the Defendants. Plaintiffs request that the proposed class be certified pursuant to Rule 23(b)(1)(A) and 23(b)(2).

VI. CAUSE OF ACTION

A. VIOLATION OF 42 U.S.C. §§ 1983 AND 1988

63. Plaintiffs incorporate the foregoing paragraphs as if fully set forth herein.

64. The Forensic Division and the County Lab are state actors and their actions in issuing the lab reports are state actions.

65. The Defendants violated the due process and Fourth Amendment rights of the Plaintiffs by systematically, knowingly, and falsely reporting the presence of Schedule 1 THC when samples are actually marijuana under the MCSA. A criminal prosecution based upon false evidence cannot comport with either procedural or substantive due process, and clearly violates the Fourth Amendment, as citizens have the right not to have criminal charges filed against them based on false information, and the right not to have

false evidence presented against them. Plaintiffs and proposed class members are subject to such deprivations in the future since Defendants continue to apply their policy on reporting THC in oils and edibles.

66. Plaintiffs and many class members were deprived of their liberty by being arrested, charged, and often jailed for periods of time based on the false lab reports issued by the Forensic Division and County Lab, and are subject to such deprivations in the future.

67. All citizens have the clearly established constitutional right not to have criminal charges filed based on false evidence and to be deprived of liberty as a result of any government officer's fabrication of evidence.

68. All citizens also have a constitutional right not to be coerced into guilty pleas based upon false allegations and false testimony.

69. The Forensic Division's and County Lab's conduct in purposefully manufacturing felonies is such that it shocks the conscience thereby violating due process.

70. As a direct and proximate result of the Defendants' policy, Plaintiffs and class members are at risk of being wrongfully charged with crimes and felonies they did not commit and unreasonable searches, detention, and incarceration.

VII. PRAYER FOR RELIEF

71. WHEREFORE, Plaintiffs and other class members request that this Court issue the following relief:

a. The Court certify the class requested herein;

b. A declaratory judgment that the Defendants' policy of reporting that oils and edibles containing THC as "Schedule 1 THC," whether or not qualified by statement that it could be from synthetic or plant source,

when two or more naturally occurring cannabinoids other than THC are also found in the sample is improper and violates Plaintiffs' and class members' constitutional rights;

c. A declaratory judgment that Defendants failure to note in the reports analyzing oils and edibles that naturally occurring cannabinoids other than THC were found violates Plaintiffs' and other class members' constitutional rights;

d. An injunction enjoining Defendants from issuing reports in the future contrary to the declaratory relief granted by the Court;

e. Require Defendants to amend existing forensic reports in pending criminal cases to conform with the declaratory relief granted by the Court;

f. The appointment of a crime lab monitor to assure compliance with the injunctive relief granted;

g. An award of reasonable attorney's fees and costs pursuant to 42 U.S.C. § 1988; and

h. For such other and further relief to which Plaintiffs and the class may show themselves justly entitled.

PLAINTIFFS REQUEST TRIAL BY JURY ON ALL ISSUES SO TRIABLE.

Respectfully submitted,

By: /s/ Michael A. Komorn
Michael Komorn (P47970)
michael@komornlaw.com

Law Office of Michael A. Komorn
30903 Northwestern Highway, Suite 240
Farmington Hills, MI 48334
248-321-8870 (Direct)
800-656-3557 (Toll Free)
248-357-2550 (Office)
855-456-6676 (Fax)

Timothy A. Daniels
Texas Bar No. 05375190
tim.daniels@figdav.com

FIGARI + DAVENPORT, LLP
901 Main Street, Suite 3400
Dallas, Texas 75202
Telephone: (214) 939-2000
Facsimile: (214) 939-2090

ATTORNEYS FOR PLAINTIFFS

Exhibit A

STATE OF MICHIGAN

DEPARTMENT OF STATE POLICE

FORENSIC SCIENCE DIVISION

Grand Rapids Laboratory
720 Fuller Ave NE
Grand Rapids, MI 49503
(616) 242-6650
FAX (616) 242-6682

LABORATORY REPORT

Laboratory No.	:	GR14-6092	Record No.	:	1
Investigating Ofcr.	:	Patrick Gedeon	Date Received	:	October 13, 2014
Agency	:	Ottawa County Sheriff Department	Time Received	:	9:46 a.m.
Agency No.	:	1409240184	Date Completed	:	December 30, 2014

Nature of Offense:

3500-1 - Controlled Substances: Violation of the Public Health Code

Suspect(s):

Lorincz, Maxwell Morgan
Chittenden, Erica Jo

Evidence Received:

Container #1 One taped/clasp-closed manilla envelope (#1)
Item #1 - one white plastic glove containing
- one plastic vial containing a brown residue

Results of Analysis:

Based upon observations made and the results of microscopic, chemical and/or instrumental analyses performed on the above listed item(s), the following statement of findings is made:

Item(s)	Weight	Substance Identified	Schedule
1	Residue	delta-1-tetrahydrocannabinol (origin unknown)	1

W.A. Ruhf

William Ruhf, M.S.
Forensic Scientist
Controlled Substances Unit

December 30, 2014

This report contains the conclusions, opinions, and/or interpretations of the laboratory analyst whose signature appears on this report. This analyst is qualified by education, training, and experience to perform this analysis and does so as part of his or her regular duties. The analysis was conducted in a MSP laboratory accredited under the ASCLD\LAB international program since July 26th, 2012.

The relevant supporting data upon which the expert opinion or inference was made are available for review\inspection.

Exhibit B

in front of me which one I used at this particular time but.

Q But it would be some way of magnifying it to look at?

A That is correct, yes.

Q And you also put - - you reported that the origin is unknown of the delta-1 tetrahydrocannabinol, is that correct?

A That is correct.

Q And what does that mean?

A That means that the THC that I identified I do not know where it originated from. As a chemical compound it is possible to manufacture that scientifically, if you will, taking the raw materials, putting it through reactive devices within a known laboratory facility and ultimately ending up with a product i.e. tetrahydrocannabinol. It is a natural product of the marihuana plant and as such could essentially be extracted from the plant and in this particular case I am not able to tell which pathway led to the THC that I identified.

Q Okay. And when you say THC you're talking about the substance you identified as delta-1 tetrahydrocannabinol?

A That is correct.

Q And is there any additional test that you could do to determine the origin?

A No ma'am.

laboratory and had a standard of and I'll just use three just to keep things simple, a standard of THC, a standard of cannabidiol and a standard of cannabinol; took some of each of those, put it in a solution and put the solution so to speak on dried maple leaves out in somebody's yard, crunched it all up, sent it to us and asked us to analyze it because they were smoking it. Would we identify it as marihuana? In that particular case the answer would be no even though they contained the three components of the marihuana plant, there are other specific taxa - taxonomical features that we look for in order to identify something as marihuana as opposed to just containing components of marihuana.

Q I understand but what I'm getting at is the conclusion that's drawn here that you cannot identify the origin is because you did not look beyond for THC, is that true?

A The fact that I would have looked beyond for THC and found let's say four of the components commonly found in THC or found in the marihuana plant - -

Q Yes.

A - - all right, the fact that they're not delineated in a report or something of that nature whether I find them or not would not lead me scientifically to conclude that I had marihuana whatsoever. I would be again at the basis of having to know the origin unknown simply because I could

not tell whether or not those chemicals were placed into the sample or whether they came from an extract of a known marihuana plant. Chemically speaking our instruments do not give us that type of data.

Q They can be said for that, for example, like terpenes, are you familiar with what those are?

A Yes sir.

Q And do those grow organically I mean you can find them in - - they're living - -

A Coniferous type wood and things of that nature, correct.

Q So that would be a situation if you were searching for terpenes and you found that in here, you couldn't draw a conclusion that it was marihuana only is what you'd say, right?

A If I found terpenes I would probably conclude that the material in question was not marihuana because I would be looking for the cannabinoids and not for - -

Q Well I'm saying - -

A - - trying to understand why terpenes are there in the presence of the sample.

Q Well I'm saying if there was - - I mean terpenes are a - - do you acknowledge that terpenes that are something that are found in marihuana plants?

A I don't have knowledge of that particular thing. I'm familiar with terpenes from another angle.

Q I understand. That was my fault, I - - you wouldn't know if they are part of it or not a part of it?

A Correct.

Q And there may be many other things that are part of the marihuana plant that you don't know of either?

A That is correct.

Q You know to - - and your skill and testing is really in the art of the analysis of the data that looks for tetrahydrocannabinol?

A And - - and the components to make sure - -

Q What other component?

A The skill that we have to have is to number one, make sure that we're confident in the process by which the sample is treated that we have indeed extracted and got a good representative sample of whatever the substrate was. In this particular case before the Court a brown residue. It could be an oil, it could be a maple leaf with some sort of liquid appearance on the type of thing. You know we have to as you have mentioned make sure that what we're doing is scientifically credible and that the - - that the examinations and the procedures, the testing that the instrument actually does, the parameters that operate the instrument, would indeed find those other components if they were present. And understandably a lot of the, if you will, profile of marihuana are extremely small components.

The cannabinol and cannabidiol are not; THC is the prominent component of marihuana. The cannabidiol and cannabinol are lesser components. The other ones, the cannabichromene, for example, a much lesser component. You would have to do two things, number one, make sure that you had an extremely thorough extraction of the material in question if you were going to look for just that particular component and you'd have to make sure that your instrument was indeed calibrated to look for parts in the per billions I would say to make sure you get enough data to make an accurate conclusion.

Q So the - - the conclusion that, and if I understood you correctly, that the origin is unknown is under your roof at the Michigan State Police with the limited resources that you're working with, you cannot draw a conclusion of its origin?

A Correct.

Q However, it can be done scientifically; it's more challenging, you need to have a different protocol, the machine has to - - you have to have different samples that can be compared to but it can be done?

A Again, it's in the scientific community the presence or lack thereof, but the presence because we're treating in positive things of all the components, if you will, let's say there's 25 components. To find all 25 components in a

sample would not be scientifically sound to conclude that that sample came from a marihuana plant. It would be scientifically sound to - - scientifically sound to only conclude that those 25 components existed in the substrate that you tested. Whether or not those 25 specific components came from standards supplied by whomever and were placed into the substrate or were indeed out of a marihuana plant cannot be determined.

Q Let me ask you this; do you know can you say with any scientific certainty that there is a molecule, a profile of the marihuana plant that's unique to marihuana?

A I'm not familiar with one.

Q Okay. Well, let's - - I mean and if you were, if that was true, then we would be able to confirm that a substance either came from it or didn't come from it, correct?

A Correct.

Q But the lab doesn't have that information?

A I'm not familiar with one.

Q Okay.

A Within the lab or within the scientific community in the journals that I read and things of that nature, nobody has every proffered that this is the quote unquote profile of chemicals that must be observed in order to conclude that this came from a marihuana plant.

Q All right. Are you - - are you saying that your expert

Exhibit C

I, DONALD PAUL LAND, PHD, declare:

1. I am a professor of chemistry, forensic science, and biotechnology at the University of California, Davis. I conduct research, teach, and publish in the field of analytical chemistry and forensic science and especially in the field of detection and quantitation of controlled substances. Many of those projects are in collaboration with scientists employed at crime laboratories at local (Sacramento District Attorney Crime Laboratory), state (California Department of Justice) and federal (Drug Enforcement Agency, San Francisco Division; Bureau of Alcohol, Tobacco, Firearms, and Explosives, Walnut Creek, CA) levels. I also design and deliver courses in forensic science at undergraduate and graduate levels and particularly teach the theory and practice of controlled substance identification and quantitation and statistical treatment of such data.

2. I also own, operate, and consult for Steep Hill Labs, Inc. (and co-founded Halent Laboratories), a chain of licensed cannabis testing laboratories with locations in Berkeley, CA, Seattle, WA, Albuquerque, NM, Denver, CO, and Las Vegas, NV. These laboratories satisfy local certification protocols that are largely similar to forensic laboratories.

3. I have provided declarations and advice to attorneys and lawmakers in several states in reference to cases involving controlled substances, patent infringement, and matters related to regulation of controlled substances. I have served as a reviewer for the textbook Scientific Evidence, Edward J. Imwinkelried, a textbook cited twice by The Supreme Court of the United States of America in Daubert v. Merrell Dow Pharmaceuticals. I have not testified in court. My Curriculum Vitae is attached.

4. I have been asked to review a laboratory file and related documents related to a specific legal case, file number GR14-6092 from Michigan State Police Grand Rapids Forensic Laboratory.

5. Upon review of the data and its accompanying report, it is my opinion that there is an obvious inconsistency between the analytical results contained in the file and the final report issued by the lab.

6. Specifically, the results show that multiple (3) positively identified naturally occurring cannabinoid compounds, at least one of which is known *not* to be psychoactive, were identified in the analysis, but the final report lists only a single compound, delta-1-THC (a.k.a. delta-9-THC). Additionally, several other peaks appear in the chromatogram, are not identified, but are likely to be additional naturally occurring cannabinoids, such as CBG, CBC, and THCV – all of which elute closely in time using most GC methods. Further, the "(origin unknown)" designation is dubious in my opinion, as the identified presence of multiple natural cannabinoid compounds provides clear evidence in support of plant origin, and clear counter evidence contrary to the hypothesis of synthetic origin.

7. There is absolutely no evidence indicated by the analysis detailed in the file that the THC is of synthetic origin - in fact the opposite is true.

8. There would be no motive for synthesizing and including the additional non-psychoactive compounds. There would be no monetary gain from the extreme effort and expense required to synthesize these compounds, as cannabidiol, in particular, is a THC functional antagonist and reduces the presumed desired psychoactive effects of THC. Only a few naturally occurring cannabinoids have published synthetic routes, and these other natural cannabinoids identified in the sample in question are not identified contaminants or byproducts of the synthetic methods published.

9. In addition, on the Laboratory Inspection Request form offered for my review, the submitting officer, in the "Statements of Fact / Comments (required)" section, first refers to the sample as "BHO / Butane Hash Oil," and in the second note, requests "Please test residue for BHO." The submitting officer Vugveteen identified substance as a marihuana extract.

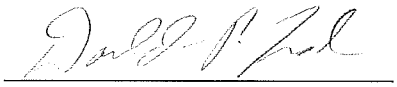
10. Indeed, the description of a "brown residue" in the Chain of Custody Report and "brown crystalline material (hard and sticky)" on the Michigan State Police Drug Analysis form, also support plant-based origin. Purified delta-9-THC (THC) is a clear, colorless liquid and purified delta-9-THC Acid (THCA) (the THC plant precursor and indistinguishable from THC using GC-MS analysis as applied by Michigan State Police crime laboratory staff) would be clear, colorless "white" crystals. Extracts from cannabis plant material are almost always reddish-yellow-to-brown/black depending on the degree of purification, with natural pigments proving nearly impossible to eliminate without significant efforts. Synthetic versions are clear and colorless or pale yellow and would not contain significant amounts of other naturally occurring cannabinoids (though sufficient purification of plant extracts could lead to the colorless liquid THC or white crystalline THCA).

11. Plants produce delta-9- THC acid (THCA) and only small amounts of delta-9-THC (THC). THCA is not psychoactive and generally requires significant heating to convert non-active THCA into psychoactive THC. Most plant extraction methods (including that for BHO) extract both forms, THCA and THC, equally well and produce extracts similar in composition to the nascent mixture produced in the plant material – i.e., mostly THCA. Further, it is relatively easy to analyze the substance in question using a related chromatography technique – liquid chromatography – which is now common in crime laboratories across the nation, which *can* easily differentiate between THCA and THC. While analysis via GC-MS (as employed by the Michigan State Police crime laboratories) results in chemical decomposition of THCA into (mostly) THC due to a heated sample inlet, liquid chromatography involves no heating and can easily distinguish between acid and neutral forms of cannabinoids, including THCA vs THC and CBDA vs CBD, etc., either by their distinctly differing chromatographic retention times, by their distinctly different ultra-violet absorption spectra, or by their distinctly different mass spectra.

12. The presence of significant amounts of THCA in the original sample would effectively preclude a determination that the sample was synthetic in origin, as there is no published or known total synthesis of THCA. No such analysis was performed, and, therefore, the identification of the sample as emanating from a synthetic source could NOT be proven beyond reasonable doubt using the data presented, and, in contrast, significant evidence – even without the additional analysis – leads to a conclusion that the sample is much more likely than not to be of plant origin. Such analysis could be easily performed in many crime laboratories.

13. I also reviewed emails and laboratory manual pages provided to me which detailed the testing methodology and reasoning used for the sample analysis and final reporting. The decision that was made to report all substances which contain THC but do not include visible plant parts as schedule 1 THC is inherently contradictory and false on its face. The results of analysis contained in the file clearly indicate that this sample should have been reported as marijuana, and to do otherwise is not based in science. Furthermore, methods exist to easily ascertain the likely source (synthetic or natural) of virtually ANY THC-containing sample beyond a reasonable doubt. In fact, several members of the Michigan State Police crime laboratories staff expressed several of these arguments in the email discussion concerning the data already in hand.

I declare under penalty of perjury of the laws of the State of California that the forgoing is true and correct. Executed this 23rd day of October 2015, at Davis, California.



DONALD PAUL LAND. PHD

CURRICULUM VITAE

Donald Paul Land, Ph.D.

Tel: 530-219-4366
dpland72@gmail.com

EDUCATION

Ph.D. Degree in Chemistry; University of California, Irvine, 1989.
Bachelors Degree in Chemistry; Lawrence University, Appleton, Wisconsin, 1984.

HONORS

1995: Sigma Xi , Honorary Scientific Research Society-
1991: Alexander von Humboldt Postdoctoral Fellowship
1988: IBM Corporation Graduate Research Fellowship

PROFESSIONAL AFFILIATIONS

(Current and Former)
American Chemical Society
American Vacuum Society
Phi Lambda Upsilon (Treasurer, National vice-President)
UC Davis Forensic Sciences Graduate Group
UC Davis Chemistry Graduate Group
UC Davis Designated Emphasis in Biotechnology
Americans for Safe Access
International Cannabis Research Society

PROFESSIONAL EXPERIENCE

1/93-Present: *Consultant in Analytical, Forensic, Environmental, and Surface Chemistry*
Expertise in statistical analysis of scientific data, solids and surface analysis, vibrational spectroscopy of solids and interfaces, chromatography, mass spectrometry, laser-desorption, surface microscopy, and infrared and electron spectroscopy.

7/13-Present *Chief Scientific Consultant and Co-Owner, Steep Hill Halent Laboratories, Oakland, CA.*

10/10-7/13 *Chief Scientific Consultant and Co-Founder, Halent Laboratories, Davis, CA.*
Established comprehensive program to study plant content and effects of growth conditions and selective breeding thereon. Developed a testing program to ensure the safety and efficacy of plant products being sold outside of the FDA system of regulation and testing. Assist local, state, and national governments in the design and implementation of regulated testing of cannabis and derived products.

PROFESSIONAL EXPERIENCE *continued*

7/07-Present: *Professor, Department of Chemistry, Forensic Science Graduate Group, Designated Emphasis in Biotechnology, University of California, Davis.*

7/97-6/07: *Associate Professor, University of California, Davis.*

7/91-6/97: *Assistant Professor, University of California, Davis.*

Developed program to study surface chemistry and structure using vibrational spectroscopy, conventional and laser desorption using FT mass spectrometry, and surface microscopy.

Lecture Courses Taught:

Chemistry 2B:	General Chemistry: Thermodynamics, Equilibrium, Acid/Base
Chemistry 2BH:	Honors Gen. Chem.: Thermodynamics, Equilibrium, Acid/Base
Chemistry 104:	Forensic Chemistry
Chemistry 105:	Analytical and Physical Chemistry Methods and Quantitative Anal.
Chemistry 124A:	Introduction to Inorganic Chemistry
Chemistry 125:	Advanced Methods of Physical Chemistry
Chemistry 205:	Graduate Inorganic and Analytical Spectroscopy (Core Course)
Chemistry 240:	Graduate Advanced Analytical Chemistry (Core Course)
Chemistry 241:	Graduate Special Topics in Surface Analytical Chemistry
Forensics 221L:	Graduate Forensic Analytical Methods
Forensics 268:	Graduate Forensics Statistics

Synergistic Activities:

- Co-director (with S. Kauzlarich and C. Lebrilla) and mentor in the UCD Chemistry/ACS Project SEED Program for economically disadvantaged high school students. The program has run every summer for over 10 years, placing dozens of junior-level high school students with university mentors to encourage them to pursue college degrees in chemistry related fields.
- Mentor in the MURPPS (Minority Undergraduate Research Program in the Physical Sciences) program to pair under-represented undergraduate students with faculty mentors.
- Mentor for University of California, Leadership Excellence through Advanced Degrees (UC LEADS), a leadership development/outreach program proposed by the UC Graduate Deans to encourage talented students from educationally disadvantaged backgrounds with a declared major in science or engineering to apply to UC Ph.D. Programs.
- Co-director (with S. Chiang, Physics, and B.C. Gates, Chem. Eng. & Mat. Sci.) of the Advanced Surface Microscopy Facility, a multi-user ultra-high vacuum facility for low energy electron microscopy, scanning tunneling microscopy, x-ray photoelectron spectroscopy, and mass spectrometry.

4/90-6/91: *Alexander von Humboldt Postdoctoral Fellow, IGV der KFA (Institute for Surface Research and Vacuum Physics), Jülich, Germany. (Professor Harald Ibach)*
Conducted studies using vibrational spectroscopy of thin organic films on metal surfaces by Fourier transform reflection absorption infrared spectroscopy and high resolution electron energy loss spectroscopy.

9/89-4/90: *Postdoctoral Researcher, Institute for Surface and Interface Science and Department of Chemistry, UC Irvine. (Professors J.C. Hemminger and R.T. McIver, Jr.)*
Studied surface reaction kinetics by laser-induced thermal desorption with Fourier transform mass spectrometry.

PROFESSIONAL EXPERIENCE *continued*

9/84-8/89: *Graduate Research Assistant and Teaching Assistant, Department of Chemistry, UC Irvine. (Professors R. T. McIver, Jr. and J.C. Hemminger)*
Designed and constructed a surface analysis instrument combining, for the first time, laser-induced thermal desorption, Fourier transform mass spectrometry, Auger electron spectroscopy, and low energy electron diffraction.

4/83-7/84: *Undergraduate Research Assistant and Teaching Assistant, Department of Chemistry, Lawrence University, Appleton, WI. (Professor Robert M. Rosenberg)*
Studied sub-unit interactions of glutamic acid decarboxylase using novel cross-linking agents. Designed, built and implemented gel electrophoresis apparatus for high molecular weight (300,000 D) species. Isolated enzyme from lyophilized *E. coli* bacteria and tested for activity using respirometry. Carried out novel, light-sensitive synthesis of cross-linking agent and characterized using NMR, UV/Vis, IR.

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Since 2000
(Not Including Conference Proceedings)

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Exhibit D

Gormley, Elizabeth (MSP)

From: Hoskins, Kyle (MSP)
Sent: Thursday, May 30, 2013 3:14 PM
To: Penabaker, Scott (MSP)
Cc: Chirackal, George (MSP); Gooden, Dale (MSP)
Subject: RE: Calling THC?

Follow Up Flag: Follow up
Flag Status: Flagged

If I cannot find any identifiable plant material, I am not comfortable calling it marihuana. Others feel the same way, I do. I am going by the evidence presented, not how the law is written. I do always look for plant parts stereoscopically or you could try Dale's method he explained at the meeting.

From: Penabaker, Scott (MSP)
Sent: Thursday, May 30, 2013 2:53 PM
To: Hoskins, Kyle (MSP)
Cc: Chirackal, George (MSP)
Subject: RE: Calling THC?

Once you identify THC and place it in schedule 1 on your report, it automatically becomes the felony.
The only place the prosecutor will find "THC" in the law is under this section which by law is a felony punishable by up to two years and $2000. The prosecutor cannot charge this as a misdemeanor Marihuana offense because that's not what was confirmed.

From: Hoskins, Kyle (MSP)
Sent: Thursday, May 30, 2013 2:36 PM
To: Chirackal, George (MSP); Gooden, Dale (MSP); Choate, Bradley (MSP); Knoll, Derek (MSP); Kidd, Anne (MSP); Penabaker, Scott (MSP)
Subject: RE: Calling THC?

Procedure manual 2.1 section under marihuana states how to report out marihuana. Each submission is the judgment of the analyst to make a reasonable call on the evidence they received based specifically on what they receive. It is up to the court to discern whether they want to jump to a felony. A Michigan legislative bill would need to be passed again to make those wording changes in PHC.

From: Chirackal, George (MSP)
Sent: Thursday, May 30, 2013 2:25 PM
To: Hoskins, Kyle (MSP)
Cc: Gooden, Dale (MSP); Choate, Bradley (MSP); Knoll, Derek (MSP); Kidd, Anne (MSP); Penabaker, Scott (MSP)
Subject: FW: Calling THC?

Please see attached document and email. Something to discuss at unit meeting?

George

From: Penabaker, Scott (MSP)
Sent: Thursday, May 30, 2013 11:36 AM
To: Chirackal, George (MSP)

Cc: Aguzzi, Jeff (MSP)
Subject: Calling THC?

Attached is the language that places "THC" in schedule 1 (MI and Federal). Notice how the Fed statue covers THC that is natural as well as
synthetic equivalents. They make a distinction between the two types. However, Michigan law does not. In order to place the actual compound
THC in schedule 1, the criteria of "synthetic equivalent" should be met. Since we really can't do this, there are many of us who feel that these
new evidentiary materials containing THC without any botanical morphology characteristics (candy, butter, ect..) should be identified as resinous extracts of Marihuana.
If you are to call it "THC", at a minimum, a statement should be provided in the additional information stating that the "origin, whether naturally occurring or synthetic could not be determined". Also, by going out on that limb and calling it THC, you now jump from a misdemeanor to a felony charge.
We're bringing this up because there seemed to be some concern about uniformity in making these calls. Further, it is highly doubtful that any of
these Med. Mari. products we are seeing have THC that was synthesized. This would be completely impractical. We are most likely seeing naturally occurring
THC extracted from the plant!

Scott A. Penabaker

Forensic Scientist
Forensic Science Division
Michigan State Police
Northville Laboratory
42145 W. Seven Mile Rd.
Northville, MI 48167
TX: 248-380-1011
Fax: 248-380-1005

"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"

Exhibit E

Gormley, Elizabeth (MSP)

From:	Knoll, Derek (MSP)
Sent:	Thursday, February 06, 2014 8:34 AM
To:	Gierlowski, Anne (MSP); Gormley, Elizabeth (MSP); Grabowski, Stephanie (MSP); Tenglin, Lauren (MSP); Zebrowski, Kimberly (MSP)
Subject:	FW: People v. Carruthers, No. 309987, decided July 11, 2013 (Michigan Court of Appeals)(Published)
Attachments:	People v. Carruthers, July 11, 2013, Mich. App..OPN.PDF

See below for clarification on THC and plant material. Let me know if you have questions.

-----Original Message-----
From: Hoskins, Kyle (MSP)
Sent: Thursday, February 06, 2014 8:25 AM
To: Blaksmith, Zachary (MSP); Kidd, Anne (MSP); Choate, Bradley (MSP); Knoll, Derek (MSP); Chirackal, George (MSP); Gooden, Dale (MSP)
Cc: Marier, Scott (MSP); Michaud, Gregoire (MSP); Bowen, John (MSP); Daniels, Gary (MSP); Hall, Glen (MSP); Larrison, Ryan M. (MSP); Morden, Charles (MSP); Pierson, James (MSP); Swander, Constance (MSP); Welch, Jason J. (MSP)
Subject: FW: People v. Carruthers, No. 309987, decided July 11, 2013 (Michigan Court of Appeals)(Published)

A reviewer from the Lansing Lab requested my interpretation of another analyst's report on a food product on 2/4/14. The examiner's result was marihuana when no visible plant material was found.

I spoke to the laboratory analyst yesterday and was told that the communication below was not forwarded to them directly and that they had no knowledge of the directive to discontinue this practice.

Individuals that continue to have no visualization of any plant material in products should be identifying the active ingredient in that product. Examiners that continue this practice have no knowledge of how these products may have actually been produced unless they have watched the production personally. (d) section of 333.7217 has been clarified by Ken Stecker.

-----Original Message-----
From: Hoskins, Kyle (MSP)
Sent: Friday, December 13, 2013 2:20 PM
To: Daniels, Gary (MSP); Larrison, Ryan M. (MSP); Morden, Charles (MSP); Pierson, James (MSP); Swander, Constance (MSP); Switalski, Jurgen D. (MSP); Welch, Jason J. (MSP)
Cc: Michaud, Gregoire (MSP) (MichaudG@michigan.gov); Bowen, John (MSP); Marier, Scott (MSP)
Subject: FW: People v. Carruthers, No. 309987, decided July 11, 2013 (Michigan Court of Appeals)(Published)

A concern came out of the Lansing Laboratory (please, see communication log of case LS13-885) regarding interpretation of a portion of the Public Health Code 333.7217:

"(d) Synthetic equivalents of the substances contained in the plant, or in the resinous extractives of cannabis and synthetic substances, derivatives, and their isomers with similar chemical structure or pharmacological activity, or both, such as the following, are included in schedule 1:

(i) /\1 cis or trans tetrahydrocannabinol, and their optical isomers.

(ii) /\6 cis or trans tetrahydrocannabinol, and their optical isomers.

(iii) /\3,4, cis or trans tetrahydrocannabinol, and their optical isomers."

In my opinion, the examiner identified the substance correctly as she could not visualize any actual plant material in case LS13-885. There seems to be a debate going on with some examiners whether it is the laboratory's responsibility to determine whether the THC found is natural or synthetic. The other concern expressed is that the charge changes to a felony with the identification of THC.

I requested Ken Stecker's opinion his e mail response is :

" Hi Kyle,

That is my opinion, THC is a schedule 1 drug regardless of where it comes from. I hope that helps. Ken"

Examiner's that are identifying food products or other non-plant materials as marihuana without the visualization of any plant material should discontinue this practice. The final identification of all phases of testing can only be marihuana when plant fragments, portions, samples, plant hairs or actual plants are visualized by the scientist. To my knowledge, the only two laboratories that have expressed this concern are Northville and Lansing. This is not the opinion of every examiner at those two laboratories.

-----Original Message-----
From: Michaud, Gregoire (MSP)
Sent: Thursday, July 25, 2013 4:02 PM
To: Hoskins, Kyle (MSP); Daniels, Gary (MSP); Larrison, Ryan M. (MSP); Marier, Scott (MSP); Morden, Charles (MSP); Pierson, James (MSP); Swander, Constance (MSP); Switalski, Jurgen D. (MSP); Welch, Jason J. (MSP); Wilson, Suzanne (MSP)
Cc: Bowen, John (MSP)
Subject: FW: People v. Carruthers, No. 309987, decided July 11, 2013 (Michigan Court of Appeals)(Published)

LDs,
Please pass along to your respective staffs.

In my meeting with PAAM today, it was decided that any questions regarding law interpretation (e.g., recent controlled substance cases) will be directed thru the applicable Technical Leader who will then reach out to Mr. Ken Stecker for a proper interpretation. The TL then in turn will send an email out to all the LDs with PAAM's response.

Thanks
Greg

Capt. Gregoire P. Michaud
Director
Forensic Science Division
Michigan State Police
7320 N. Canal Rd
Lansing, MI 48913
Office: (517)322-6155
Mobile: (517)927-4071

"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"

From: Stecker, Ken (AG)
Sent: Thursday, July 25, 2013 3:03 PM
To: Michaud, Gregoire (MSP)
Cc: 'KC Steckelberg'
Subject: People v. Carruthers, No. 309987, decided July 11, 2013 (Michigan Court of Appeals)(Published)

Greg,

Per our conversation today, please find a summary and attached the Carruthers' case for your review. This case is a good case for your lab personnel. Ken Good Morning,

Please find attached the published Michigan Court of Appeals decision of People v. Carruthers, No. 309987, decided July 11, 2013, for your review. The jury returned a guilty verdict to the charge of possession with intent to deliver the controlled substance marijuana.

The Michigan Court of Appeals, as an issue of first impression, that under existing statutory scheme, whether an edible containing THC extract from marijuana resin is or is not "usable marihuana" under the Michigan Medical Marihuana Act (MMMA).

Defendant was charged with possession of marijuana found in various locations within the vehicle, including mason jars, plastic bags, and a binder of plastic pouches, as well as containers of brownies that were individually labeled to indicate the weight of the brownie and content of medical marijuana (e.g., brownie weighing 3.1 ounces and containing two grams of medical marijuana). Testimony from a prosecution expert indicated that 9.1 ounces of usable marijuana (separate from the baked goods) was found, as well as 54.9 ounces of the brownies containing THC. At his preliminary examination, defendant acknowledged that THC was extracted from marijuana and infused into the brownies.

The Court held "that edibles made with THC extracted from marijuana resin are not "usable marihuana" under the MMMA. Simply put, the evidence before this Court indicates that the brownies were not a "mixture or preparation" of "dried leaves and flowers of the marihuana plant." MCL 333.26423(k). Therefore, the brownies were not "usable marihuana" under the MMMA, and none of the weight of the brownies should have been counted towards the determination of whether defendant possessed over 12.5 ounces of usable marijuana."

The Court further held that "therefore, defendant was in possession of an "amount of marihuana" that exceeded the permitted amount of usable marijuana he may have been allowed to possess. By possessing edibles that were not "usable marihuana" under the MMMA, but that indisputably were "marihuana," he failed to meet the requirements for section 4 immunity."

However, because the state of the law changed during the pendency of defendant's appeal, the defendant was entitled to move the trial court for dismissal and an evidentiary hearing on his ability to assert an affirmative defense under section 8 of the MMMA.

Exhibit F

Gormley, Elizabeth (MSP)

From: Choate, Bradley (MSP)
Sent: Monday, August 10, 2015 11:03 AM
To: Gormley, Elizabeth (MSP)
Subject: FW: Casework Guidelines

From: Hoskins, Kyle (MSP)
Sent: Friday, February 14, 2014 6:16 PM
To: Choate, Bradley (MSP)
Cc: Daniels, Gary (MSP); Bowen, John (MSP)
Subject: Re: Casework Guidelines

I'd like to keep moving, let's continue working on the wording as a team via email. This effects all 7 labs, all six supervisors are sending minor changes to the first draft. Lansing has held the strongest opinion of keeping the conclusion as marihuana. The remaining are ok reporting THC. Please, send me some thoughts of a possible additional statement of how this was the conclusion based on results/data that was derived. Also, what are your thoughts of how many cannabinoids need to be shown, should they be identified vs only GC MS observation? Swgdrug does have direct comments on this topic that you may want to review if you haven't already. I've already sent your comments on to the other supervisors so that they understand Lansing's concerns. Send me some thoughts next week and we can keep this rolling.

F/S Kyle Ann Hoskins
Technical Leader Controlled Substances
Bridgeport Laboratory
6296 Dixie Hwy.
Bridgeport, MI 48722
(989)777-9300

On Feb 14, 2014, at 4:28 PM, "Choate, Bradley (MSP)" <ChoateB@michigan.gov> wrote:

> That is why Inspector Bowen would like us to get together when you get back in March. We can set up a time then?
>
> Brad
>
> ---
>
> **From:** Hoskins, Kyle (MSP)
> **Sent:** Friday, February 14, 2014 3:06 PM
> **To:** Choate, Bradley (MSP)
> **Cc:** Daniels, Gary (MSP); Bowen, John (MSP); Rosenthal, Jeffrey (MSP)
> **Subject:** RE: Casework Guidelines
>
> Brad,
>
> I've understood the argument between the two sides. What I need help on is a solution that all can live with the interpretation of the report. Having a similar beginning product and different end conclusion from lab to lab isn't going to work even though we have been doing it for 19 years.

What about an additional statement attached to the report to actually educate our reader what identifying the THC and any other cannabinoid actually means?

Kyle

From: Choate, Bradley (MSP)
Sent: Friday, February 14, 2014 2:24 PM
To: Hoskins, Kyle (MSP)
Cc: Daniels, Gary (MSP); Bowen, John (MSP)
Subject: RE: Casework Guidelines

I disagree with the changes being made for a few reasons:

The Controlled Substances Procedure Manual specifically states that Marihuana is a special case and was written that way due to the Michigan statutory definition of Marihuana. Nowhere does it say that THC is a special case.
Oils and solids where no plant material is present is included here because it represents resins extracted from the Marihuana plant which is controlled as Marihuana by statute.

When THC is identified in a case the analysts has two choices:

1) Identify it as Marihuana which for possession is a Schedule I misdemeanor
2) Identify it as a synthetic equivalent of THC which for possession is a Schedule I felony.

There is not a third choice. The question then becomes is the THC from a natural source i.e., Marihuana, or a synthetic source. The presence of other cannabinoids indicates that the substance is from a natural source. I don't know of any way to determine that THC was synthesized unless a lab was found and the pre cursor substances to make THC were present.

Prosecutor's rely on our reports to determine what to charge a person with. A report that states delta-1-THC without any other statement would lead a Prosecutor to the synthetic portion of the law since this is the only place where THC is specifically listed. This could lead to the wrong charge of possession of synthetic THC and the ultimate wrongful conviction of an individual. For the laboratory to contribute to this possible miscarriage of justice would be a huge black eye for the Division and the Department.

We are Forensic Scientists which means that we have to apply science to the law. It is our responsibility to learn and interpret the law in regards to Controlled Substances. We do this with every report we issue since we determine whether a substance is controlled and then list what schedule it is in. We don't leave it up to the prosecutor to figure this out, otherwise, we would just identify the compound and not say if it is controlled or not.

In the case *People v Carruthers* case that was heard by the State of Michigan Court of Appeals where THC was identified in brownies with testimony from the analyst that no plant material was present it was stated by the court that "The parties agree, however, as do we, that the brownies did constitute "marihuana" under its statutory definition. Possession of THC extracted from marijuana is possession of marijuana. See *People v Campbell...*"

Food cases that have extracted resins from marihuana in them but no visible plant material should still be charged as possession of marihuana. I have a problem with the procedure manual stating that a conclusion of marihuana cannot be stated in the report. It would follow then, that we could not state on the stand that it is marihuana which would make it hard, if not impossible for the Prosecutor to prove possession of marihuana. This conclusion is incorrect because the resins are Marihuana. Apparently analysts in our system our hung up on the fact that to identify marihuana they need to see plant material. The concept that they are missing is that the resins are part of marihuana and can be

conclusively identified. We are not making an identification of marihuana in most cases because of a botanical analysis. We are relying on the Duquenois Levine test coupled with the presence of cystolithic hairs. With resins, the presence of THC and other cannabinoids replaces the identification of the cystolithic hairs.

Finally, if THC is identified in the results the Duquenois Levine test does not satisfy the selective test. It is an accepted test for the identification of marihuana but it is not selective for just one cannabinoid . For all other controlled substances tested the only selective tests listed in our Procedure Manual are GC, TLC, LC, Crystal and physical recognition of marked pharmaceutical products. One of these would be necessary for a complete analysis.

I will also forward Mr. Rosenthals feedback.

Bradley D. Choate
Controlled Substances Unit Supervisor-Lansing Laboratory
Forensic Science Division
Michigan State Police
7320 N. Canal Road
Lansing, MI 48913
TX: 517- 819-2999

"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"

From: Hoskins, Kyle (MSP)
Sent: Tuesday, February 11, 2014 9:21 AM
To: Kidd, Anne (MSP); Choate, Bradley (MSP); Knoll, Derek (MSP); Chirackal, George (MSP); Gooden, Dale (MSP)
Subject: Casework Guidelines

Good Morning,

The procedure manual for guidelines of marihuana will be changed to conform with the conclusion of cannabinoids to be used as a result when no visible morphological characteristics of plant material can be microscopically visualized.

This change is being put in place so that our reporting is uniform across the state in regards to oils, food products and other substances that are not grossly plant.

Please, read the attached and offer any thoughts or concerns of the policy. I'd appreciate a response by Friday, February 14th.

Thank you,

Kyle Ann Hoskins
Technical Leader Controlled Substances
Forensic Science Division
Michigan State Police

6296 Dixie Hwy
Bridgeport, MI 48722
TX (989)777-9300

"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"

Exhibit G

Gormley, Elizabeth (MSP)

From: Dougherty, Elaine (MSP)
Sent: Thursday, January 29, 2015 7:38 AM
To: Gooden, Dale (MSP); Gormley, Elizabeth (MSP); Choate, Bradley (MSP); Hoskins, Kyle (MSP); Blaksmith, Zachary (MSP); Kidd, Anne (MSP); Knoll, Derek (MSP); Chirackal, George (MSP)
Cc: Bowen, John (MSP); Pierson, James (MSP); Daniels, Gary (MSP)
Subject: RE: Concern from the field

What if we adopted the Federal definitions below for hash and hash oil, and then reported these out as "marihuana processed as hash" and "...hash oil?"

> Hashish, for the purposes of this guideline, means a resinous substance of cannabis that includes (i) one or more of the tetrahydrocannabinols (as listed in 21 C.F.R. § 1308.11(d)(30)), (ii) at least two of the following: cannabinol, cannabidiol, or cannabichromene, and (iii) fragments of plant material (such as cystolith fibers).
>
> Hashish oil, for the purposes of this guideline, means a preparation of the soluble cannabinoids derived from cannabis that includes (i) one or more of the tetrahydrocannabinols (as listed in 21 C.F.R. § 1308.11(d)(30)), (ii) at least two of the following: cannabinol, cannabidiol, or cannabichromene, and (iii) is essentially free of plant material (e.g., plant fragments). Typically, hashish oil is a viscous, dark colored oil, but it can vary from a dry resin to a colorless liquid.

I realize this would necessitate changes to the procedure manual, but I don't think these marihuana products are going to go away... I think for food products, we would still need to identify THC, unless obvious plant material pieces are visible.

My two cents,
Elaine

From: Gooden, Dale (MSP)
Sent: Wednesday, January 28, 2015 4:36 PM
To: Gormley, Elizabeth (MSP); Choate, Bradley (MSP); Hoskins, Kyle (MSP); Blaksmith, Zachary (MSP); Kidd, Anne (MSP); Knoll, Derek (MSP); Dougherty, Elaine (MSP); Chirackal, George (MSP)
Cc: Bowen, John (MSP); Pierson, James (MSP); Daniels, Gary (MSP)
Subject: RE: Concern from the field

I concur with Elizabeth, with an added observation:

If you have a plant material extract with a few bits of plant material in it, considering the points that Elizabeth cited about what is required to call the substance marihuana, you would be hard pressed to identify the plant material bits as marihuana, even if there are enough morphological features present to microscopically tell that the plant material is marihuana. The problem is that you must also then have a positive Duquenois-Levine test, and how are you going to get that when the plant material bits have been "soaking" in a medium, the plant material extract, which is typically loaded with delta-1-THC and other cannabinoids? How can you run the Duquenois-Levine only on the plant material and be assured that the positive result is from the cannabinoids in the plant material, not from the cannabinoids in the extract? You can't. Therefore, you cannot provide the positive chemical test, whether it be a Duquenois-Levine or a GC-MS, on the plant material alone. The plant material has been "contaminated" by its surrounding medium, the

extract. In cases like this, we really have no choice but to analyze the plant material extract and report what was actually identified, the delta-1-THC.

Dale

Dale A. Gooden
Forensic Scientist Manager
Forensic Science Division
Michigan State Police
720 Fuller Avenue, N.E.
Grand Rapids, MI 49503
Office phone: 616-242-6657
Fax: 616-242-6682

"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"

From: Gormley, Elizabeth (MSP)
Sent: Wednesday, January 28, 2015 4:14 PM
To: Choate, Bradley (MSP); Hoskins, Kyle (MSP); Blaksmith, Zachary (MSP); Kidd, Anne (MSP); Knoll, Derek (MSP); Dougherty, Elaine (MSP); Chirackal, George (MSP); Gooden, Dale (MSP)
Cc: Bowen, John (MSP); Pierson, James (MSP); Daniels, Gary (MSP)
Subject: RE: Concern from the field

This issue is strictly about the analytical processes required to reach a conclusion of marihuana vs THC. I think perhaps taking a look at how THC wax fits into the procedure manual and the law would solve a majority of the concerns with this type of submission.

Procedure
Let's look at the requirements for marihuana exams:
1. Macroscopic exam: the material is macroscopically consistent with plant material
2. Microscopic exam: the material is microscopically consistent with marihuana (required for ID)
3. Chemical test: a positive reaction for both steps of the D-L test.

If a substance meets all of the above, it can be identified as marihuana.

If it does not meet all three, then either
a) Another test must be performed to reach an ID of marihuana, OR
b) It cannot be identified as marihuana

There is no other option.

Additionally, if only part of an inhomogeneous mixture is analyzed, that part which was tested should be specified in the report so as to be as clear as possible. For example: "Plant material residue recovered from the brown sticky material was analyzed."

Law
The part of the law which is relevant to this issue is the definition of marihuana. It is clear that in non-MMMA instances the resin extracted from the plant "Canabis" sativa L. is defined as marihuana. (MMMA: usable marihuana has a different definition not considered here.) Unfortunately, we have no way of ascertaining the species of plant without the morphological tests specified in the procedure manual. Typically waxes and oils have limited macroscopic and microscopic features which are needed for the identification of the plant species, and so THC is the analyte typically identified in cases with insufficient plant morphology.

In the instance of insufficient plant features, the origin of the THC could have been from a plant or a synthetic source: we may have a hunch about where it came from, but we don't know, and we don't have any data to predict the probability of one source over the other. That's what our THC statement says, and for the most part prosecutors have had no issue with the statement appearing on THC reports. Prosecutors reportedly can charge "marihuana" even with a lab report that says "THC", and have done so at their discretion.

I do not favor re-wording the THC statement to resolve this particular problem as the problem does not arise from the statement.
I would instead suggest ensuring that our tests and reports are aligned to provide clear, accurate, and relevant information to our client agencies.

The references below may be of use when considering my position.
Respectfully,
Elizabeth

References:
SWGDRUG Recommendations:

> "IIIB.3.2.1 For cannabis, macroscopic and microscopic examinations will be considered as uncorrelated techniques from Category B when observations include documented details of botanical features. Laboratories shall define the acceptance criteria for these features for each examination.
> IIIB.3.2.2 For exhibits of cannabis that lack sufficient observable macroscopic and microscopic botanical detail (e.g. extracts or residues), D9-tetrahydrocannabinol (THC) or other cannabinoids shall be identified..."

MSP Procedure Manual

> "2.1 Marihuana is a special case and the analytical procedure is:
> •Plant material - Macroscopic examination, microscopic examination, and Duquenois Levine or other selective test for cannabinoids. A description of morphological characteristics must be included in the case notes.
> •Hashish - Microscopic examination for plant hairs, Duquenois Levine, and a specific test for cannabinoids.
> •Oils, solids, or plant material with no identifiable hairs - As a minimum protocol, the analyst shall perform one specific test and a selective test for cannabinoids. A second specific test may be substituted for the selective test. The report shall clarify that the source of the identified cannabinoids cannot be established.

"2.2.2 Multiple Samples (Packages or Plants)
...

> •The report shall state the number and/or portions of the case samples that were analyzed.

2.2.3 Multiple Drug Items
...

> •Only one item involving a particular drug found on a person or in a particular location will be analyzed.
> •In general, the highest penalty item will be analyzed
> •In general, the drug present in the highest quantity will be analyzed.

Elizabeth Gormley
Acting Supervisor
Controlled Substances Unit

Sterling Heights Forensic Laboratory
Michigan State Police
42800 Merrill Road
Sterling Heights, MI 48314

Tel: (586) 726-6709
FAX: (586) 726-6661

"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"

From: Choate, Bradley (MSP)
Sent: Wednesday, January 28, 2015 2:21 PM
To: Hoskins, Kyle (MSP); Blaksmith, Zachary (MSP); Gormley, Elizabeth (MSP); Kidd, Anne (MSP); Knoll, Derek (MSP); Dougherty, Elaine (MSP); Chirackal, George (MSP); Gooden, Dale (MSP)
Cc: Bowen, John (MSP); Pierson, James (MSP); Daniels, Gary (MSP)
Subject: RE: Concern from the field

Upon reading this correspondence I immediately thought about the Guiding Principles training we receive yearly. Under Professionalism it states that "Conclusions are based on the evidence and reference material relevant to the evidence, not on extraneous information, political pressure, or other outside influences". Whether or not an individual has a medical marihuana card is immaterial to how we report out our results.

When we made the previous changes I made it very apparent that I did not agree with it. One of my concerns was that by reporting out THC instead of marihuana it would lead to Prosecutors charging people with synthetic THC. This appears to be what the agency wants. The question I would pose to all of our analysts is how they would answer questions on the stand. In the scenario described how would they answer the question that absent the plant material speck, in their opinion is the rest of the wax material marihuana or not and in their opinion is the THC identified synthetic or natural? Again the legal definition of marihuana includes the resinous extract which contains cannabinoids and we can identify those cannabinoids.

Bradley D. Choate
Controlled Substances Unit Supervisor-Lansing Laboratory
Forensic Science Division
Michigan State Police
7320 N. Canal Road
Lansing, MI 48913
TX: 517- 819-2999

"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"

From: Hoskins, Kyle (MSP)
Sent: Tuesday, January 27, 2015 9:56 AM
To: Blaksmith, Zachary (MSP); Gormley, Elizabeth (MSP); Kidd, Anne (MSP); Choate, Bradley (MSP); Knoll, Derek (MSP); Dougherty, Elaine (MSP); Chirackal, George (MSP); Gooden, Dale (MSP)
Subject: FW: Concern from the field
Importance: High

Here's what Jim Pierson sent this AM, discussion went up to Division. Suggestion was made to revise those foodstuffs that are reported as marihuana due to visible PM to somehow state that marihuana contains THC. I am assuming most are checking with GC MS anyhow.

Once you see how much stuff we have to discuss in Feb, you'll be glad we started working on this, now.

From: Pierson, James (MSP)
Sent: Tuesday, January 27, 2015 7:13 AM
To: Hoskins, Kyle (MSP); Bowen, John (MSP); Marier, Scott (MSP)
Subject: Concern from the field
Importance: High

Kyle,

When you come Wednesday, I would like to discuss this situation I have been presented with through 6th District. I see their problem. I understand the way the protocol is written our analysts have to report it as MJ but, I definitely can see their point. Hope we can come up with a solution we all can live with....

From Any Fias:
We are encountering a significant amount of THC wax and oil. These products are illegal and not covered under the Michigan Medical Marijuana Act. We have had a couple issues with the lab tests coming back as marijuana instead of delta1-THC. If we were to seized the wax/oil from a card carrying patient or caregiver and it comes back as marijuana, we will not have PC for the arrests. Bill Evans spoke to lab personnel and was advised that if a "speck" of marijuana plant material is found in the oil, the test will come back as marijuana and not delta1-THC. Is there a way to get this changed? Our prosecutors are willing to argue that one speck of marijuana does not turn the larger quantity of oil/wax into marijuana. I can refer you to lab # GR14-3238 where item #4 (brown sticky wax) was tested and found to be marijuana.

Thanks,

Jim

F/Lt. James F. Pierson
Director, Grand Rapids Laboratory
Michigan State Police, Forensic Science Division
720 Fuller Avenue NE
Grand Rapids, Michigan 49503
(Wrk) 616 -242-6653
(Cell) 616 -550-0158
(Fax) 616 -242-6682
"A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"

Exhibit H

Gormley, Elizabeth (MSP)

From:	Gormley, Elizabeth (MSP)
Sent:	Thursday, August 06, 2015 2:25 PM
To:	Choate, Bradley (MSP); Chirackal, George (MSP); Gooden, Dale (MSP); Kidd, Anne (MSP); Knoll, Derek (MSP); Orlowski, Sandra (MSP); Waldron, Jerome (MSP); Dougherty, Elaine (MSP); Blaksmith, Zachary (MSP); Daniels, Gary (MSP); Michaud, Gregoire (MSP)
Subject:	FOIA - THC foodstuffs & THC statement
Follow Up Flag:	Follow up
Due By:	Tuesday, August 11, 2015 9:00 AM
Flag Status:	Flagged

All:
I have received a FOI request for any and all e-mails on the topic of procedures for handling THC in non-plant material and the addition of the phrase ("origin unknown") to lab reports. That includes the e-mail chain below, to which you were a party.

I am e-mailing you to ensure that any additional side e-mail conversations on this procedure are disclosed.

The request is for communications from 2008 on, but the specific interest is in an e-mail on this topic which may have been issued in July 2013 or later.

If you have any additional e-mails of conversations related to this procedure or are aware of the e-mail in question, please forward each to me no later than Tuesday, August 11th, but preferably as soon as possible.
Thank you!
Elizabeth

-----Original Message-----
From: Bowen, John (MSP)
Sent: Saturday, March 15, 2014 5:57 PM
To: Hoskins, Kyle (MSP)
Cc: Choate, Bradley (MSP); Chirackal, George (MSP); Gooden, Dale (MSP); Kidd, Anne (MSP); Knoll, Derek (MSP); Orlowski, Sandra (MSP); Waldron, Jerome (MSP); Dougherty, Elaine (MSP); Blaksmith, Zachary (MSP); Bell, Jessica (MSP); Daniels, Gary (MSP); Michaud, Gregoire (MSP)
Subject: Re: THC foodstuffs

I do not intend to bring Ken Stecker in to explain this to our drug unit; I think everyone understands the issue pretty clearly.

I've had this conversation personally with Brad, Kyle, and George. All three agree with the (sensible) argument that other cannabinoids *can* be manufactured synthetically, just as THC can be. Is it likely that someone went to the trouble to manufacture THC and two other cannabinoids, mix them up, and bake them into a pan of brownies? Of course not. That doesn't mean we should change the results to show we found Marijuana. We didn't, because Marijuana is a plant, and we didn't find plant parts.

We need to make sure our reports are accurate. To me, that means reporting *exactly* what we found. If we found THC, with no other plant parts, we should report it as THC, not Marijuana. If there are plant parts consistent with Marijuana available in combination with the THC, that sounds like Marijuana.

It makes sense to clarify the detection of THC with a disclaimer that we don't know the source (natural/synthetic). That should eliminate any fear that a high school student with a brownie could be charged with a felony.

Kyle, please make the changes to the procedures manual and pin down the wording for the disclaimer statement. Once that's done, I'll talk to Ken Stecker myself and make sure he's ok with this direction.

JB

> On Mar 14, 2014, at 6:27 PM, "Hoskins, Kyle (MSP)" <HoskinsK@michigan.gov> wrote:
>
> If Ken Stecker's opinion needs to be heard vs e mail, perhaps Division can provide him to discuss his opinion on the THC topic of the law to anyone that would like to discuss/debate the law.
>
> Unfortunately, other cannabinoids can be made synthetically so that does not clear up when these are present we can assume that the only source is marihuana. When I asked the group which cannabinoids do we have to have to identify a substance as marihuana, all agreed this is not a workable solution. No one could truly defend which ones have to be present to confirm marihuana. What if both are used synthetic and natural cannabinoids when making these products?
>
> The House Bill issue will have to be crossed if passed into law. My answer if asked if this was marihuana as a chemist, "I identified THC and certainly THC can be extracted from marihuana".
>
> We really need to work on the clarification of these reports verses coming up with all kinds of "what if" scenerios. If the disclaimer statement that was suggested isn't how you'd clarify the report create something better. THC (marihuana) on the results line suggests these two are the same and I don't think it clarifies the reports.
>
> Have a great weekend all.
>
>
> F/S Kyle Ann Hoskins
> Forensic Scientist
> Bridgeport Laboratory
> 6296 Dixie Hwy.
> Bridgeport, MI 48722
> (989)777-9300
>
>> On Mar 14, 2014, at 5:01 PM, "Choate, Bradley (MSP)" <ChoateB@michigan.gov> wrote:
>>
>> I have issues with a couple of statements in this email.
>>
>> 1) According to the e-mail I saw, Ken Stecker stated "That is my opinion, THC is a schedule 1 drug regardless of where it comes from. I hope that helps. Ken". This is not the same as saying that the law doesn't differentiate between natural and synthetic THC.
>>
>> 2) The presence of other cannabinoids indicates a natural source when plant material is not present.
>>
>> Also, I have attached House Bill 5104 which amends the medical marihuana act for "marihuana-infused product". How will these cases be affected by this and how are people going to answer the question "is this Marihuana?" while testifying, which is a question I would expect when the charge is marihuana.
>>
>>
>> Bradley D. Choate
>> Controlled Substances Unit Supervisor-Lansing Laboratory Forensic

>> Science Division Michigan State Police
>> 7320 N. Canal Road
>> Lansing, MI 48913
>> TX: 517- 819-2999
>>
>> "A PROUD tradition of SERVICE through EXCELLENCE, INTEGRITY, and COURTESY"
>>
>>
>>
>> -----Original Message-----
>> From: Hoskins, Kyle (MSP)
>> Sent: Wednesday, March 12, 2014 6:38 AM
>> To: Choate, Bradley (MSP); Chirackal, George (MSP); Gooden, Dale
>> (MSP); Kidd, Anne (MSP); Knoll, Derek (MSP); Orlowski, Sandra (MSP);
>> Waldron, Jerome (MSP); Dougherty, Elaine (MSP); Blaksmith, Zachary
>> (MSP); Bell, Jessica (MSP)
>> Cc: Bowen, John (MSP)
>> Subject: THC foodstuffs
>>
>> Based on our discussions on THC/marihuana found in foodstuffs, I contacted Dr Endres to determine in the chemical industry the process of synthesizing THC. According to Endres, many manufacturers do synthesize their own THC standards as it is easier than purifying a standard from marihuana to a specific isomer of THC which is the typical request of the customer. He indicated synthesis is difficult, but the purification process is also arduous.
>>
>> The THC found in foodstuffs although most likely the extract of marihuana cannot be determined by our examiners without the presence of any plant material morphology. Identification of THC shall be made on these products which shall include a specific test and a selective test. The result section of the report shall indicate THC. All reports shall include a disclaimer statement in our inability to determine the possible source of the THC so that the reports are clear and that our readers are educated on this fact.
>>
>> Remember according to Stecker our law does not distinguish the fact whether THC is a natural and/or a synthetic source.
>>
>> One example of a disclaimer statement is the following:
>>
>> "The origin of the delta 9 THC identified whether from plant (marihuana) or a synthetic source can not be determined by this laboratory."
>>
>> If your examiners would like to use another disclaimer statement in their report that is their option, but it will need to be in each of these reports to avoid any confusion to the reader.
>>
>> I'll make changes to the procedure manual next week to solidify these slight changes in our protocol.
>>
>> F/S Kyle Ann Hoskins
>> Technical Leader Controlled Substances Bridgeport Laboratory
>> 6296 Dixie Hwy.
>> Bridgeport, MI 48722
>> (989)777-9300
>> <2013-HEBH-5104.pdf>

Exhibit I

2.1 Guidelines for Controlled Substances Analysis

2.1.1 Analytical Tests

1. Analytical tests fall into three categories based upon their maximum discriminating power. The categories are:

    a. Specific structure elucidating tests (MS, IR, NMR)

    b. Selective tests (GC, TLC, LC, microcrystalline tests, or published physical pharmaceutical identifiers)

    c. Screening tests (Spot test, UV, or physical recognition)

2. The classification of any technique may be lower if the sample, analyte, or mode of operation diminishes the discriminating power of the technique.

2.1.1.2 Identification Protocol

1. As a minimum standard for controlled substance identification, at least one specific test and at least one selective test shall be performed. A second specific test may be substituted for a selective test.

2. The chosen analytical scheme shall demonstrate the identity of the specific drug present.

3. An identification of a controlled substance must chemically exclude isomers and analogs of the substance which are not included in the status of the substance as controlled. Relevant limitations of an analytical scheme (e.g. inability to differentiate isomers) shall be documented in the case record.

2.1.1.3 Identification of Marihuana

1. As a minimum standard for the identification of marihuana, a macroscopic examination, a microscopic examination, and one other test for cannabinoids shall be performed. Descriptions of botanical features and/or morphological characteristics shall be recorded in the case record.

2. For plant materials or other marihuana-related items that lack sufficient observable macroscopic and microscopic morphology (example: extracts or residues), delta-1-tetrahydrocannabinol (THC) or other cannabinoids shall be identified as described in Section 2.1.1.2 of this manual. Upon the identification of THC in this instance, the laboratory report shall state: "The origin of delta-1-tetrahydrocannabinol may be from a plant (marihuana) or a synthetic source."