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8 UNITED STATES DISTRICT COURT  
9 FOR THE NORTHERN DISTRICT OF CALIFORNIA  
10

11 UNITED STATES OF AMERICA,

Case No. CR-05-00167 WHA

12 )  
13 ) Plaintiff,

NOTICE OF MOTION AND  
MOTION TO EXCLUDE DRUG  
IDENTIFICATION TESTIMONY  
AND REQUEST FOR DAUBERT  
HEARING

14 ) vs.

15 ) REDACTED DEFENDANT No. 1, et al.)

Date: August 30, 2006

Time: 8:30 a.m.

Dept: Hon. James Alsup

EXCLUDABLE TIME: 18 U.S.C. §  
3161(h)(1)(F)

16 ) Defendants.  
17 )  
18 )  
19 )

20 **TO: PLAINTIFF UNITED STATES OF AMERICA AND ITS ATTORNEYS, PHILIP**  
21 **KEARNEY, RICHARD CUTLER AND KRISTA TONGRING; TO ALL DEFENSE**  
22 **COUNSEL:**

23 PLEASE TAKE NOTICE that Defendant, Edgar Diaz, through undersigned counsel, and  
24 on behalf of all defendants, respectfully moves this Honorable Court, pursuant to Federal Rules  
25 of Evidence Sections 104(a), 403, 702, 703 and the Fifth, Sixth, and Eighth Amendments to the  
26 United States Constitution, to exclude all drug identification testimony and evidence to be offered  
27 by the government. The grounds for this motion are: (1) there is no reliable scientific basis for  
28 this proposed testimony, and thus the testimony is inadmissible under *Daubert v. Merrell Dow*  
*Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) and *Kumho Tire Co. v. Carmichael*, 526 U.S. 137,  
119 S.Ct. 1167, 143 L.Ed.2d 238 (1999); (2) the testimony is inadmissible under the 2000

1 amendments to Rule 702 in that (a) the testimony is not based upon sufficient facts or data, (b)  
2 the testimony is not the product of reliable principles and methods, and (c) the drug identification  
3 examiners who performed the analysis in this case have not applied the principles and methods  
4 of their profession reliably to the facts of the case; (3) the government's destruction of, or failure  
5 to provide, documents and deprives the Court of the evidence necessary to fulfill its gatekeeping  
6 function under *Daubert* and Rules 104(a) and 702; (5) the government's destruction of, or failure  
7 to provide, evidence violates the defendants' rights under the Fifth Amendment (due process) and  
8 Sixth Amendment (confrontation, fair trial), and, as to defendants Fort and Diaz, the Eighth  
9 Amendment guarantee of heightened evidentiary reliability in a death penalty case, and (6) that  
10 a testimony preclusion sanction is appropriate for the government's failing yet again to comply  
11 with court orders.

12 This Motion is based on this Notice, the attached memorandum of points and authorities,  
13 the attached Exhibits, and any oral and documentary evidence and argument as may be produced  
14 at the hearing on said motion.

15 Dated: August 7, 2006

16 Respectfully submitted,

17  
18 MICHAEL N. BURT  
19 TONY TAMBURELLO

20 By /s/ Michael N. Burt

21 Attorneys for Defendant  
22 EDGAR DIAZ  
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8 UNITED STATES DISTRICT COURT  
9 FOR THE NORTHERN DISTRICT OF CALIFORNIA

10 UNITED STATES OF AMERICA, )  
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13 Plaintiff, )

14 vs. )

15 REDACTED DEFENDANT No. 1, et al. )

16 Defendants. )  
17 \_\_\_\_\_)

Case No. CR-05-00167 WHA

**NOTICE OF MOTION AND MOTION TO  
EXCLUDE DRUG IDENTIFICATION  
TESTIMONY AND REQUEST FOR  
DAUBERT HEARING**

**Date: August 30, 2006**

**Time: 8:30 a.m.**

**Dept: Hon. James Alsup**

**EXCLUDABLE TIME: 18 U.S.C. §  
3161(h)(1)(F)**

18  
19  
20 **I. Statement of Facts and Threshold Objections**

21 This motion addresses the admissibility of drug identification testimony to be offered by the  
22 government.

23 As the Court is aware, the government's June 19, 2006 expert witness summary contains a section  
24 on "Narcotics" witnesses. The government proposes to call Ralph Whitten, Daniel Lee, Michael Tan,  
25 Francis Woo, Debra Madden, Corbin Yem, and Lois Woodworth to identify various substances seized  
26  
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1 from the defendants or others as either cocaine base or marijuana.<sup>1</sup> In all, there were 17 substances tested.  
2 The specific tests performed to conduct the analysis are either not listed in the summary, or, for some  
3 technicians, it is indicated that the Duquenois-Levine color test and observation of “botanical features”  
4 were used as the sole basis to identify marijuana, and that the Cobalt Thiocyanate/acid color test and the  
5 Gold Chloride (tetrachloroaurate), and Platinic Chloride crystal tests were used as the sole basis to  
6 identify cocaine base.

7 As to all seven of the narcotics experts there is the same boilerplate language in the summary:  
8 “Criminalist \_\_\_ will testify that he does not have an independent recollection of the analyses in this  
9 case, but that he follows the standard method used by the SFPD Crime Lab (sic). The procedure outlined  
10 in the SFPD’s Standard Operating Procedures for the identification of controlled substances are  
11 incorporated in this expert notification by reference (N000382).” The problem is that the face sheet for  
12 the CD identified as N000382 (Controlled Substances SOP)(Exhibit 1 herein) is dated “Version 6/23/05  
13 Rev. 5”. The expert summaries indicate that all of the narcotics analysis were performed between 6/11/98  
14 and 5/16/2005. On May 17, 2006, the court ordered that the manuals in existence at the time of the  
15 testing be produced by July 31, 2006. As of the date of this motion (August 7, 2006) this material has  
16 not been produced. To add insult to injury, the government has notified the Court and the defense that  
17 in many instances the technician’s notes of the examination, any photographs of the substances, any  
18 photographs of the results of color or crystal tests, any results for any GC/MS testing, and the drugs  
19 themselves, have all been destroyed.

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22 <sup>1</sup> The government’s June 19, 2006 expert witness summary is attached to Doc. 554 as Exhibit  
23 1 and incorporated herein by reference.

24 Count One of the Second Superseding Indictment charges a conspiracy to distribute and  
25 possess with intent to distribute 50 grams or more of cocaine base, an unspecified amount of  
26 marijuana, and an unspecified amount of MDMA (ecstasy). Count Twenty Nine charges Emile Fort  
27 with a separate conspiracy to distribute 5 grams or more of cocaine base and heroin. Counts Forty  
28 through Fifty Five charge various defendants with possession with intent to distribute either cocaine  
base or marijuana. According to the government’s summary, none of its drug examiners will identify  
MDMA or heroin. The summary also indicates that the total amount of marijuana to be identified  
for all defendants is a meager 75.80 grams (2.67 ounces). Cf., California Health and Safety Code  
Section 11357 (b)(possession of less than one ounce of marijuana is punishable by a fine of no more  
than \$100). The total amount of cocaine base to be identified for all defendants is a meager 35.30  
grams (1.24 ounces).

1 At the outset, therefore, defendants move to exclude all of the government's drug identification  
2 witnesses because (a) the government's destruction of, or failure to provide, documents deprives the  
3 Court of the evidence necessary to fulfill its gatekeeping function under *Daubert* and Rules 104(a) and  
4 702<sup>2</sup>; (b) the government's destruction of, or failure to provide, evidence violates the defendants' rights  
5 under the Fifth Amendment (due process) and Sixth Amendment (confrontation, fair trial), and, as to  
6 defendants Fort and Diaz, the Eighth Amendment guarantee of heightened evidentiary reliability in a

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14 <sup>2</sup> See, United States v. Stokes 388 F.3d 21, 27 (1<sup>st</sup> Cir. 2004) ("Providing the district court  
15 with information underlying the expert's assumptions and conclusions allows the court to 'gauge  
16 whether the testimony would be helpful to the jury or would confuse or mislead instead.'"); United  
17 States v. Brien, 59 F.3d 274, 277 (1<sup>st</sup> Cir. 1995), certiorari denied 516 U.S. 953, 116 S.Ct. 401, 133  
18 L.Ed.2d 320 (trial court did not err in excluding expert testimony concerning fallibility of eyewitness  
19 testimony where proponent of testimony failed to present underlying data supporting opinion; "There  
20 is nothing to Brien's alternative argument that Fed.R.Evid. 705 entitled Yarmey to offer the expert  
21 testimony without disclosing the underlying data, leaving that to be developed by cross-examination.  
22 Rule 705 relates to the presentation of testimony at trial and, even then, is subject to the supervision  
23 of the trial judge to avoid unfairness. The rule does not impair-- indeed, has nothing to do with--the  
24 trial judge's right to insist that he or she be given the underlying information by proffer as an aid to  
25 the preliminary ruling on admissibility."); University of Rhode Island v. A.W. Chesterton Co., (1st  
26 Cir.1993), 2 F.3d 1200, 1218 (trial court did not err in precluding CPA from testifying on grounds his  
27 damage calculation was flawed where proponent offered no supporting documentation to substantiate  
28 the calculation; "Rules 703 and 705 do not afford automatic entitlements to proponents of expert  
testimony. ... [U]nder the broad exception to Rule 705 ('unless the court otherwise requires'), the trial  
court is given considerable latitude over the order in which evidence will be presented to the jury. ...  
While the trial court's discretion is not unfettered, at a minimum the rules suggest that the proponent  
must be prepared, if the court so requires, to make a limited offer of proof to aid the court in its  
assessment."); Ambrosini v. Labarraque, (D.C. Cir.1992), 966 F.2d 1464, 1469 (in products-liability  
action against drug manufacturer alleging drug caused birth defects, where trial court granted  
defendant's motion for summary judgement and disregarded affidavits of plaintiff's experts on  
grounds their opinions connecting drug to birth defects were inadmissible under Rule 703, trial court  
erred in failing to require experts to disclose basis for their opinions; "[P]ursuant to Rule 705, the  
court could have required [the experts] to disclose the bases for their opinions so that it could  
determine whether the opinions had an adequate foundation (i.e. whether they were based on  
information that experts in the field would reasonably rely on in determining whether a particular  
drug causes birth defects). Only then could the court determine whether the affidavits were  
admissible under Rule 703. A court must know the basis for an expert's opinion before it can  
determine that the basis is not of a type reasonably relied upon by experts in the field.").

1 death penalty case.<sup>3</sup>, and (c) the government has failing yet again to comply with this court’s discovery  
2 orders and therefore a witness preclusion order is appropriate.<sup>4</sup>

3 The government acknowledged that the narcotics SOP Manual purportedly relied on by its  
4 experts [N000382] did not come into existence until after the testing in this case, but claimed it did not  
5 have to produce the Manuals in existence at the time of the testing because, according to the unsworn  
6 statement of the San Francisco Police Department Crime Lab Manager, “the SOP manual was  
7 substantially the same from 1998-2004, especially with regard to the types of tests required to determine  
8 the presence of marijuana and cocaine base.” [doc. 571, p. 5 n. 3]

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12 <sup>3</sup> Caldwell v. Mississippi, 472 U.S. 320, 105 S.Ct. 2633, 86 L.Ed.2d 231 (1985) (vacating  
13 sentence because prosecutor's remarks were inconsistent with the “heightened ‘need for reliability’ ”  
14 in capital cases); United States v. Taveras, 424 F. Supp. 2d 446, 462 (E.D.N.Y. 2006)(“Federal courts  
15 bear responsibility for ensuring that trials before them are conducted in conformity with statutory  
16 imperatives and the fairness required by the Fifth, Sixth, and Fourteenth Amendments. Because of  
17 heightened need for reliability in capital sentencing, the court should be exceptionally careful when  
18 considering whether to admit or exclude evidence...”)(Weinstein, J.); United States v. Lawson, 653  
19 F.2d 299, 302 (7th Cir.1981), certiorari denied 102 S.Ct. 1017, 454 U.S. 1150, 71 L.Ed.2d 305 (“In  
20 addition to the reasonable reliance requirement of Rule 703, a criminal defendant must therefore also  
21 have access to the hearsay information relied upon by an expert witness. Without such access,  
22 effective cross-examination would be impossible. Rule 705, which provides that an expert need not  
23 disclose the facts or data underlying his opinion prior to his testimony unless the court orders  
24 otherwise, recognizes this requirement. The Advisory Committee notes to that rule state that it  
25 ‘assumes that the cross-examiner has the advance knowledge which is essential for effective  
26 cross-examination.’ ”);United States v. Heiden, 508 F. 2d 898, 903 n.1 (9th Cir. 1974)(“The  
27 government is flirting with the danger of reversal any time evidence is lost or inadvertently  
28 destroyed. When evidence is seized, the government should take every reasonable precaution to  
preserve it.”); United States v. Williams, 447 F.2d 1285, 1290 (5<sup>th</sup> Cir. 1971), certiorari denied 92  
S.Ct. 1168, 405 U.S. 954, 31 L.Ed.2d 231 (introduction of expert opinion without opportunity to  
cross-examine author as to bases of opinion would infringe confrontation clause rights of  
defendant);United States v. Robinson, 44 F. Supp. 2d 1345, 1346 (N.D. Ga. 1997)(excluding a  
fingerprint expert’s opinion because the government did not produce all the points of identification  
on which the government's expert would rely as a basis for her opinion that the defendant's prints  
appeared on evidence; "If a defendant does not have the bases for the government's opinion, there is  
no way the defendant's counsel can effectively cross-examine the expert. It is this issue, which goes  
to the fairness of the trial, that the court must always keep in mind in dealing with discovery issues in  
a criminal case."). See generally, Delaware v. Fensterer, 474 U.S. 15, 22-23, 106 S.Ct. 292, 296, 88  
L.Ed.2d 15 (1985) (reserving the question of " whether the introduction of expert testimony with no  
basis could ... be so lacking in reliability, and so prejudicial, as to deny a defendant a fair trial.”)

<sup>4</sup> The argument in support of a testimony preclusion sanction is set forth in doc. 554,  
incorporated herein by reference. The argument is stronger now since the government has ignored  
three prior orders to produce the material. [docs. 292, 383, 579].

1 During a two-day hearing on defendants' motion to compel disclosure of expert information  
2 pursuant to Rule 16(d)(2)(B), Federal Rules of Criminal Procedure, the following colloquy took place  
3 regarding the SOP manuals:

4 [Mr. Burt]: We think in the circumstance of this case where the analysts are not  
5 going to be able to tell us what they did, we ought to at least see what the manuals were  
6 at the time of the testing, which would require we have the manuals from 1998 all the  
7 way through May 2005, whatever those manuals are, the earlier versions.

8 **The Court:** I understand your point.

9 **Mr. Burt:** Thank you.

10 **The Court:** Ms. Tongring, what do you say to that?

11 **Ms. Tongring:** Your honor, we stand by our declaration, which, you know,  
12 according to Mr. Mudge –

13 **The Court:** How do we know he knows what he's talking about?

14 **Ms. Tongring:** He's the manager of the crime lab.

15 **The Court:** So what? He might have just come to work there last week. There's  
16 nothing in there that tells me he's got personal knowledge. Was he working there in '98?  
17 Was he working there in '99?

18 **Mr. Kearney:** I don't believe so, your honor.

19 **The Court:** How does he know what was in the manual back then? Why can't you  
20 just give them the manuals?

21 **Ms. Tongring:** *If they exist, we will attempt to get them.* [Emphasis added.]

22 **The Court:** If they don't exist, maybe you have a problem.

23 **Ms. Tongring:** Then we should deal with that in the *Daubert* motions.

24 **The Court:** Maybe we should. You got people that can't remember anything. You  
25 got people -- you can't find the manual that existed at the time.

26 **Ms. Tongring:** We don't know if we can't find the manual, your honor. I haven't  
27 attempted to. I attempted to deal with the issue by attempting to find out whether the  
28 manual regarding the testing procedures was the same, and I believe the answer I got was  
--

**The Court:** It's usually. It says, "usually."

**Ms. Tongring:** -- sufficient to -- that the procedures that were changed did not deal with  
the technical issues.

**The Court:** Maybe that's the way it turns out, but we are dealing with hearsay  
through Mr. Mudge. We don't know if he has any foundation to tell us what the manuals  
actually said. The easy way to deal with this is just get the manuals as they then existed.  
Surely, I mean, it must be on a computer somewhere. Somebody there ought to be able

1 to testify as to what these manuals -- in fact, your experts ought to be able to testify. I  
2 would think that each expert would be able to say, I did this test, here's the manual I used  
at the time, I followed the manual, end of story.

3 **Ms. Tongring:** That's kind of our point, your honor.

4 **The Court:** But you don't have the manual. You just have the current manual. The  
5 current manual is not the same as the manual they used back then.

6 **Ms. Tongring:** That was the point of going to Mr. Mudge and finding out whether  
it was substantially the same in regard to the testing procedures.

7 **The Court:** it could be. I won't say you could never make that equation through  
8 a live witness. And I'm not even going to say this is all that you would have to prove. It  
9 may be that you could prove less, or maybe more, but one way to deal with that if these  
10 manuals aren't in existence is for somebody who worked in the lab at the time to come  
11 in and say, yeah, I was there from '98 through 2005, and I was in charge of working on  
12 these manuals, and I can tell you I remember from actual memory that from that entire  
time -- in fact, the entire time I've worked in the lab for 28 years, we always used test a,  
test b and test c, and that's never changed. Then you won't have a problem. But, it's not  
good enough for *Daubert* purposes. It certainly would not be enough. You would need  
more than that, but maybe you can get it. The easy thing to do is find the manuals. If they  
don't exist, find a witness who can make the equation you need to make.

13 Transcript 7/19/06, 48:10-51:7

14 Following the hearing, the Court issued an Order [Doc 579] that reads, in part:

15 3. With respect to the narcotics summaries, the government must produce by  
16 **JULY 31, 2006**, the SFPD SOPs in use at the time of each report. If these do not exist,  
then the defense may include the issue in its *Daubert* motion.

17 The government neither produced the manuals nor admitted they do not exist in response to this  
18 Order. Indeed, the government did not even demonstrate to the Court an "attempt" to determine whether  
19 they exist.

20 In addition, as the government conceded in its Response of July 14, 2006 [Doc. 571], the  
21 defendants have not been provided: (1) proficiency test summary logs of all narcotics analysts; (2)  
22 analytical notes and documentation of analyses and examinations including plots, tables, and photographs  
23 for all narcotics analysts [some notes for certain narcotics experts have been provided; one  
24 chromatography plot has been provided for an analysis performed by Madden on 6/1/04 [N000420-  
25 N000421]]; and (4) identification of any hardware or software used in the narcotics analysis.  
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27  
28

1 Problems also exist within individual summaries. The summary for narcotics analyst Lee  
2 indicates that in case 981611790 (sic)<sup>5</sup> (evidence destroyed 1/05 per N000407) “he tested” the  
3 substances and “the testing revealed” the presence of either marijuana or cocaine. Unlike the summaries  
4 for Ralph Whitten, Debra Madden, and Lois Woodworth, the actual tests performed are not listed in the  
5 summary or in the referenced laboratory report (N000005). This same flaw exists for the following  
6 experts and reports: Michael Tan (990421530) (N000013) (evidence destroyed 04/2000 per N000408);  
7 and Francis Woo (031005607)(N000346), (031347023)(N000351); and Corbin Yem (990502313 (sic)<sup>6</sup>  
8 (N000409-412) (evidence destroyed 4/2000 per N000409).

9 The government admits that “the actual tests performed in several cases [for narcotics] were not  
10 listed in the expert reports”, and that the hardware and software used in the narcotics analysis were not  
11 identified, but claim only that this violation should be excused because “reference to the SOP manual  
12 solves the problem as it indicates what tests are required to be utilized” and that “defendants only have  
13 to refer to the SOP Manual to ascertain the tests performed to determine the presence of a particular  
14 controlled substance.”<sup>7</sup>

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15  
16 <sup>5</sup> The number listed in the summary is for a CAD report. The case or incident report number  
is 980736264.

17 <sup>6</sup> The correct case or incident report number is 990502312.

18 <sup>7</sup> The SOP Manual provided in discovery lists “guidelines”, not requirements. Further, the  
19 Manual states that

20 An abbreviated version of the routine examinations performed for each class of  
21 controlled substance analyzed in this laboratory appears in this section.  
22 Comprehensive analysis techniques as well as explanations of the terminology used in  
23 these descriptions can be found in the training manuals, section 6.

24 The following procedures are not all-inclusive. The chemists have the training and  
25 expertise necessary to be allowed to implement and use acceptable chemistry practices  
(such as extractions, mass spectrometry data interpretation) not delineated here.  
26 Additionally, it must be noted that these procedures describe the minimum number  
27 and types of tests that must be performed. The analyst may always conduct more tests  
28 than what is described here, but not fewer.

Manual, p. 16. The “training manuals” referenced in this section have not been provided.

The Manual goes on to describe alternative procedures for the testing of marijuana and  
cocaine base. For instance, for cocaine it states that “[b]ased on how discriminating the analytical  
technique is, one confirmatory test may be used *or* a few tandem tests may be required.” (Id., p. 13)  
Which alternative was used in this case? The Manual does not solve “the problem” For marijuana, it  
states that “[c]onfirming the presence of both types of hair on a sample of the plant material under a

1 Reference to the SOP manual does not resolve the problem, however, because the manual that  
2 would have been utilized at the time has not been produced, either because it does not exist or the  
3 government did not make an effort to get it. Moreover, because the SOP manual itself refers the user to  
4 other manuals, also not produced, there is simply no way to determine what tests were performed and  
5 under what conditions.

6 Even where tests have been identified, no independent means to assess the validity of the results  
7 exists because, with the exception of one gas chromatography (mass spec) test in Ms. Madden's work,  
8 the underlying test data has been destroyed, as admitted by the government at the July 19, 2006 hearing:

9 **The Court:** All right. So one point is the training manuals. What was the next?  
10 You said you had three points.

11 **Mr. Burt:** One point, the training manuals have not been provided. Second point  
12 is that the mass spec data has not been provided. Third point is that the SOP manual that  
13 has been provided indicates that the analyst has discretion and alternatives in terms of the  
14 testing protocol, and, therefore, it's not true that we can just go to the manual and see  
15 what testing was done, because it sets forth alternative procedures. This argument applies  
16 to Mr. Lee, the example we're focused on, but it also applies to the other narcotics people  
17 that are set forth at page six of the motion. That is Michael Tan's report and Francis  
18 Woo's report. The problem doesn't exist with the others because we have the tests that  
19 were actually performed set out in the summaries. But no data for those other tests. We  
20 don't have any mass spec data for those other tests.

21 **The Court:** All right. Let's hear from the government.

22 **Ms. Tongring:** The reason that there are no – there's no tests that are set forth are  
23 because the handwritten report that you have up there with regard to Ms. Madden, all of  
24 that has been destroyed because these cases are so old. They are 1998 or 1999. There are  
25 no underlying data with regard to any of those cases. What there is, and we've discussed  
26 this before on at least one other occasion with Your Honor, is the computer printout.  
27 When these cases are -- when the analysts are doing these cases and they do the

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28 stereomicroscope constitutes a positive presumptive screen for marijuana. *Alternatively*, if a whole  
leaf is submitted, the characteristic shape of the leaf can be used as a presumptive screen (see  
marijuana training manual for more details)." Which of these alternatives was used in this case? The  
SOP Manual does not solve "the problem". Further, the government has not provided the "marijuana  
training manual" referenced in this passage. Similarly, the government has not provided "the cocaine  
training module-section 6" referenced in the section on cocaine testing.

In the Appendix to the SOP Manual there is listed guidelines for "Instrument Tuning and  
Calibration Check for GC-MS" A sample "acceptable autotune report" for documenting compliance  
with the tuning and calibration guidelines is provided. The government has produced no such reports  
in this case. Similarly, the Appendix provides a "Monthly QA check form" which "outlines the  
procedure followed for the monthly QA check of the Narcotics section." No such forms have been  
provided in this case.

1 handwritten report, they are required to enter it into a computer, their results, and that  
2 computer printout is the result of pulling up this case file and printing it out. They do not,  
3 obviously, enter in the tests that they complete, and so that's why it's not there.  
Transcript 7/19/06 at 41:6-42:11

4 Contrary to the government's assertion, the cases for which data was destroyed is not limited to  
5 1998 and 1999 cases. Gas chromatography results should have been in all of the case files, not simply  
6 the 1998 and 1999 cases. Yet, only one file contains the data.

7 Moreover, the government has not provided any discovery that allows the court to determine  
8 whether the instruments used to test the substances were maintained properly or whether the analysts  
9 knew how to, and did, operate the instruments properly.

10 The government suggested at the hearing that the experts' failure of memory was not a problem  
11 because the expert can refer to his report and have a "past recollection recorded." Transcript 7/19/06 at  
12 51:11-24. Here, however, where the reports are so conclusory and the absence of the underlying data  
and relevant SOP, training, and equipment manuals, and the destruction of the drugs themselves, there  
is simply not enough information for the Court to exercise its gatekeeping responsibilities under *Daubert*  
and its progeny, or for the evidence to survive challenges under the Fifth, Sixth and Eighth Amendments.

13 As the Court commented and the government had to concede:

14 **The Court:** But past recollection recorded can work if you meet the evidentiary  
15 requirements. But that is not all that counsel is getting at here. What counsel is getting at  
16 is if all you wanted to put in evidence was this one page, that would not be enough.

17 **Mr. Cutler:** I agree, Your Honor.

18 **The Court:** You've got to show they have a basis for concluding that it was  
19 marijuana. So what is going to be the basis? Well, it would -- ordinarily it would be the  
20 manual, I followed the manual, that's my habit and custom. Now we don't have the  
21 manual. Maybe, we don't know. The easy thing is to get the manual. If the manual does  
22 not exist, then we have an issue.

23 **Mr. Cutler:** We do have an issue, your honor. We are going to attempt to get the  
24 manuals.

25 Transcript 7/19/06, 52:12-53:1.

26 Compounding the problems created by the destruction of, or failure to produce, the manuals and  
27 testing results is the destruction, from 1998, 1999 and 2004, of the substances purportedly tested.  
28 According to the discovery, the substances that were destroyed are as follows: Incident #040548082,  
marijuana destroyed 1/2005 per N000415 (Whitten); Incident #980736264, marijuana and cocaine base  
destroyed 1/2005 per N000407 (Lee); Incident #990421530, cocaine base destroyed 4/2000 per N000408  
(Tan); Incident Report #040617671, marijuana destroyed 1/2005 per N000417 (Madden), and Incident  
Report #990502312, cocaine base destroyed 4/2000 per N000409 (Yem).

1 In effect, what the government is proposing in this case is that in the absence of the  
2 drugs, drug testing data, or the technician's lab notes the experts should be allowed to insulate  
3 themselves from cross examination by claiming lack of memory and then be allowed to read into the  
4 record the results of the testing as reflected in two-line, non-informative hearsay reports, saying in  
5 support thereof that they always "follow the standard method used by the SFPD Crime Law (sic)"  
6 (Summary, p. 1). But such an unfair procedure is not even allowed in probation revocation hearings, let  
7 alone in a capital trial. See, United States v. Martin, 984 F.2d 308 (9<sup>th</sup> Cir. 1993)(reversing probation  
8 revocation order where defendant was denied his right to contest drug testing results by the trial court's  
9 refusal to order independent testing of the drugs). As in *Martin*, the defendants in this case have been  
10 denied "the opportunity to retest the samples independently, which would have allowed [them] to  
11 impeach more directly the positive laboratory results. In effect, [defendants are being] denied all but the  
12 most cursory opportunity to impeach or refute the evidence supporting the court's finding of possession."  
13 (Id. at 312). As the *Martin* court emphasized, "[t]he more significant particular evidence is to a finding,  
14 the more important it is that the [defendant] be given an opportunity to demonstrate that the proffered  
15 evidence does not reflect 'verified fact.'" (Id. at 311). See also, United States v. Hall, 419 F.3d 980, 988  
16 (9<sup>th</sup> Cir.2005)("even urinalysis testing conducted by a laboratory is not sufficiently reliable to create a  
17 blanket rule that releasee has no interest in contesting the results").

18 In United States v. Pierre, 47 F. 3d 241 (7<sup>th</sup> Cir. 1995), the court held that a defendant at a  
19 probation revocation hearing was "entitled to go beneath the surface of written reports", but that in such  
20 proceedings (as opposed to a trial) the burden was on the defendant to subpoena the lab technician if he  
21 wanted to cross examine him about his procedures. In the course of questioning the value of such a right,  
22 the court addressed the very situation confronting the court in this case:

23 What was the technician going to say on the stand? One vial of urine looks like  
24 another; *the technicians would not have remembered what they did with Pierre's*  
25 *specimens and therefore would have described their normal procedures, and the judge*  
26 *would not have been enlightened. A court cannot resolve scientific controversies by*  
27 *looking witnesses in the eye; the question is not whether a technician believes the tests*  
28 *accurate but whether they are accurate.*

To find out whether tests are accurate, one uses the methods of science. See  
*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 43 F.3d 1311 (9<sup>th</sup> Cir.1995). A court  
could ask whether the lab's procedures are well designed to yield reliable results. It  
could arrange for retesting of the samples. *United States v. Martin*, 984 F.2d 308 (9<sup>th</sup>  
Cir.1993). If the original specimens are no longer available, a court could inquire

1 whether this lab, in particular, produces reliable results. Such an exercise entails  
2 statistical methods. The court needed information on the error rate of PharmChem, the  
3 lab that analyzed Pierre's samples. If the number of positive results (21) was less than  
4 the number of false positives that would have been generated by chance from the  
5 considerable volume of samples he provided over several years, the court would have had  
6 a basis for doubting the prosecutor's position. We assume that reputable labs collect such  
7 information, putting samples through their tests on a double-blind basis to find out how  
8 frequently their employees err and to learn how to improve their procedures. Pierre might  
9 have sought this information from PharmChem. Or perhaps, before engaging a laboratory  
10 or renewing its contract, the government submits an assortment of samples containing  
11 different drugs (and the statistically appropriate number of samples known not to be  
12 contaminated) to see how well the lab distinguishes among them. Pierre did not seek from  
13 the government any information of this kind. If neither PharmChem nor the Executive  
14 Branch of government collects this information, Pierre could have asked the district court  
15 to distrust PharmChem's reports until the United States put the lab to such a test.

16 Id.

17 Here, unlike in a probation revocation hearing, the burden of production is on the government,  
18 not on the defense. The opportunity for independent testing is not available because the government has  
19 destroyed the drugs. The defense attempted to get some measure of the laboratory's error rate by  
20 requesting the laboratory's proficiency test results, but the government opposed the request and the court  
21 refused it, saying this material could be subpoenaed "if really needed." [doc. 579, p.2]. It is the  
22 government, not the defense, that needs to present evidence of acceptable error rates under *Daubert*. And  
23 under *Daubert*, proof of acceptable error rates is only one factor to consider.<sup>8</sup> Here, the overriding factor  
24 to consider should be that the government's destruction of the drugs, the analysis notes, and any machine  
25 or other testing output has deprived the defendants of a fair opportunity to contest this evidence, as in  
26 *Martin*.

27 Clearly, if any machines were used in the testing, the machines used to run these tests are major  
28 "witnesses" confronting the defendants. See, United States v. Lee, 25 F.3d 997, 998 (11th Cir.  
1994)("Daubert governs [not] only the admission of expert testimony, [but also] the admission of the  
results of specialized technical equipment, such as the drug-detecting machinery used by law  
enforcement officers in this case."). Included in the constitutional right of confrontation is a defendant's  
ability through cross examination to challenge the credibility and reliability of any witness testifying

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<sup>8</sup> It is questionable whether SFPD proficiency tests, at least as presently administered, could ever be used to establish an acceptable error rate. Pierre speaks of "double-blind" proficiency testing. Police department crime laboratories typically do not conduct such tests.

1 against him. Douglas v. Alabama, 380 U.S. 415. 418, 85 S.Ct. 1074, 13 L.Ed.2d 934 (1964). In United  
2 States v. Liebert, 519 F.2d 542 (3rd Cir. 1975), the Court of Appeals held that:

3           A party seeking to impeach the reliability of computer evidence should have  
4           sufficient opportunity to ascertain by pretrial discovery whether both the machine and  
5           those who supply it with data input and information han-e performed their tasks in  
6           accurately.

7 Id. at 547-48.

8           The Court in *Liebert* noted that computer error could cast doubt on the accuracy and reliability  
9 of the government's evidence against the Defendant. Therefore the information sought in *Liebert* would  
10 be useful in impeaching the reliability of the computer procedures that were instrumental in making the  
11 charge against him. Liebert, 519 F.2d at 548. The discovery sought in *Liebert* was not mandated on  
12 appeal because the government had offered the trial court and the defense with significant alternatives  
13 by producing manuals, handbooks, documenting procedures, etc., reports from other experts showing  
14 the reliability studies on the processing systems, depositions of their experts and other sweeping  
15 concessions which provided the defense with an abundance of information pretrial to confront the  
16 reliability and accuracy of the government's computer system. *Liebert*, supra, at 549-50.

17           Like the defendant in *Liebert*, the defendants in this case must have the sufficient ability and  
18 opportunity to confront the accuracy, reliability and trustworthiness of the machinery, equipment, and  
19 operators who are witnesses against them. The only way in which the defendants can have any  
20 meaningful confrontation of these "witnesses" is to have sufficient pretrial discovery to determine the  
21 accuracy and reliability of the procedures involved.

22           However, unlike the defendant in *Liebert*, the defendants in this case have received no major  
23 discovery concessions or alternatives from the Government. The discovery process regarding the  
24 scientific evidence has been arduous at best with the Government objecting to much of the information  
25 sought by the defense and providing the least and narrowest amount of information called for either  
26 constitutionally or statutorily. The defendants have had to scratch and claw to receive only crumbs of  
27 information vital to their defense.

28           The problems identified above, individually and collectively, have deprived the defendants of  
their right to due process under the Fifth Amendment, the right to a fair trial and confrontation under the  
Sixth Amendment and, as to Fort and Diaz, the Eighth Amendment guarantee of heightened evidentiary

1 reliability in a death penalty case. They also have deprived the Court of its ability to exercise its  
2 gatekeeping function under *Daubert* and Rules 104(a) and 702, Federal Rules of Evidence. The testimony  
3 should therefore be excluded.

4 The remainder of this brief will show that the testimony is also inadmissible under *Daubert* and  
5 Rule 702.

6 **II. There Is No Reliable Scientific Basis for the Government’s Drug Identification Witnesses and**  
7 **Thus the Testimony Is Inadmissible under *Daubert* and Rule 702**

8 As indicated above, to the extent the expert witness summary contains any details about the  
9 testing procedures utilized in this case it shows that some of the technicians relied upon the Duquenois-  
10 Levine color test and observation of “botanical features” as the sole basis to identify marijuana, and that  
11 the Cobalt Thiocyanate/acid color test and the Gold Chloride (tetrachloroaurate), and Platinic Chloride  
12 crystal tests were used as the sole basis to identify cocaine base. As will now be shown, neither one of  
13 these methodologies is reliable enough to “identify” a drug to the exclusion of all other substances in the  
14 world.

15 **A. The District Court’s Gatekeeping Responsibility**

16 As the Supreme Court has noted, “Testimony emanating from the depth and scope of specialized  
17 knowledge is very impressive to a jury. The same testimony from another source can have less effect.”  
18 Ake v. Oklahoma, 470 U.S. 68, 82 n.7 (1985) (citation omitted). Consequently, when a party moves to  
19 introduce scientific, technical, or specialized expertise this Court is obligated, under Federal Rules of  
20 Evidence 104(a) and 702, to act as a “gatekeeper” to ensure the evidence “is not only relevant, but  
21 reliable.” Daubert v. Merrell Dow Pharmaceutical, 509 U.S. 579, 589 (1993) (emphasis added); Kumho  
22 Tire Co. v. Carmichael, 526 U.S. 137, 141 (1999) (expanding Daubert’s holding to expertise deemed  
23 “technical” or “specialized knowledge” under Rule 702); General Electric Co. v. Joiner, 522 U.S. 137,

1 142 (1997).<sup>9</sup> In order to faithfully carry out its gatekeeping responsibility, this Court must adhere to the  
2 principles articulated in Daubert, Kumho Tire, and Joiner.

3 In Daubert, the Supreme Court articulated the legal framework for how non-science federal judges  
4 are to distinguish between reliable science and “science that is junky.” Kuhmo Tire, 526 U.S. at 159  
5 (Scalia, J., concurring). This framework entails considering five (non-exhaustive) factors. First, whether  
6 the forensic “theory or technique... can be (and has been tested).” Daubert, 509 U.S. at 593. Second,  
7 “whether the theory or technique has been subjected to peer review and publication.” Id. Third, whether  
8 the technique has a “known or potential rate of error.” Id. at 594. Fourth, whether there exists any  
9 “standards controlling the technique’s operation.” Id. Fifth, whether the technique is “generally  
10 accepted” by the scientific community. Id. These factors should assist district courts in determining  
11 “whether the reasoning or methodology underlying the testimony is... valid and of whether that reasoning  
12 or methodology properly can be applied to the facts in issue.” Id. at 592-593.

13 Rule 702 further requires that the evidence or testimony “assist the trier of fact to understand the  
14 evidence or to determine a fact in issue.” Fed. R. Evid. 702. As Daubert explains, this “condition goes  
15 primarily to relevance. ‘Expert testimony which does not relate to any issue in the case is not relevant  
16 and, ergo, non-helpful.’” Daubert, 509 U.S. at 591 (citation omitted).

17 These key principles were incorporated into newly amended Rule 702, which now reads:

18 If scientific, technical, or other specialized knowledge will assist the trier of fact to understand  
19 the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill,  
20 experience, training, or education, may testify thereto in the form of an opinion or otherwise, if  
21 (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable  
22 principles and methods, and (3) the witness has applied the principles and methods reliably to the  
23 facts of the case.

24 This “newly-expanded rule goes further than Kumho to ‘provide ... some general standards that  
25 the trial court *must* use to assess the reliability and helpfulness of proffered expert testimony.’” Rudd v.  
26 General Motors Corp., 127 F.Supp.2d 1330, 1336 (M.D.Ala.2001) (emphasis in original).

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26 <sup>9</sup> Rule 104(a) reads:

27 Preliminary questions concerning the qualification of a person to be a witness, the existence  
28 of a privilege, or the admissibility of evidence shall be determined by the court, subject to the  
provisions of subdivision (b) [pertaining to conditional admissions]. In making its  
determination it is not bound by the rules of evidence except those with respect to privileges.

1 “While the inquiry into ‘reliable principles and methods’ has been a familiar feature of  
2 admissibility analysis under *Daubert*, the new Rule 702 appears to require a trial judge  
3 to make an evaluation that delves more into the facts than was recommended in *Daubert*,  
4 including as the rule does an inquiry into the sufficiency of the testimony's basis ('the  
5 testimony is based upon sufficient facts or data') and an inquiry into the application of a  
6 methodology to the facts ('the witness has applied the principles and methods reliably to  
7 the facts of the case') .... Neither of these two latter questions that are now mandatory  
8 under the new rule--the inquiries into the sufficiency of the testimony's basis and the  
9 reliability of the methodology's application--were expressly part of the formal  
10 admissibility analysis under *Daubert*.”

11 *Rudd* at 1336). See also, United States v. Horn, 5 F.Supp.2d 530, 554 (D.Md. 2002)(“Following the  
12 *Kumho Tire* decision and the December 2000 changes to Rule 702, a detailed analysis of the factual  
13 sufficiency and reliability of the methodology underlying expert testimony is required for all scientific,  
14 technical or specialized evidence, not just ‘novel scientific’ evidence.”).

15 Besides Rule 702, this Court must also evaluate whether the probative value of an expert’s  
16 testimony is substantially outweighed by the risk of unfair prejudice, confusion, or undue consumption  
17 of time. See, e.g., Fed. R. Evid. 403; United States v. Chischilly, 30 F.3d 1144, 1156 (9th Cir. 1994).  
18 In other words, “the expert’s methods must be evaluated, not only for [this Court’s] gatekeeping role, but  
19 also to understand the impact of the evidence on the jury’s job as the factfinder.” United States v. Green,  
20 405 F.Supp.2d 104,119 (D. Mass. 2005).<sup>10</sup>

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21 <sup>10</sup>As Justice Blackmun emphasized in Daubert:

22 Rule 403 permits the exclusion of relevant evidence if its probative value is  
23 substantially outweighed by the danger of unfair prejudice, confusion of the issues, or  
24 misleading the jury... Expert evidence can be both powerful and quite misleading  
25 because of the difficulty in evaluating it. Because of this risk, the judge in weighing  
26 possible prejudice against probative force under Rule 403 of the present rules  
27 exercises more control over experts than over lay witnesses.

28 Daubert, 509 U.S. at 595 (citation omitted); see also United States v. Frazier, 387 F.3d 1244,  
1263 (11<sup>th</sup> Cir. 2004) (“expert testimony may be assigned talismanic significance in the eyes  
of lay jurors, and, therefore, the district courts must take care to weigh the value of such  
evidence against its potential to mislead or confuse.”); United States v. Hines, 55 F.Supp.2d  
62, 64 (D. Mass. 1999) (“a certain patina attaches to an expert’s testimony unlike any other  
witness; this is ‘science,’ a professional’s judgment, the jury may think, and give more  
credence to the testimony than it may deserve.”). Defendants specifically object to the  
testimony of the drug identification witnesses under Rule 403. Given the fact that they have  
no independent recollection of the testing procedures they performed or the bases of their  
opinions, the probative value of their testimony is slight and will not be helpful to the jury  
while the potential prejudice to the defendants is great because “[e]xpert evidence can be  
both powerful and quite misleading.”

1           The federal rules are structured to ensure that only the most accurate information is being  
2 presented to and processed by the triers of fact. More specifically, the federal rules try to make certain  
3 that ““(a) the opinions and conclusions of the expert are accompanied by information that enables the  
4 factfinder to evaluate the likely accuracy of the expert’s opinion, and (b) the information is presented in  
5 such a way that factfinders will not be fooled into excessively overvaluing the testimony.” Green, 405  
6 F.Supp.2d at 119 (quoting Michael J. Saks, *The Legal and Scientific Evaluation of Forensic Science*  
7 *(Especially Fingerprint Expert Testimony)*, 33 Seton Hall L. Rev. 1167, 1167 (2003)) (emphasis added);  
8 see id. at 37 (Daubert and Kumho Tire’s ruling “derive from the Court’s concern about the impact of  
9 expert testimony on the jury.”). These concerns are especially present in the case at bar, where the  
10 Government’s drug identification witnesses purport to conclude that a particular substance “was  
11 marijuana” or that particular “rocks” “were cocaine base” (Summary, p. 1-5) “to the exclusion of all other  
12 tools in the world.” See Green, 405 F.Supp.2d at 119 104 (noting that firearms identification testimony  
13 will likely garner undue consideration and weight when the proposed testimony included the phrase “to  
14 the exclusion of all other firearms in the world”).

15           While “district courts have considerable leeway in determining how to assess reliability, they do  
16 not have the discretion to simply abandon their gate-keeping function by foregoing a reliability analysis.”  
17 Kumho Tire, 526 U.S. at 158-59 (Scalia, J., concurring); Joiner, 522 U.S. at 147-148 (Breyer, J.,  
18 concurring) (“neither the difficulty of the task nor any comparative lack of expertise can excuse the judge  
19 from exercising the ‘gatekeeper’ duties that the Federal Rules impose.”). A district court’s failure or  
20 refusal to critically review evidence through Daubert’s prism may “be unreasonable, and hence an abuse  
21 of discretion.” Kumho Tire, 526 U.S. at 158-59 (Scalia, J., concurring); United States v. Workinger, 90  
22 F.3d 1409, 1412 (9th Cir. 1996).

23           It must be emphasized at the outset that because this case deals with highly subjective color and  
24 crystal drug tests, it is of utmost importance that this Court carry out its gatekeeping responsibilities  
25 faithfully and critically. See, e.g., Ramirez v. State, 810 So.2d 836, 853 (Fla. 2001) (commenting on the  
26 “rising national criticism of forensic evidence” and mandating that trial judges “must... cull scientific  
27 fiction and junk science from fact.”); Moore v. Parker, 2005 U.S. App. LEXIS 21439 \*52 (Oct. 4, 2005)

1 (Boyce, J., dissenting) (“Crime labs are unreliable.”).<sup>11</sup> After carefully reviewing the drug identification  
2 research (or lack thereof) on marijuana and cocaine testing, defendants believes it would be “manifestly  
3 erroneous ” if this Court concluded that the drug identifications made in this case satisfy Daubert’s  
4 stringent reliability and relevancy requirements. See United States v. Hankey, 203 F.3d 1160 (9<sup>th</sup> Cir.  
5 2000) (evidentiary rulings regarding expert testimony will be reversed if “manifestly erroneous.”).

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19 <sup>11</sup> The “rising national criticism of forensic evidence” is due in large part to the increasing  
20 number of wrongful convictions which can be attributed to erroneous or fraudulent forensic evidence.  
21 See, e.g., Michael J. Saks & Jonathan J. Koehler, *The Coming Paradigm Shift in Forensic*  
22 *Identification Science*, 309 Sci. 892 (Aug. 2005) (reporting that forensic testing errors were  
23 responsible for wrongful convictions in 63% of the 86 DNA exoneration cases reported by the  
24 Innocence Project); Craig M. Cooley, *Reforming the Forensic Science Community to Avert the*  
25 *Ultimate Injustice*, 15 Stan L. & Pol’y Rev. 381, 395-397, 435-440 (2004) (listing and discussing  
26 capital and non-capital wrongful convictions attributable to forensic evidence). As one federal judge  
27 recently commented:

28 Indeed, recent reexaminations of relatively established forensic testimony have produced  
striking results. Saks and Koehler, for example, report that forensic testing errors were  
responsible for wrongful convictions in 63% of the 86 DNA exoneration cases reported by the  
Innocence Project at Cardozo Law School.  
Green, 405 F.Supp.2d at 109 n.6 (citing Saks & Koehler, *supra*). See also, United States v.  
Bentham, 414 F.Supp.2d 472 (S.D.N.Y. 2006) (“False positives-that is, inaccurate incriminating test  
results-are endemic to much of what passes for ‘forensic science.’”)(citing Saks & Koehler, *supra*).  
As a State Supreme Court Justice recently commented, “There are numerous examples [of forensic  
fraud] in the literature.” State v. Clifford, 121 P.3d 489, 503 n.4 (Mont. 2005) (Nelson, J.,  
concurring) (referring to Fred Zain, Ralph Erdman, and Arnold Melnikoff).

1           **B. Burden Of Proof**

2           It is hornbook law that the burden of proof is always placed on the adversary who wishes to  
3 introduce a particular type of evidence.<sup>12</sup> It is no different when it comes to expert testimony, as the  
4 proponent (in this case the Government) must demonstrate that its expert’s proposed testimony satisfies  
5 Rules 702 and 403. See Daubert v. Merrill Dow Pharmaceuticals, 43 F.3d 1311, 1318-1319 (9<sup>th</sup> Cir.  
6 1995). Indeed, in Daubert, the Supreme Court explicitly stated that the burden of proof is set by Rule  
7 104(a), and requires that the proponent of the evidence show by a preponderance of the proof that the  
8 basis for the proffered expert opinion is reliable. See Daubert, 509 U.S. at 592 n.10 (citing Bourjaily v.  
9 United States, 483 U.S. 171, 175-176 (1987)).

10           As the Supreme Court most recently declared, “Since *Daubert* ... parties relying on expert  
11 evidence have had notice of *the exacting standards of reliability* such evidence must meet.” Weisgram  
12 v. Marley Co., 528 U.S. 440, 455; 120 S.Ct. 1011, 1021; 145 L.Ed.2d 958 (2000) (emphasis added). See  
13 also, United States v. Frazier, 387 F. 3d 1244, 1260 (11<sup>th</sup> Cir. 2004) (“This function ‘inherently require[s]  
14 the trial court to conduct an exacting analysis’ of the foundations of expert testimony to ensure they meet  
15 the standards for admissibility under Rule 702.”) (en banc). “The importance of *Daubert*’s gatekeeping  
16 function cannot be overstated.” Frazier, 387 F. 3d at 1260).

17           The government cannot sustain its burden in this case by cliches such as “we always follow the  
18 manual” or ”my opinion is based on my training and experience.” The Committee Note to the 2000  
19 Amendments of Rule 702 expressly says that “[i]f the witness is relying solely or primarily on  
20 experience, then the witness must explain how that experience leads to the conclusion reached, why that  
21 experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts.  
22 The trial court's gatekeeping function requires more than simply 'taking the expert's word for it.’” As  
23 stated by Dr. John Thornton, “ [m]any witnesses have learned to invoke experience as a means of  
24 circumventing the responsibility of supporting an opinion with hard facts. For the witness, it eases  
25 cross-examination. But it also removes the scientific basis for the opinion.” John Thornton, *The General*

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26  
27           <sup>12</sup> See Charles Alan Wright & Arthur R. Miller, Federal Practice and Procedure § 5053  
28 (“Normally the proponent of the evidence will have the burden of proving the facts upon which  
admissibility depends, though often the objector will have the burden of producing evidence to show  
the existence of grounds for the objection.”).

1 *Assumptions and Rationale Of Forensic Identification*, in David L. Faigman, David H. Kaye, Michael  
2 J. Saks, Joseph Sanders, 3 Modern Scientific Evidence: The Law and Science of Expert Testimony (2d.  
3 ed. 2002) § 24-5.5. See also, Zenith Electronics Corp. v. WH-TV Broadcasting Corp., 395 F.3d 416,  
4 418-19 (7th Cir.2005)(when asked what methods he used to generate his conclusions, expert "repeatedly  
5 answered 'my expertise'... which is to say that he either had no method or could not describe one.").<sup>13</sup>

6 Consequently, similar to toxic tort cases, the Government must present sufficient evidence  
7 regarding the general theory ("general causation") and specific theory ("specific causation") of drug  
8 identification. With respect to the general theory, the government must present evidence demonstrating  
9 that cocaine and marijuana contain some chemical property that is capable of being uniquely identified.  
10 If the government cannot establish this general theory of drug identification, then this Court's inquiry  
11 comes to a halt because the Government has failed to meet its burden under Rules 104(a) and 702.

12 However, if the Government presents sufficient evidence to demonstrate the validity of the  
13 general theory, it must still present sufficient evidence regarding the specific ("task at hand") theory of  
14 identification of marijuana and cocaine base by the specific methodologies employed in this case. Cf.,  
15 United States v. Sullivan, 246 F.Supp. 2d 700, 702, (E.D. Ky. 2003) ("Accepting the uniqueness and  
16 permanence of fingerprints, however, does not force the conclusion that law enforcement or other entities  
17 have developed a sound and reliable methodology for identifying or excluding individuals based on the  
18 comparison of fingerprints."). Thus, the Government must put forth evidence demonstrating that its  
19 drug witnesses can (1) uniquely identify marijuana utilizing the Duquenois-Levine color test and  
20 observation of "botanical features"; (2) uniquely identify cocaine base utilizing the Cobalt  
21 Thlocyanate/acid color test and the Gold Chloride (tetrachoroaurate), and Platinic Chloride crystal tests.

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23 <sup>13</sup> See also, Fuesting v. Zimmer, Inc., 421 F.3d 528, 535 ( 7<sup>th</sup> Cir. 2005)("[P]ossessing  
24 requisite credentials alone is not enough to render expert testimony admissible"); United States v.  
25 Frazier, 387 F.3d 1244 (11th Cir. 2004)("Quite simply, under Rule 702, the reliability criterion  
26 remains a discrete, independent, and important requirement for admissibility....If admissibility could  
27 be established merely by the ipse dixit of an admittedly qualified expert, the reliability prong would  
28 be, for all practical purposes, subsumed by the qualification prong."); Clark v. Takata Corp., 192  
F.3d 750, 759 n. 5 (7th Cir.1999) ("A supremely qualified expert cannot waltz into the courtroom and  
render opinions unless those opinions are reliable and relevant under the test set forth by the Supreme  
Court in Daubert." ) Richman v. Sheahan, 415 F.Supp.2d 929, 934 (N.D.Ill.2006)("Just as proof of  
negligence in the air will not do, neither will proof of expertise in the abstract. A snappy resume does  
not ensure admissibility.")

1 If the Government cannot meet either one of these requirements it has failed to meet its burden thereby  
2 forcing this Court to exclude the government’s drug identification testimony.

3 **C. The “Task at Hand” Requirement**

4 Kumho Tire clarified and expanded Daubert in two significant ways. First, as mentioned, it made  
5 clear that federal judges have a significant gatekeeping responsibility to evaluate the reliability of all  
6 proffered expertise under Rule 702 not just proffers of “scientific” evidence. See Kumhko Tire, 526 U.S.  
7 at 141. The second, less explicit but no less important, is that this judgment must be made concerning  
8 the “task at hand,” instead of globally in regard to the average dependability of a broadly defined area  
9 of expertise.<sup>14</sup> The Supreme Court made this principle clear when it wrote:

10 Contrary to respondents’ suggestion, the specific issue before the court was not the  
11 reasonableness in general of a tire expert’s use of a visual and tactile inspection... Rather, it was  
12 the reasonableness of using such an approach, along with [the expert’s] particular method of  
13 analyzing the data thereby obtained, to draw a conclusion regarding the particular matter to which  
14 the expert testimony was directly relevant... The relevant issue was whether the expert could  
15 reliably determine the cause of *this* tire’s separation.

16 Kumho Tire, 529 U.S. at 153-154 (emphasis in original).<sup>15</sup>

17 Here, the task at hand is not drug testing in general, but the ability to uniquely identify marijuana  
18 utilizing the Duquenois-Levine color test and observation of “botanical features”, and the ability to  
19 identify cocaine base using the Cobalt Thlocyanate/acid color test and the Gold Chloride  
20 (tetrachoroaurate), and Platinic Chloride crystal tests.

21  
22 <sup>14</sup> This phrase originally appeared offhandedly in Daubert, 509 U.S. at 597 (1993), but was  
23 quoted at the beginning of the Kumho Tire opinion, 526 U.S. at 141, and appropriately captures the  
24 particularized methodology of Kumho Tire.

25 <sup>15</sup> One can see the Kumho Tire task-at-hand approach prefigured in the following language  
26 from Justice Rehnquist’s opinion in Joiner:

27 Of course, whether animal studies can ever be a proper foundation for an  
28 expert’s opinion was not the issue. The issue was whether these experts’  
29 opinions were sufficiently supported by the animal studies on which they  
30 purported to rely. The studies were so dissimilar to the facts presented in this  
31 litigation [ that it was not an abuse of discretion for the District Court to have  
32 rejected the experts’ reliance on them.

33 Joiner, 522 U.S. at 144-145 (emphasis in original).

1 **D. The Government’s Drug Identification Witnesses Cannot Uniquely Identify Marijuana**  
2 **Utilizing the Duquenois-Levine Color Test and Observation of “Botanical Features”**

3 The Duquenois-Levine Color test is described in Moore v. United States, 374 A.2d 299, 300 n.  
4 2 (D.C.App.1977) as follows: “In the Duquenois test, the plant sample is placed on a white spot plate,  
5 and a solution of vanillin, acetaldehyde and alcohol is added, followed by a few drops of concentrated  
6 hydrochloric acid. A deep blue-violet color is produced by marijuana. The Levine modification consists  
7 of adding chloroform to the blue-violet mixture; if the violet color moves to the chloroform layer it is  
8 considered ‘positive.’” It is readily apparent that such a test is extremely subjective. What is a “deep”  
9 blue-violet color ? What does it mean to say that the test is positive if “if the violet color moves to the  
10 chloroform layer”?

11 The theory behind the use of this test by the SFPD Crime Lab is stated in Section 3.B of the  
12 Controlled Substances SOP:

13 1. Screening tests

14 Screening tests (which can include presumptive tests) aid an analyst in narrowing  
15 the scope of possibilities such that appropriate confirmation technique may be employed.  
16 Screening tests that are routinely employed are physical appearance, odor, some color  
17 tests, microscopic examination and suggested possibilities the officer indicates on the  
18 envelope.

19 2. Presumptive tests

20 A presumptive test requires that an analytical test be performed, the result of which  
21 eliminates some drugs from consideration. These tests also indicate which class of  
22 controlled substance might be present, though it does not identify which drug is present.  
23 Presumptive tests include color tests and microscopic examination in the case of  
24 marijuana.

25 Although there are exceptions, the great majority of all controlled substances can be  
26 screened for by employing the following color tests: cobalt thiocyanate (C1); cobalt  
27 thiocyanate followed by acidified stannous chloride (C1a); Marquis (C2); Mecke (C3);  
28 Froehde (C4); p-DMBA also known as Van Urk's (C5); Dille-Koppanyi (C6);

1 Duquenois-Levine (C7) and Wagner's (C8). The actual color test(s) selected varies  
2 depending on the physical appearance of the submitted material.

### 3 3. Confirmatory tests

4 Confirmatory tests are analytical tests with a higher degree of discriminating power than  
5 a presumptive test. These tests serve to identify the controlled substance in the sample.  
6 Based on how discriminating the analytical technique is, one confirmatory test may be  
7 used or a few tandem tests may be required (see guidelines below).

### 8 4. Confirmation criteria

9 The identity of a controlled substance is confirmed based upon the following criteria:

10 Category A	Category B	Category C
11 Mass Spectrometry	Microcrystalline tests	Color Tests
12 IR Spectroscopy	Gas Chromatography	
13 NMR Spectroscopy	Stereomicroscopy (Marijuana only)	
	Pharmaceutical Markings	

15 a. When a category A technique is used, then at least one other technique from  
16 Category A, B, or C must be used. All Category A techniques must have data that are  
17 reviewable.

18 b. When a Category A technique is not used then at least three different methods  
19 must be employed. Two of the three must be uncorrelated techniques from Category B.  
20 Microcrystal tests utilizing different reagents will be considered uncorrelated techniques.

21 c. For Marijuana only: The specificity of the Duquenois-Levine reaction that causes  
22 a color change and subsequent extraction of the color is high enough that in combination  
23 with stereomicroscopy used to identify specific morphological characteristics (see section  
24 E 1 below), these two tests serve as confirmation of marijuana.

25 Section E of the SOP provides in part:

#### 26 E. Guidelines for Analysis of Controlled Substances

27 An abbreviated version of the routine examinations performed for each class of controlled  
28 substance analyzed in this laboratory appears in this section. Comprehensive analysis

1 techniques as well as explanations of the terminology used in these descriptions can be  
2 found in the training manuals, section 6

3 The following procedures are not all-inclusive. The chemists have the training and  
4 expertise necessary to be allowed to implement and use acceptable chemistry practices  
5 (such as extractions, mass spectrometry data interpretation) not delineated here.  
6 Additionally, it must be noted that these procedures describe the minimum number and  
7 types of tests that must be performed. The analyst may always conduct more tests than  
8 what is described here, but not fewer.

9 1. Marijuana

10 A large portion of the cases submitted to the laboratory contain marijuana. Exhibits can  
11 include: leaves, seeds, flowers, stems, wet or dry plants, compressed plant material,  
12 cigarettes or resin.

13 a. Botanical screen

14 Cystolithic Hair: The shape of the protruding cystolithic hair is significant: it is curved  
15 and tapered, reminiscent of a bear claw. Secondly, the presence of a calcium carbonate  
16 formation at the base of the hair is important.

17 Simple (or clothing) hair: Present on the underside of the leaf. The shape of the hair is  
18 not as characteristic as cystoliths: they are more numerous and longer but do not curve  
19 or taper in a well-defined way.

20 Confirming the presence of both types of hair on a sample of the plant material under a  
21 stereomicroscope constitutes a positive presumptive screen for marijuana.

22 Alternatively, if a whole leaf is submitted, the characteristic shape of the leaf can be used  
23 as a presumptive screen (see marijuana training manual for more details).

24 b. Color Test

25 Duquenois-Levine

26 1) About 10 seconds after adding the Duquenois reagent and concentrated  
27 hydrochloric acid to the plant material, a violet color develops. The color deepens with  
28 time.

1 2) A fainter violet color extracts into the added chloroform layer from the  
2 Duquenois/acid solution.

3 3) Confirmation is achieved only if the botanical screen and color test are both  
4 positive.

5 c. Concentrated Marijuana (Hashish)

6 1) The Duquenois-Levine test is used as the presumptive test.

7 2) It is up to the analyst to select which of the following two confirmations to  
8 employ:

9 a. A sample of the material is smeared onto a glass slide. Cystolithic hairs are sought  
10 out via microscope. Upon addition of dilute HCl, effervescence verifies the cystolith's  
11 identity. If no hairs are detected, confirmation must come from GC-MS (see section b).

12 b. The resin or plant material is extracted with Petroleum Ether. A sample of this  
13 extract is introduced into the GC-MS. If the fragmentation pattern shows the presence of  
14 THC, this constitutes confirmation of concentrated marijuana.

15 d. Protocol for Marijuana Plant Submissions

16 1) Marijuana plants and other wet marijuana material need to be inspected and, if  
17 necessary, dried by an analyst.

18 2) If the material requires drying, the case is going to trial, or there is an imminent  
19 destruction scheduled, then the following procedure should be followed:

20 (a) Place the material in the drying oven along with appropriate laboratory number  
21 descriptor. If material is too voluminous for the drying oven, it may be air-dried.

22 (b) Material consisting of the entire plant may have the leaves stripped away from the  
23 stems and roots. The stems and roots may be discarded.

24 (c) Repackage the evidence. The Narcotics Record form should reflect that the  
25 material has been dried; if the material was photographed and stripped this should also be  
26 indicated.

27 (d) It is optional to photograph the material. If they are taken, photographs should  
28 include the material and the associated evidence envelope.

1           It is clear from the foregoing that the SFPD Crime Lab believes that it can identify a substance  
2 as marijuana “if the botanical screen and color test are both positive.” However, as stated in United States  
3 v. Pierre, 47 F. 3d. 241, “the question is not whether a technician believes the tests accurate but whether  
4 they are accurate.”

5           The standards set by forensic toxicologists themselves are summarized by Dr. Robert Bray &  
6 Dennis Crouch in Chapter 43, *Drug Testing: II. Scientific Status*, in David L. Faigman, David H. Kaye,  
7 Michael J. Saks, Joseph Sanders, Modern Scientific Evidence: The Law and Science of Expert  
8 Testimony, 4 Mod. Sci. Evidence § 43:32 (2005-2006 Edition). They write:

9           Testing can be divided into three general categories: (a) screen tests; (b) confirmation tests; and  
10 (c) quantitation tests. The function of the screen or qualitative test (see the definitions at the end of the  
11 chapter) is to determine whether the sample(s) being analyzed potentially contains or does not contain  
12 any drugs. Confirmation tests are additional, independent chemical tests used to verify the drug's presence  
13 or its absence. Confirmation tests are more accurate and specific than screen tests. Typically, screen tests  
14 use methods that are less expensive and less technically challenging than confirmation methods. Screen  
15 tests are also less reliable than confirmation tests and are likely to produce some positive results that are  
16 not confirmed (i.e., misidentify nonusers as users). Thus, screen tests should be used as indicators of  
17 possible drug use, but require a second, more reliable, confirmation analysis to unequivocally establish  
18 the presence of the drug. With few exceptions, analyses for medicolegal purposes should include both  
19 a screen test and a confirmatory test, and these two independent tests should rely on separate chemical  
20 principles to detect and confirm the drug.

21           These same authors note that “there is a paucity of peer-reviewed scientific literature from which  
22 toxicologists, attorneys, and judges can evaluate the scientific merits of drug testing data.” (Id. at Sec.  
23 43:38). They also reference the Department of Health and Human Services, Substance Abuse and Mental  
24 Health Services Administration, Mandatory Guidelines for Federal Workplace Drug Testing Programs  
25 (“Guidelines”), 59 F.R. 29908 (June 9, 1994), as setting standards in the field. Section 1.2 of these  
26 Guidelines state that a confirmatory test is “[a] second analytical procedure to identify the presence of  
27 a specific drug or metabolite which is independent of the initial test and which uses a different technique  
28

1 and chemical principle from that of the initial test in order to ensure reliability and accuracy.”

2 Importantly, the regulation continues:

3           At this time gas chromatography/mass spectrometry (GC/MS) is the only  
4           authorized confirmation method for cocaine, marijuana, opiates, amphetamines, and  
5           phencyclidine.

6           Section 3.5 provides that: “Certified laboratories shall have the capability, at the same laboratory  
7           site, of performing both initial immunoassays and confirmatory GC/MS tests for marijuana, cocaine,  
8           opiates, amphetamines, and phencyclidine and for any other drug or metabolite for which agency drug  
9           testing is authorized. All positive initial test results shall be confirmed prior to reporting them.”

10           Similarly, the Society of Forensic Toxicologists/AFS have published Forensic Toxicology  
11           Laboratory Guidelines (2006) which state:<sup>16</sup>

12           As a general matter of scientific and forensic principle, the detection or initial  
13           identification of drugs and other toxins should be confirmed whenever possible by a  
14           second technique based on a different chemical principle.... Where possible, the  
15           confirmatory (second) test should be more specific than the first test for the target analyte.  
16           The use of mass spectrometry is recommended as the confirmatory technique, where  
17           possible and practical. For example, detection of an analyte by immunoassay and  
18           ‘confirmation’ by GC/NP or GC/FID does not generally provide sufficient specificity for  
19           prosecution of a criminal case.

20           It is clear, therefore, that the SFPD’s drug protocol for marijuana testing, combining as it does  
21           two non-specific screening tests, does not state an acceptable scientific methodology for identifying  
22           marijuana. Stated another way, there is no reliable scientific basis for this proposed testimony, and thus  
23           the testimony is inadmissible under *Daubert* and the testimony is inadmissible under the 2000  
24           amendments to Rule 702 in that (a) the testimony is not based upon sufficient facts or data, (b) the  
25           testimony is not the product of reliable principles and methods, and (c) the drug identification examiners  
26

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27  
28           <sup>16</sup> Available at <http://www.soft-tox.org/docs/Guidelines%202006%20Final.pdf>

1 who performed the analysis in this case have not applied the principles and methods of their profession  
2 reliably to the facts of the case.

3         The most recent case in the country to touch upon the admissibility of the Duquenois-Levine  
4 Color Test and observation of “botanical features” (often called “microscopic analysis) as a unique  
5 identifier of marijuana is Carlson v. State, \_\_\_ S.E.2d \_\_\_, 2006 WL 1586603 (Ga.App.,2006). There, a drug  
6 investigator with the Coffee County Sheriff’s Office who was  
7 “ a licensed marijuana examiner” testified that “the three tests that must be conducted to determine  
8 whether a substance is marijuana, ... are the microscopic test, Duquenois Levine Reagent test, and KN  
9 Reagent or Fast Blue test. He testified that an examiner must have a positive result from all three tests  
10 before determining conclusively that a substance is marijuana and that the three tests, taken together,  
11 establish the identity of marijuana to a verifiable level of scientific certainty.” (Id. at p. 1). Although the  
12 holding of the case was that “the trial court's ruling to permit Harper's testimony was not erroneous as  
13 the state was not required in a probation revocation proceeding to comply with *Daubert* to prove Harper's  
14 qualifications”, the court commented that “the tests performed were not novel and have been widely  
15 accepted in Georgia courts and a substantial number of courts elsewhere.” (Id. at p. 2) The only case cited  
16 was Cunrod v. State, 241 Ga.App. 743, 744-745(2), 526 S.E.2d 900 (1999), which involved “[a] drug  
17 chemist from the state crime lab [who] testified that she ran a series of tests on the substance recovered  
18 from Cunrod's home, including microscopic, thin layer chromatography, and Duquenois-Levine tests.  
19 Based upon these tests, she concluded that the substance was marijuana.” On these facts, the court ruled  
20 as follows:

21                 Although the state did not introduce evidence showing that the scientific principles  
22 and techniques used were valid and reliable, the scientific evidence introduced in this case  
23 was not novel and has been widely accepted in Georgia courts. See, e.g., *Hicks v. State*,  
24 228 Ga.App. 235, 238(3), 494 S.E.2d 342 (1997); *Burch v. State*, 213 Ga.App. 392, 393,  
25 444 S.E.2d 370 (1994); *Ray v. State*, 205 Ga.App. 866, 424 S.E.2d 13 (1992). The tests  
26 utilized here have also been recognized as reliable in a substantial number of courts  
27 elsewhere. See, e.g., *Moore v. United States*, 374 A.2d 299 (D.C.App.1977) (microscopic,  
28 thin layer chromatography, and Duquenois-Levine tests for the identification of marijuana  
have such standing and recognition among scientists that the results are admissible);  
*People v. Escalera*, 143 Misc.2d 779, 541 N.Y.S.2d 707 (City Crim.Ct.1989)  
(Duquenois-Levine test generally accepted as reliable by experts and appellate courts);  
*Ohio v. Anderson*, Ottawa County Court of Appeals (6th Dist.), C.A. No. OT-83-27, 1984  
WL 7819 (decided March 23, 1984) (Duquenois-Levine test generally accepted as a  
reliable test for identifying marijuana). Once a procedure has been recognized in a  
substantial number of courts, a trial judge may judicially notice, without taking evidence,

1 that the procedure has been established with verifiable certainty. See *Pye v. State*, 269 Ga.  
2 779, 786(13), 505 S.E.2d 4 (1998).  
(Id. at 274-275)

3 Of the published opinions cited, not one of these cases involved the precise question of whether  
4 the Duquenois-Levine test, in combination with observation of botanical features, is sufficient to uniquely  
5 identify marijuana. All of the cases, however, strongly suggest a negative answer to the question:

6 1. Hicks v. State, 228 Ga.App. 235, 238(3) (“[I]n the instant case, [the expert] conducted three  
7 tests on the suspected marijuana: the Duquenois-Levine test, the KN Reagent-9 test, and a microscopic  
8 test.”)

9 2. Burch v. State, 213 Ga.App. 392, 393 (“An analyst with the State Crime Lab testified that, so  
10 as not to report false positives, the crime lab performs three tests on marijuana: thin-layer  
11 chromatography, microscopic evaluation, and a Duquenois-Levine test. All three tests must be positive  
12 before the crime lab can positively identify a substance as marijuana. The analyst testified that the plant  
13 sample she received was “fairly young,” she could not get “a very good sample, amount-wise,” and only  
14 one or two of the tests was positive. Consequently, she testified that the tests she performed indicated that  
15 the plant sample was marijuana, but she could not positively identify it as marijuana.”)

16 3. Ray v. State, 205 Ga.App. 866, 867 (“The technician testified that she conducted three tests on  
17 the marijuana that had been found in defendant's possession—a microscopic analysis, a Duquenois-Levine  
18 test and a fast blue salts test—and each test was positive for marijuana.”)

19 4. Moore v. United States, 374 A.2d 299 (D.C.App.1977) (“Mr. Paul Morgan, an employee of the  
20 Drug Enforcement Administration, who was qualified after extensive voir dire (and over the objection  
21 of the defense as to his expertise in botany and plant taxonomy) as an expert in analytical chemistry. He  
22 testified that the seized substance was, in his opinion, unadulterated marijuana, and he based his opinion  
23 on the microscopic examination, Duquenois-Levine test and two thin-layer chromatographies which he  
24 performed. At the close of the government's evidence, the defense did not move for judgment of acquittal  
25 but presented its witness, Dr. Sorrell Schwartz, a professor of pharmacology at the Georgetown  
26 University Medical School with impressive credentials. He testified that all the tests performed by the  
27 government's analyst were screening tests and even in conjunction with one another could not specifically  
28 identify marijuana.”)

1           5. People v. Escalera, 143 Misc.2d 779, 786, 541 N.Y.S.2d 707 (City Crim.Ct.1989)(“[T]he  
2 Duquenois-Levine test is sufficiently reliable for purposes of converting the complaint into an  
3 information, without the necessity of a hearing. Obviously, at trial the People would still need to lay the  
4 proper foundation for the admissibility of the test results.”)

5           The most interesting of these cases is *Moore* because there the Department of Justice, the same  
6 agency prosecuting the defendants in this case, took the position that “ regardless of how the tests are  
7 characterized, in combination with one another they [microscopic examination, a Duquenois-Levine test,  
8 and a thin-layer chromatography ] establish with certainty that a substance is marijuana.” (Id. at 301). The  
9 issue as framed on appeal in that case highlights the insufficiency of the testing procedure in this case:

10                   Appellant has asked this court to rule as a matter of law that positive results in a  
11 microscopic examination, a Duquenois-Levine test, and a thin-layer chromatography are  
12 insufficient to establish beyond a reasonable doubt that a particular substance is marijuana  
13 and, therefore, there was insufficient evidence to support his conviction. Appellant bases  
14 this argument on testimony of the defense expert witness to the effect that the tests  
15 performed by the government analyst were screening tests only, and not specific for  
16 marijuana; i. e., that the government's tests cannot conclusively show that a substance is  
17 marijuana, but only if it is not. Dr. Schwartz recommended mass spectroscopy as a  
18 relatively simple and inexpensive test which is specific; this test is not performed by the  
19 government presently. The government analyst agreed in his testimony that the  
20 Duquenois-Levine test is a screening test; he was not asked to characterize thin-layer  
21 chromatography. The government's position on appeal is that regardless of how the tests  
22 are characterized, in combination with one another they establish with certainty that a  
23 substance is marijuana.

24 (Id. at 302)

25           Although the court in *Moore* ruled that positive results in a microscopic examination, a  
26 Duquenois-Levine test, and a thin-layer chromatography are insufficient to establish beyond a reasonable  
27 doubt that a particular substance is marijuana, it is significant that in that case it appears that the  
28 government's D.E.A. expert, the defense expert, and even the prosecutors all agreed that anything less  
than the combination of microscopic examination, a Duquenois-Levine test, and thin-layer  
chromatography, was insufficient to identify marijuana. As with the scientific literature, the legal  
literature also compels the conclusion that the SFPD's marijuana protocol does not survive scrutiny under  
Daubert or Rule 702.

1 **E. The Government's Drug Identification Witnesses Cannot Uniquely Identify Cocaine**  
2 **Base Using the Cobalt Thiocyanate/acid Color Test and the Gold Chloride**  
3 **(Tetrachloroaurate), and Platinic Chloride Crystal Tests**

4 Section E.2 of the SFPD Controlled Substances SOP provides:

5 2. Cocaine

6 Cocaine is the most common controlled substance encountered in the San Francisco  
7 Police Department Criminalistics Laboratory. Cocaine exists in the coca plant in the form  
8 of a base. The extraction techniques used at this time converts it to a salt. In the  
9 laboratory, it is encountered in both forms: the salt "powdered" form and the base "rock"  
10 form. The analytical procedure is approached in such manner as to distinguish between  
11 these forms.

12 a. Presumptive color test.

13 Cobalt thiocyanate is the screening reagent used to determine the presence of cocaine.  
14 A blue precipitate is immediately formed in the presence of cocaine salt, while cocaine  
15 base is unreactive. Acidified stannous chloride is added which yields the characteristic  
16 blue color when cocaine base is present.

17 b. Confirmatory Microcrystalline Tests

18 Two crystal tests are performed using the gold chloride (hydrogen tetrachloroaurate) and  
19 platinic chloride reagents. The resulting crystals are observed under a microscope under  
20 polarized light at 100x. Typical shapes of these crystals are shown in the cocaine training  
21 module-section 6-as well as in the crystal codes Appendix of the SOP.

22 c. GC-MS

23 A portion of the sample is dissolved in slightly acidic water. Upon addition of an aqueous  
24 base, a cloudy precipitate forms. The analyte is extracted into an appropriate organic  
25 solvent which is then injected into the GC-MS.

26 Although at first glance it would appear that the protocol states acceptable methodology because  
27 it implies that GS-MS will be used in connection with a presumptive color test and two crystal tests, one  
28 must return to Section 3. B. 4 to understand why GC-MS was apparently not used in this case. That  
section states that "When a Category A technique (GC-MS) is not used then at least three different

1 methods must be employed. Two of the three must be uncorrelated techniques from Category B.  
2 Microcrystal tests utilizing different reagents will be considered uncorrelated techniques.” Once again,  
3 therefore, by abandoning GC-MS confirmation, the laboratory has substantially deviated from acceptable  
4 scientific methodology.

5 A devastating piece of evidence proving the unreliability of both the SFPD’s marijuana protocol  
6 and its cocaine protocol is that in May 1995, the American Society of Crime Laboratory Directors  
7 audited the lab after a SFPD narcotics examiner was caught on tape faking narcotics laboratory results.  
8 That audit, attached hereto as Exhibit 2, states in part:

9 Although when used by properly trained and experienced examiners, crystal tests  
10 may be a valid method for confirmation of drugs, ASCLD/LAB no longer accepts crystal  
11 tests without instrumental confirmation as a basis for the identification of drugs. The  
12 laboratory standard operating procedure should be changed to reflect this. Some drug  
13 procedures described in the laboratory procedures manual are not used or understood by  
14 the laboratory staff and should be deleted until they are implemented. The laboratory  
15 should also review its current microscopic procedure for the identification of marijuana  
16 to ensure that it represents current generally accepted practice.

17 (Exhibit 2 at p. 10)

18 In response, in October 11, 1995, the then acting Director of the Crime Laboratory, Jim Norris,  
19 wrote a response to the critical audit report, which states in part

20 On Pages 1-4 of the audit, the ASCLDILAB review made several specific  
21 recommendations with regard to our drug analysis procedures. They recommended that  
22 a case file be created for each drug case and that there should be more administrative and  
23 technical review of each case. We implemented all of their recommendations in this  
24 regard on August 1, 1993.

25 They also recommended that we rely more on instrumental methods of analysis. At the  
26 present time, we do not have any of the instrumentation that they feel is absolutely  
27 necessary for the proper confirmation of controlled substances. The two instruments that  
28 we will need are an FTIR (Fourier Transform Infrared Spectrophotometer) and a GC/MS

1 (Gas Chromatograph/Mass Spectrometer) . We have an unserviceable FTIR that needs  
2 to be replaced and we have never had a GC/MS. Although we, and many other crime  
3 laboratories, have confidence in the microcrystalline tests that we use to confirm the  
4 presence of most drugs, there is a growing tide of support for the exclusive use of  
5 instrumental methods of analysis for this purpose. The reasons for this change have more  
6 to do with the ability to do case reviews (by supervisors and defense experts) than with  
7 any lack of specificity of the current methods. If we don't implement the change to  
8 instrumental methods soon, we will see increasing attacks in the courts.

9 I have contacted vendors that sell this equipment in order to determine the  
10 approximate cost of this equipment. The FTIR will cost about \$30,000 and the GC/MS  
11 will cost about \$50,000 each (Given our caseload, we will need two GC/MS's). Please  
12 note that these are not exact costs, but merely estimates. Also, in order to continue to  
13 provide a 6 hour turn around time for narcotics analysis, we will have to hire additional  
14 staff; at least three additional criminalists will be needed.

15 (Exhibit 3, p. 1-2).

16 Of course, in this case, there are no "case files" to review; they have all been destroyed, along  
17 with the drugs, the testing results, and the lab notes. The Crime Lab eventually got its funding for FTIR  
18 and GC/MS equipment after a civil grand jury issued a critical report in June 1996, finding that the labs  
19 existing FTIR unit was "unserviceable", and that the lab needed a GC/MS machine because "[t]his  
20 standard equipment for the analysis of drugs is being adopted by most laboratories throughout the  
21 nation." (Grand Jury Report, p. 4, Exhibit 4 herein.). The laboratory was never able to qualify for  
22 ASCLD/LAB accreditation until February 25, 2005. Inexplicably, the Lab's Narcotics SOP still allows  
23 the identification of drugs without the use of GC/MS. That methodology cannot be established as reliable  
24 under *Daubert* or Rule 702 and must therefore be excluded from evidence.

1 **III. CONCLUSION**

2 For the above-stated reasons, defendant Edgar Diaz and all other defendants respectfully  
3 request that this motion to exclude the government’s drug identification witnesses be granted unless  
4 the government can show at a Daubert hearing that all defendants’ objections can be met.

5 Dated: August 7, 2006

6 Respectfully submitted,

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9 TONY TAMBURELLO

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10 By /s/ Michael N. Burt  
11 Attorneys for Defendant EDGAR DIAZ

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