# SUPREME COURT OF YUKON

*R v Gaber*, 2016 YKSC 26

Date: 20160617
S.C. No. 14-01508
Registry: Whitehorse

Between:

**HER MAJESTY THE QUEEN**

And

**MICHAEL GABER**

Before Mr. Justice R.S. Veale

Appearances:
Eric Marcoux — Counsel for the Crown
David C. Tarnow — Counsel for the Defendant

**REASONS FOR JUDGMENT**

## INTRODUCTION

[1] Following the Reasons for Judgment in *R. v. Gaber*, 2015 YKSC 38, which excluded certain evidence obtained from Mr. Gaber in violation of his s. 8 *Charter* rights, this trial proceeded on the count on the indictment alleging that Mr. Gaber possessed methylphenidate (commercially known as Ritalin) for the purpose of trafficking, contrary to s. 5(2) of the *Controlled Drugs and Substances Act*, S.C. 1996, c. 19, ("*CDSA*"). Mr. Gaber is alleged to have attempted to take the methylphenidate into the Whitehorse Correctional Centre ("WCC") where he was employed as a Corrections Officer. The details about Mr. Gaber's arrest and search are contained in the 2015 *Gaber* decision, cited above.

[2] The primary issue at trial is whether the Crown has proven beyond a reasonable doubt that the substance that Mr. Gaber attempted to take into WCC is methylphenidate. It is undisputed that the substance was in pill form, that 59 pills were wrapped in a condom, and that this package of pills was found in Mr. Gaber's pocket when he arrived for work on December 26, 2013.

[3] The Crown has filed a Certificate of Analyst certifying that the sample analysed is methylphenidate, a controlled substance within the meaning of Schedule III of the *CDSA,* as well as an Analyst's Report. Section 51(1) of the *CDSA* states that the certificate prepared by an analyst is admissible in evidence as proof of the statements set out within "in the absence of evidence to the contrary". The Crown analyst and a defence expert testified.

[4] My reasons for judgment were read out in Court and these are my written reasons which are substantially the same.

**THE EVIDENCE**

[5] Cst. Bray, one of the RCMP members who responded to the phone call from the WCC about Mr. Gaber on December 26, 2013, testified that he took the seized white pills from the WCC to the RCMP station and put them in a locker. On December 27, he took the pills out and counted 59 pills, all of which had a similar appearance. On January 3, 2014, he again took the pills from the locker, took a 10-pill sample, put them in a drug envelope and sent them to the Health Canada Drug Analysis Service (DAS) Laboratory in Burnaby, British Columbia. On both occasions, Cst. Bray did not wear gloves when handling the pills and he did not clean the table to remove contaminants

prior to counting or preparing the sample. Cst. Bray had no training or knowledge of what a sampling plan was.

[6] Ms. Sarita Jaswal is the DAS lab's drug analyst in this case, and she has been working in this capacity for over 30 years. She is a designated analyst under the *CDSA*. She has analyzed over 20,000 exhibits in her career at a rate of roughly 1,000 exhibits a year. She has testified over 40 times in different courts in British Columbia and Ontario. This Court recognized her expertise and allowed her to testify as an expert in the field of analysis of controlled and scheduled substances including chemical analyses of submitted exhibits and the use of mass spectroscopy, gas chromatography and flame ionization detector.

[7] In this case, Ms. Jaswal received the ten pills forwarded by Cst. Bray. She testified that she took one of the ten pills, crushed it, and took two sub-samples for analysis. Ms. Jaswal was not alarmed by the way the tablets were handled by the RCMP since her main concern would have been about the presence of methylphenidate in a powder form on the table where the tablets were handled. That powder would likely have been visible on the table but that still would have, in her view, resulted only in a small amount of contamination that would be distinguished through the analysis. The RCMP officer handling the exhibits did not notice the presence of any powder on the table where the exhibits were handled. Ms. Jaswal was also not concerned about the possible presence of another contaminant since it would show up as another compound during the analysis and would not alter the chemical nature of the methylphenidate. In cross-examination, she acknowledged that the way Cst. Bray handled the tablets was not good practice because it could potentially contaminate the analysis process.

[8] On the issue of sampling, Ms. Jaswal stated that she is not required by DAS policy to have a sampling plan, and that it is the police who have access to the full exhibits and they are the ones in the best position to decide how to do the sampling. By the time the exhibits get to her, the sampling has already been done. She agreed that she could only testify to the composition of the one pill that she crushed and analysed.

[9] Ms. Jaswal performed her analysis at the Burnaby, BC, Health Canada DAS Laboratory. That lab has achieved accreditation as a Forensic Drug Testing Laboratory under the Standards Council of Canada ("SCC"), meeting the requirements of ISO 17025/CAN-P-4E since 2011.

[10] Ms. Jaswal explained that, in order to maintain its ISO/SCC accreditation, the lab is evaluated every year. Independent auditors assess their standard operating procedures, which includes the examination of how the lab is running, the management of the lab, the personnel and all aspects which would have an impact on the results that the lab is generating.

[11] Ms. Jaswal filed with the Court her report detailing her analysis of the tablet in this case.

[12] She explained that she first started with a visual examination of the white tablet and noticed the inscriptions APO and SR20 on the white tablet. APO usually refers to a drug manufacturer named Apotex, SR means slow release and 20 refers to milligrams. She found on the Apotex website that the description matched a product from Apotex containing methylphenidate.

[13] She also checked another reference book the "Compendium of Pharmaceuticals and Specialities" ("CPS") and was able to identify a product that was consistent with the

inscriptions on the tablet. The CPS also suggested that the tablet she was looking at was an Apotex SR20, a pharmaceutical tablet containing methylphenidate by the manufacturer Apotex.

[14] Ms. Jaswal next proceeded to conduct chemical testing as required by a DAS document entitled "Standard Operating Procedure" ("SOP"). The SOP indicates the need to conduct two tests, one "non-confirmatory" and the other "confirmatory". The combination of those two tests, at a minimum, allows the analyst to draw a conclusion. Non-confirmatory means the test is not conclusive as to the composition of a substance, whereas a confirmatory test provides information on the compound's molecular structure and is capable of identifying a drug.

[15] For the non-confirmatory test Ms. Jaswal used gas chromatography and for the confirmatory test, she used gas chromatography with mass spectrometry as allowed under the SOP.

[16] Because methylphenidate is a "weak fragmenter", the DAS lab required an additional third test in order to confirm the mass spectrometry results. The specific "Comment" column on the document entitled *Chemical Database v 8*, reads "Ambiguous MS spectrum. IR or 3rd test required." IR refers to infrared testing, which was not done.

[17] Ms. Jaswal explained that, according to the lab's procedures, the third test could be done by referencing the literature and the product description or she could run the sample on another piece of testing equipment. Despite having already compared the tablet to the descriptions in the CPS, she also chose to perform another gas

chromatography test similar to the one already done but using a different type of separating column.

[18] Ms. Jaswal explained in court how the three tests she performed produced relative retention times ("RRTs") for the unknown compound in the pill that were matched to the RRT of the verified reference standard for methylphenidate ("Mephen-01") within the acceptable 5% margin and that all three tests were positive for the presence of methylphenidate.

[19] Ms. Jaswal explained that the methylphenidate reference standard (Mephen-01) used by her lab was obtained and verified in January 2004 and has been re-verified every two years until present. It is considered to be a valid reference standard and it was run on the same equipment using the same analysis parameters, machine methods, separating column specifications and detectors that was used for the testing of the sample in this case.

[20] In addition to the three RRTs obtained above, Ms. Jaswal also visually compared the mass spectrum for the observed peak produced in the chromatogram from the second test with the mass spectrum for the verified reference standard for methylphenidate (Mephen-01) and concluded it was a match.

[21] Given the three RRT results, the mass spectrum result and the product identification through comparison with the CPS, Ms. Jaswal explained that she had met the DAS lab requirements to be able to certify that the tablet analyzed contained methylphenidate and accordingly issued the certificate.

[22] In her Report on the Analysis of Exhibit 13-22000 V, Ms. Jaswal described her evaluation of the test results as follows:

> The non-confirmatory testing was positive for the presence of methylphenidate by the noted relative retention time (RRT) of the observed peak in the chromatogram. The RRT was matched to the RRT of the verified reference standard and was within the acceptable criteria established for the RRT of the reference standard.
>
> The confirmatory test was positive for methylphenidate as the mass spectrum for the observed peak in the chromatogram matched the mass spectrum for the verified reference standard. In addition, the noted RRT of the observed peak in the chromatogram was matched to the RRT of the verified reference standard and was within the acceptable criterial for the RRT of the reference standard.
>
> The third test was positive for the presence of methylphenidate as the noted RRT of the observed peak in the chromatogram was matched to the RRT of the verified reference standard and was within the acceptable criteria established for the RRT of the reference standard.

[23] Ms. Jaswal stated in the Certificate that all test results must be compared to the appropriate reference standard run on the DAS equipment as follows:

> The methylphenidate reference standard (mephen-01) used by the DAS laboratory in Burnaby was obtained and verified in January 2004. The mass spectrum was verified against the published literature reference spectrum from the Instrumental Data for Drug Analysis, 2nd Edition, Volume 2.
>
> Mephen-01 has been re-verified every two years since 2004 until present. It continues to be considered a valid reference standard in circulation.
>
> Mephen-01 was run on the equipment using the same analysis parameters, machine methods, separating column specifications and detectors as that was used for the testing of sample 13 22000 V [the white pill in question].

[24] Ms. Jaswal was cross-examined extensively about the re-verification of this reference standard as well as about whether she had put her test results through the electronic National Institute of Science and Technology ("NIST") database of

compounds, which the defence expert Suzanne Perry considers to be a far more rigorous and comprehensive method of analysis than the visual identification required by DAS lab policy. Ms. Jaswal acknowledged that the NIST database is a valuable tool but said she is required to evaluate the spectrum against the Health Canada Laboratory DAS standard. She testified as follows:

> Q Why not just put it through NIST?
> A Why not put it through NIST?
> Q Well, you didn't put it through the electronic database NIST?
> A I -- I -- I can search against NIST. There's -- nothing is stopping me against searching against NIST. I don't disagree that NIST is a valuable tool. We use it every day to aid us in our determination. But my policy demands that I compare the spectrum against the standard run in our -- in our systems -- on our systems and the reference standard that we obtained, so that's what I have to do. And I also have to expand the spectrum and look at the relative proportions.
>
> It's -- the purpose of -- as I understood Ms. Perry's report, she was suggesting that when I don't use the NIST tool, I'm -- I'm not looking or comparing against all other standards that are in that library and that I may miss other compounds which may have similar fragmentation, but at the point that I've come to when I do my final determination, I -- I may have already done that. I may have looked at several databases and --
> Q You didn't use an electronic database for this?
> A You don't know that I didn't because -- I may have, for sure. It's not in our -- I don't need to record it that I've done it, but -- for sure it's to my advantage to look at as many databases, but my final determination has to be against the standard that -- the reference that we have.
> Q Well, we don't understand what you just said. Is there some evidence that you're withholding from us?
> A No, there's no evidence. I don't need to -- I -- it's not a requirement for me to record that I have referenced other databases.

Q Well, it's a requirement right now. Did you use electronic database to judge the sampling of Gaber's sample?
A Against our DAS database, yes, I did.
Q Is it here somewhere?
A It's -- no, I didn't print it out.
Q Well, why?
A Because the requirement is -- is that I visually look at it, so I can use the computer as a tool and I have my standard -- the DAS standard, reference standard, and I have the -- the questioned sample, and I can zoom --
Q Or we -- or you didn't want us to look at it?
A No, no, no, no.
Q Well, why not?
A You know -- you know, you --
Q Why wouldn't you put it here? Why wouldn't you give it to Ms. Perry? Are you just playing some game?
A No, there's no game.
Q Well, why wouldn't you --
THE COURT: Just let her answer the question.
A I'm required to evaluate the spectrum and I'm required to evaluate it against our standard run in the DAS [Drug Analysis Service] system. I can do that by expanding it and looking at it visually as we are here, right now, I can do it this way, or I can do it on the computer, but I just must do it. And for me, it's easier to use our – our computer and bring up the standard and then highlight them and zoom them equivalently and then examine the smaller – the smaller fragments and look at the portion of fragments around them and ensure that it is matching the standard. That's what I'm required to do.

In terms of documentation for my -- my notes and what -- what is put into the exhibit package, I just have to print it out. I just have -- I printed out the expanded spectrum.

[25] With respect to the standard re-verification issue, the documents contained in Exhibit 10 contain the following documents referring to the Mephen-01 sample:

1. "Drug Screen Report"
Injection Date: 6/4/2008
Acq. Method: QuickF.M

Analysis Method:
D:\HPCHEM\1\METHODS\QUICKF.M

2. Three-page document:
(i) "Instrument: 5975C MSD – 7890A Gas Chromatograph"
Date: 6 Jun 2008 17:15
Acquisition Method: Quick.M
(ii) Two mass spectrograms: "Average of 5.048 to 5.080 min." and "Average of 5.934 to 5.946 min".
(iii) Mass spectrogram: "Average of 5.036 to 5.080 min"

3. "Halifax MTLSC17R Relative Retention Time Report"
Injection Date: 10/12/2010
Acq. Method: MTLSC17R.M
Analysis Method: MTLSC17R.M

[26] Document 2, page ii has a handwritten note next to the "Average of 5.048 to 5.080" graph that says "IDDA [illegible], Vol. 3 2006, p. 2012, MW=233".

[27] These dates were not explained by Ms. Jaswal. She did testify in chief as follows:

> THE COURT: The -- just so I understand, the -- when you're checking it with some previous Ritalin that you have, right, how old is that stuff?
> A The standard that we ran was 2004.
> THE COURT: Okay.
> A And we need to verify -- so our -- according to our procedures, we need to verify according – at the expiry date supplied by the supplier or we verify every two years, and we need to confirm it against a literature reference to ensure it's still good. And we do that. We do that every two years and we -- once it's re-verified, it's good to be used and put into circulation.
> MR. MARCOUX:
> Q So can you tell us at -- at the time you did those tests, what was it last re-verified?
> A I don't have that information with me, but I could get it. It was a verified standard. But -- actually in this case, I didn't actually -- because this was already filed at the time that this information was collected on the standard, it was verified, so I'm comparing it against

verified information, even though they're years apart. (p. 33)

…

Q Yes. Thank you. Now I'd like you to talk about result verification. That's something you address at page 4 under 1 -- subparagraph 1.3. Can you tell us a little bit about that? What does that involve?

A Certainly. So in order to make the comparison against a reference material, I need to verify that reference material, and in – in regards to our laboratory, we -- what we do is we run the -- we run the tests that we would run a question sample on and gather than information, like we talked about, the retention time, but I also need to verify -- our -- our lab needs to verify the mass spectrum in this case because we're talking about mass spec, we need to verify that the reference material we receive is methylphenidate. And so in that case you can see the -- that is why the standard packet, Exhibit 10, the annotation next to the spectrum on page 3 shows the literature reference that we compared that standard against. And we do this at a -- at -- every two years, or we do this according -- once it expires according to the -- the supplier, the manufacturer of the -- of the reference material

And that's part of the results verification and that's part of the requirements of being accredited. It falls under measurement traceability, and we need to be demonstrating that our -- our -- our reference material that we obtain are -- have -- we can show some traceability to how this identification is being made.

Q Okay.

A So on page 4 of my report of January 12th, 2016, I sort of explain a little bit of how - of what we're doing in regards to results verification, and I -- you can see in the second paragraph I talk about the fact that we assign an expiration date. Once we verify the standard, we assign the expiration date, if it's supplied by the supplier, or we assign a -- just a two -- two years from the date of the first verification.

Q Okay.

A And then we cannot re-run this -- this -- this reference material on any of other equipment if it's reached

> expiration. We just first re-verify to ensure the integrity of the reference material. And all of our reference material are run on the same equipment that the questioned samples are run on, under the same conditions, same parameters, and that's so we can do comparative purpose. It wouldn't make sense to run it on systems that are different than the standard was run on.
>
> So I just point out in the bold, the last three sentences, that the methylphenidate reference standard was obtained and verified in January 2004, the -- and I state the reference -- the print reference that -- the published literature reference that we verified it against. We have re-verified it every two years since 2004 and we continue to -- to consider it a valid reference standard. And it's also just stating that we run it under the same conditions that we run exhibits or questioned samples, using the same separating column specifications. (p. 37)

[28] In cross-examination, she was again asked about the reference standard dates:

> Q Yes. So you can use a reference standard from your lab --
> A A --
> Q -- a verified reference standard from your lab --
> A A reference standard from a supplier, an approved supplier.
> Q From --
> A In -- in the case --
> Q -- 2004?
> A That's correct.
> Q Ten years earlier?
> A That's correct.
> Q And you verified it, the verification came by looking at a book *Instrumental Data for Analysis* (2nd Edition)?
> A That's correct.
> Q And can you tell us --
> A It's a published reference.
> Q Yes. Can you tell His Honour what is the -- I note that you didn't put it in here -- the date of the volume, the date of the publication?
> THE COURT: Where are we now?
> A Yeah.

MR. TARNOW: Page 4, just down near the bottom, "Methylphenidate reference standard used by the DAS Lab in Burnaby was obtained and verified in January 2004," Your Honour.

A Oh, I didn't give the -- the year of publication.

MR. TARNOW:

Q Yeah, I noticed that.

A I'm sorry, that -- that was my -- that's my error. I -- when we look at Exhibit 10, I think the year is there.

Q Exhibit 10 is --

A Exhibit 10 -- the standards packet.

Q In here?

A Yes, in there. On page 3.

Q Page 3? What's it look like? I don't have that.

A Right at the top, "Annotation," it says, "IDDA," which stands for --

Q I --

A Instrumental Data for Drug Analysis.

Q Could you just show us what you're looking at, please?

A Right here.

Q Oh, I see. All right.

A Yeah. So 2006. The edition was published in 2006.

Q IDDA, that's a third edition?

A Yeah, this one is a third edition, I see.

Q No, but you said in your volume that you looked at --

A Yeah. I said in my report second edition.

Q -- the second edition. That was -- the second edition, I -- I happened to look it up before coming, it was 1992.

A It -- it would be -- that's my mistake in my report. It would be the --

Q Which one is your mistake?

A In my report on page 4, it -- it should be the third edition. Oh, no, I'm sorry, we need to -- we need to back up here.

So, as I stated, every two years we re-verify the standard, so the standard came in in 2004. It could not be verified against edition that was published in 2006, so it was originally published in the second edition.

Q In 1992?

A That was the publish date, I guess.

Q So you were eyeballing the reference standard to a -- a book that was, what, 20 years old or 25 years old? What is it?

> A The -- the information on the standard spectra doesn't -- it matched and that is our requirement and I – that was what was done. That was what was followed. So the standard was verified against the second edition, Volume 2, and I compared my sample against that verified standard. That standard, as I stated in my report on page 4, has been re-verified every two years.
> Q So --
> A And it may not be against this current edition from 1996 every two years, it would be -- could be against a different approved reference. (p. 66)

[29] The defence called Ms. Suzanne Perry who was qualified to testify as an expert in the fields of chemical analysis and compound identification, chromatography, mass spectrometry, sampling handling and data analysis. She did her Master's thesis on gas chromatography and mass spectrometry. She worked at the Michael Smith Laboratory at UBC for 23 years and eventually ran that laboratory for several years. She is now a consultant.

[30] Ms. Perry's report stated that the results provided by the DAS laboratory were "unscientific, biased and demonstrated a lack of consistency in scientifically sound drug identification via spectral matching." She also stated in her report that the three analyses performed by Ms. Jaswal lacked good laboratory practices by failing to use the NIST database for unknown drug identification and instead relying on visual comparisons with internal standards. She did not accept the DAS standards or equipment as a "qualified method", and raised concerns about contamination by the degradation products of heroin that were identified in the gas chromatography injector. She also objected to a lack of appropriate controls and standards in the testing protocols. She suggested that the DAS lab's failure to identify unknown peaks in the gas chromatography graphs leaves open the possibility that those unknown compounds

could interact with the identified substance in the pill, affecting its behaviour and reducing the reliability of the methylphenidate identification.

[31] Ms. Perry observed that the DAS laboratory did not have a sampling plan as required by the ISO guidelines. She also took the position that because of the ambiguous mass spectrometry spectrum indicated for methylphenidate, the lab should have run the confirmatory IR test rather than conduct another non-confirmatory test and the mass spectrometry test.

[32] It appears from the oral evidence that Ms. Perry was unaware of the DAS lab's ISO accreditation status until after her report was written. While she acknowledged in cross-examination that Ms. Jaswal operated within the DAS lab procedures, she also testified that this did not change her view about the deficiencies in its testing and evaluation practices.

[33] With respect to the DAS lab's use of the 2004 methylphenidate standard, Ms. Perry gave the following evidence about Exhibit U to her affidavit (which was the mass spectrometry analysis of the reference standard and part of Exhibit 10 at trial):

> Q That's the reference standard, correct?
> A Yeah. So this one in Exhibit U that they used in 2014 has a date of June 6, 2008, so my concern is that if this is validated or verified every two years, I would have expected a more recent spectra to have been the point of comparison if --
> Q If that's what they did?
> A If that's what they --
> Q You would expect something to say 2012?
> A At least, yeah. 2014 would, of course –
> THE COURT: Well, you expect it to be on this document?
> A They provided this as the standard that they physically compared Mr. Gaber's sample to. (p. 109)

[34] This evidence was neither cross-examined on nor explained by the Crown. The Crown closed its case on January 28, 2016. An application to re-open the Crown's case to explain this evidence was filed on April 25, 2016, but was withdrawn.

**POSITIONS OF COUNSEL**

[35] Defence counsel says that he has provided evidence to the contrary sufficient to raise a reasonable doubt about the testing conclusions drawn in the Certificate of Analyst. He did not rely on all of Ms. Perry's observations, but rather chose to focus on four specific criticisms.

[36] First, defence challenges Ms. Jaswal's use of a third non-confirmatory test rather than IR testing to satisfy the DAS lab testing requirement of methylphenidate given its characterization as having an "ambiguous MS spectrum".

[37] Secondly, he objects to the DAS lab's use of visual comparison to graphs and spectra from an in-house reference standard, when the use of NIST or another broad database would generate results with a higher degree of reliability and a numerical degree of certainty. Although Ms. Jaswal testified to having 95% or 99% certainty with respect to her identification, he says that is based on her opinion, while NIST would generate a percentage certainty confidence level.

[38] Thirdly, he says that the reference standard, which was obtained by the lab in 2004 and which was supposed to be re-validated every two years, had not been validated since 2008.

[39] Finally he points out that the DAS lab does not have a sampling plan protocol in place.

[40] Crown counsel points out that, despite Mr. Tarnow's criticisms of Ms. Jaswal's use of visual identification and non-confirmatory testing, these techniques are allowed by the standard operating procedure of the DAS lab, which is ISO-accredited. While defence may take issue with the procedures put in place by the DAS lab, they have been evaluated by the Standards Council of Canada and deemed to be sufficient to meet rigorous international standards for forensic drug testing.

[41] Specifically, there was no lab requirement that Ms. Jaswal conduct infrared testing, rather the protocol required a third test. In fact, Ms. Jaswal conducted two additional tests: the non-confirmatory gas chromatography test on the Halifax machine using the Montreal protocol and a visual comparison of the tablet to the CPS.

[42] As well, Crown says it is inaccurate to characterize all of Ms. Jaswal's identification data as visual. While the mass spectrum comparison was done visually, as permitted by the lab protocol, the defence is overlooking the RRT data that was generated in the gas chromatography testing in which the retention time of the unknown compound relative to an internal reference compound was calculated and ensured to fall within 5% of the RRT calculated for the verified standard.

[43] In terms of the DAS lab's lack of a sampling plan, Ms. Jaswal's evidence was that she is not required to have one, as she did not do the sampling. Rather, that obligation falls to the RCMP when they are packaging up the material to send for analysis. With respect to the reference standard, Ms. Jaswal explained that it was obtained and verified in January 2004 and then re-verified every two years.

**LAW ON CERTIFICATE OF ANALYST**

[44] The leading case on the meaning of "evidence to the contrary" is *R. v. Oliver*, [1981] 2 S.C.R. 240. In *Oliver*, the analyst compared his results to a chart prepared in Ottawa, but there was no proof that the chart prepared in Ottawa was prepared from heroin. The trial judge concluded:

> The result is that I come to the conclusion that I have some doubt as to the nature of the substance, and as such the accused are entitled to be acquitted.

[45] As set out by the Supreme Court of Canada, the evidence before the trial judge was that:

> … the witness had not prepared nor had he overseen the preparation of the standard graph nor did he even know who had done so, all he could testify to, as a result, was that the graph of the suspect substance indicated that it was heroin but only if and to the extent the substance used to prepare the standard graph was itself heroin, a factual prerequisite he could not personally affirm.

[46] In its decision, the Supreme Court reversed the Alberta Court of Appeal which had ordered a new trial on the basis that no attack was made on the standard and no evidence adduced which would raise a doubt as to its accuracy. In finding that the defence had nonetheless introduced sufficient evidence to the contrary to raise a reasonable doubt about the certificate's statement that the substance was heroin, the Supreme Court stated:

> "Evidence to the contrary" is any evidence which tends to put in doubt the probative value Parliament has legislatively conferred upon the statements contained in a s. 9 certificate. This evidence may be in regard to the analyst himself, his qualifications, integrity, or in regard of the procedures he followed to draw his conclusions. Section 9 has been enacted to dispense with the calling of experts to testify in cases where the nature of the suspect substance is not

> really in issue. Though, at the outset, a certificate does create a presumption, the words "evidence to the contrary" should not be construed so as to confer upon an analyst's assertions in a certificate any ultimate greater probative value than when those same assertions are adduced under oath in court.
>
> "Evidence to the contrary", as regards an analyst's conclusions set out in a certificate, as those words are meant in s. 9, is any evidence upon which a trier of fact could as a matter of law rest a reasonable doubt as to that analyst's conclusions had he testified as an expert witness in court.
>
> By inserting the words "and in the absence of evidence to the contrary" in s. 9, Parliament has done no more than spell out, as regards s. 9 certificate evidence, what is in fact the law as regards opinion evidence adduced in the traditional way, indeed as regards any evidence, namely, that a trier of fact cannot arbitrarily set aside lawful evidence, that is, not unless there is some evidence to the contrary upon which his so doing may, as a matter of law, be predicated.

[47] In *R. v. Kalashnikoff*, 2000 BCCA 145, the Court of Appeal considered, among other issues, whether the Crown was required to call the analyst from the crime laboratory to testify as to a step in the process. The Crown did call the analyst who administered four tests but he did not personally run the standard or calibrate the machine which was done every day. The trial judge resolved the issue as follows:

> … There is some evidence before me that the standard was run and the calibration was done as required by someone by virtue of the fact that the spectrum results for the standard test were on the table before Mr. Wu at the time that he performed his test. Moreover, during the course of all four tests that he conducted, Mr. Wu noted absolutely no anomalies or difficulties in determining the chemical composition of the substance before him. All four tests pointed separately to the substance being cocaine.
> (emphasis already added in the C.A. judgment)

[48] In upholding the conviction, Donald J.A. at para. 23, interpreted *R. v. Oliver,* as follows:

> I do not understand Oliver to stand for the proposition that testimonial proof is required for each step in an analysis in order for the result to be accepted. As was observed by this Court in *R. v. Jordan* (1984), 11 C.C.C. (3d) 565, there are many steps in the entire process of analysis and it would be unnecessarily "ponderous and expensive" to require proof of each step along the way. …

**STANDARD OPERATING PROCEDURE**

[49] This case boils down to whether the Certificate of Analyst is proof of the substance pursuant to s. 51(1) of the *CDSA* or whether the evidence of either Ms. Jaswal or Ms. Perry provides “evidence to the contrary” which raises a reasonable doubt as to whether the Crown has proved the pill in question contained methylphenidate.

[50] With respect to defence counsel’s points about Ms. Jaswal’s failure to conduct a NIST comparison, conduct an IR test or develop a sampling plan, it is important to remember that Ms. Jaswal performed the tests at a laboratory that has been accredited for forensic drug testing under the Standards Council of Canada and in compliance with ISO 17025 since 2011.

[51] The SOP prepared by Health Canada Drug Analysis Service describes the analytical testing used to identify the scheduled drugs found in exhibits submitted to DAS. The SOP implementation date was June 26, 2014, and therefore after the Gaber sample was tested, but Ms. Jaswal testified that the procedure outlined does not differ from the procedure she used in analyzing the Gaber sample and pointed to the Document Revision History appended to the procedure.

[52] The SOP used to identify scheduled drugs other than cannabis is attached as Appendix A. The key points include:

- Section 10.1 “Sampling and Macroscopic Examination”: Two sub-samples or aliquots are generally to be taken from the exhibit. One of the aliquots is to be used for non-confirmatory testing and the other for confirmatory testing.

- Section 10.2 “Non-confirmatory Tests”: Gas chromatography is listed, and the SOP indicates that test results must be consistent with published data for that substance. It expands on this by saying that “if neither a DAS reference standard nor documentation of relative retention time run on DAS equipment is available, test results should be consistent with published data for that substance”. The SOP also notes that the CPS or product identification guides published on a manufacturer’s website can be used as a non-confirmatory test for a pharmaceutical product with manufacturer’s markings.

- Section 10.4 “Confirmatory Tests”: The two acceptable confirmatory tests listed are Mass Spectrometry and Infrared Spectrometry. Again, the test sample spectrum is to be compared to a published spectrum, and a note reads that “[i]f a DAS reference standard spectrum run on DAS equipment is unavailable, the sample spectrum may be compared to a published spectrum”. There are a number of different protocols listed as “more guidance” for the matching.

- Section 10.7 “Minimum Requirements for an Analyst Report”: Sets out that inclusion in a report requires either a positive non-confirmatory test and a positive confirmatory test, or two positive confirmatory tests, each using an independent sub-sample from the exhibit. Clarifies that the CPS or a manufacturer’s website may be used instead of a non-confirmatory test.

- Section 11.0 “Quality Control/Results Verification”: Requires that each reference standard is verified by an Analyst, as detailed in CAN-DAS-0006 (not filed). Also requires that schedule routine maintenance and performance checks on instruments and equipment are done and documented as required by CAN-DAS-0007 and the lab’s instrument quality assurance procedures.

**ANALYSIS**

[53] It is clear from the *Chemical Database v 8* document filed that methylphenidate requires more than the minimum requirements in that either IR or a third (non-confirmatory) test is required. Reading these two documents together, Ms. Jaswal has exceeded the minimum requirements by conducting an additional gas chromatography test rather than relying on the CPS comparison which she had already performed as the third test.

[54] In response to Mr. Tarnow's other points, the SOP requires that the results from both non-confirmatory and confirmatory tests be compared to a DAS reference standard in preference to other published data or spectra, and the sampling procedure directed by this document was followed by Ms. Jaswal.

[55] I agree with the Crown's submission that Ms. Perry is comparing the procedures used by Ms. Jaswal to the exacting standards of a laboratory conducting scientific experiments, which is a much higher standard than the minimum requirements for an Analyst Report.

[56] There are procedures for reviewing the SOP if a more exacting scientific standard than the minimum standard is required. However, I am not prepared, on the record before me to conclude that the Ms. Perry's exacting standard provides evidence to the contrary to displace the Certificate of Analyst.

[57] With respect to defence counsel's sampling plan argument, beyond making the observation that the DAS lab did not employ one, the defence did not strenuously argue that the pill analysed did not reflect the composition of the other 58 pills. I note that courts have been willing to draw the inference of like composition unless "the balance of

the evidence raises a reasonable doubt as to the nature of the substances not analyzed" (Bruce A. MacFarlane, Q.C., Robert J. Frater & Chantal Proulx, *Drug Offences in Canada*, 3d ed., loose-leaf (Toronto, Ont.: Canada Law Book, 2014); also see *R. v. Flett* (1970), 73 W.W.R. 699 (B.C.C.A.) and other references contained in *R. v. Au*, 2012 BCPC 36).

[58] The one remaining argument is with respect to the re-verification of the reference standards. The documentation provided by Ms. Jaswal and her explanations about the re-verification of these reference standards were confusing, to say the least. On the graphs and spectra filed as Exhibit 10, it appears the reference samples were run in either 2008 (QuickF.M and mass spectrometry) or 2010 (MTLSC17R.M). Ms. Perry ultimately alleged that Ms. Jaswal was not using an up-to-date reference standard to certify that the pill contained methylphenidate. On the other hand, Ms. Jaswal testified repeatedly that the reference standard was re-verified every two years and that it was a verified standard, although she did not have the details about when it was last re-verified. It was also not entirely clear to me if or when a methylphenidate sample would be re-run on the testing equipment or if re-verification always refers exclusively to the graphs and spectra being compared to scientifically-accepted literature.

[59] I found both witnesses to be credible. However, given the steadfastness with which Ms. Jaswal followed the DAS lab's SOP with respect to analytical testing, and her repeated assertions under oath that the reference standards had been re-verified every two years in accordance with DAS lab protocol, in the absence of any cross-examination or direct evidence about a failure to re-verify, I do not have a reasonable doubt that the re-verification was done in accordance with the lab's SOP. Ms. Perry

suggested that the dates on the graphs and spectra indicated differently, but Ms. Jaswal was neither specifically asked to explain these dates nor challenged about the sample re-verification not taking place as she asserted, except to be asked about comparing the 2004 standard to a 1992 reference volume.

[60] As was observed in *Kalashnikoff,* there is no requirement for Ms. Jaswal to personally vouch for the updating of the DAS standard every two years. In the context of an accredited laboratory whose processes and procedures are rigorously and annually evaluated, I do not have a reasonable doubt about whether Ms. Jaswal used a valid reference for her comparison with Mr. Gaber's sample, despite the specifics not being at hand.

[61] I am satisfied that the pills seized from Mr. Gaber contained methylphenidate, and find him guilty on Count 1 of possessing methylphenidate for the purpose of trafficking, contrary to s. 5(2) of the *CDSA.* Mr. Gaber is acquitted on Count 2 of the indictment as no evidence was presented.

_____

VEALE J.

## APPENDIX A

Uncontrolled Document - Not for Reference

UNCONTROLLED DOCUMENT
DATE: Oct 7, 2015
Drug Analysis Laboratory – Burnaby, B.C.

*Health Canada / Santé Canada*

Drug Analysis Service / Service d'analyse des drogues

Standard Operating Procedure

Security Section for Subject Template (Author_Section_2) - hidden section

Title: Drug Identification - Identification de drogues

Procedure Number CAN-DAS-0004
Revision: 7

Department:
National

Area:

*Approved and Released Standard Operating Procedure*

Implementation Date:
2014-06-26

Type of Document:
Standard Operating Procedure / Procédure opératoire normalisée

Retention Period: 15 - Year(s)
Review Period - 730 Days

### 1.0 Purpose

This document describes the analytical testing used to identify the scheduled drugs (excluding Cannabis) found in exhibits submitted to the Drug Analysis Service (DAS). Additionally, exhibits containing non-scheduled drugs and related substances, excluding clandestine laboratory exhibits, are analysed according to this document.

### 2.0 Scope

This standard operating procedure (SOP) applies when exhibits, excluding Cannabis, are analysed in DAS, Health Canada.

### 3.0 Background Information / Rationale

Analysts in DAS receive exhibits for physical and chemical testing of drug components and related substances.

### 4.0 Responsibilities

4.1 The Analyst using this procedure is responsible for:

(a) performing the tests safely and accurately.
(b) recording the test observations and results.
(c) evaluating test results in an unbiased, impartial manner.
(d) issuing reports based on his/her analytical results.
(e) reporting suspected problems with the SOP to the local Quality Coordinator (LQC).

4.2 The Manager or designate is responsible for:

(a) ensuring the Analyst is trained in the use of the procedure.
(b) ensuring Analysts have the necessary resources to perform the procedure.

**5.0 Referenced Documents**

N/A

**6.0 Terminology / Definitions**

**Certification.** The positive identification of a substance on a Certificate of Analyst.

**Confirmatory tests.** Tests which have the capability of identifying a drug or related substance. These tests provide information on the compound's molecular structure.

**Non-confirmatory tests.** Tests which are not considered to conclusively establish the identity of the detected substance. They are used to indicate the presence of a drug or substance or mixtures of drugs/substances.

**Non-scheduled drugs.** Drugs which are not listed in the schedules of the Controlled Drugs and Substances Act (CDSA) or in Prescription Drug List (PDL) of the *Food and Drugs Act* (FDA).

**Related substances.** (compared to scheduled and non-scheduled drugs) Chemical substances which may be identified in the course of the work done by DAS, but which may or may not be regulated by Canadian law relating to the control of drugs. Examples are substances used as diluents for licit and illicit drugs, non-scheduled precursors and intermediates related to drug synthesis, solvents, and other materials.

**Scheduled drugs.** Controlled drugs or substances that appear in Schedule I to VI of the CDSA or in PDL of the FDA.

**7.0 Safety Information**

Staff use safety equipment and protective clothing to prevent contamination or injury from exhibits and hazardous chemicals in the laboratory. Dangerous exhibits such as used syringes require special handling, covered in the procedure for sample handling, CAN-DAS-0005 [illegible] and lab site specific procedures.

Refer to Material Safety Data Sheets (MSDS) for current information on the recognized hazards for specific reagents.

## 8.0 Equipment / Materials

(Not applicable)

## 9.0 Reagents

(Not applicable)

## 10.0 Procedure

The Analyst forms a conclusion on the identity of a sample utilizing the identification scheme pictured in Appendix A.

### 10.1 Sampling and Macroscopic Examination

10.1.1 After opening the exhibit, examine it and decide whether it could contain Cannabis (refer to CAN-DAS-0001) and identify Cannabis samples using the analytical method for Cannabis identification, CAN-DAS-0001. Identify non-Cannabis samples using the procedure in this SOP or specific analytical methods. Record a clear, concise description of the physical appearance of the sample.

10.1.2 Sample the contents of the exhibit according to the SOP on sample handling, CAN-DAS-0005, unless specific instructions are included in an analytical method.

10.1.3 Take two sub-samples or aliquots from each exhibit. In a case where there is insufficient material to allow for two independent sub-samples for analysis, the rinsing/extract can be divided into two separate aliquots for analysis. Use one of the aliquots for non-confirmatory testing and the other for confirmatory testing, or alternatively use a different sub-sample or aliquot for each of the two confirmatory tests.

### 10.2 Non-confirmatory Tests

10.2.1 Choose one of the options from the list below for the non-confirmatory testing:

a) Gas chromatography (GC)
b) Thin layer chromatography (TLC)
c) High-performance liquid chromatography (HPLC)
d) Capillary electrophoresis (CE)

10.2.2 Test results must be consistent with published data for that substance (only for

Analyst Report (10.7), see note below).

**NOTE:** if neither a DAS reference standard nor documentation of relative retention time run on DAS equipment is available, test results should be consistent with published data for that substance. The Compendium of Pharmaceuticals and Specialities (CPS), the Physicians Desk Reference (PDR) or product identification guides published on Pharmaceutical Manufacturer's websites (retain a copy) may be used as a non-confirmatory test for pharmaceutical products with manufacturer's markings.

10.2.3 In the case of an initial negative, refer to section 10.5.

## 10.3 Separation and Purification Techniques

Choose a separation or purification technique, if necessary, based on the results of the non-confirmatory test or macroscopic observation. Some samples require no separation or purification and can be identified "as is".

## 10.4 Confirmatory Tests

10.4.1 Choose a confirmatory technique appropriate for the sample. The confirmatory test provides information on the compound's molecular structure, is independent and different from the non-confirmatory test. Acceptable confirmatory tests include:

a) Mass spectrometry (MS)
b) Infrared spectrometry (IR)

10.4.2 Test sample spectrum is compared to a published spectrum (only for Analyst Report (10.7), see note below).

**NOTE:** If a DAS reference standard spectrum run on DAS equipment is unavailable, the sample spectrum may be compared to a published spectrum (for Analyst Report only). RRTs are not required for a confirmatory test in this instance.

10.4.3 Match the spectrum to a reference standard spectrum. For more guidance see FTIR: CAN-DAS-0015 , GC-FTIR: CAN-DAS-0029 , GC-MS: CAN-DAS-0016 or LC-MS: CAN-DAS-0041 .

10.4.4 Record the name of the drug or other substance identified and the reference number of the standard used or the literature reference using a statement like, "this spectrum matches the standard spectrum for X, #y".

10.5 **Initial Negatives**

In the case of an initial negative (absence of scheduled drugs, non-scheduled drugs and related substances), choose a non-confirmatory or confirmatory GC instrumental method with a late eluter program if not already done in 10.2.1 or 10.4.1. If this option is impossible because of the nature of the sample, an alternate chromatographic method/analytical technique should be chosen.

10.6 **Minimum Requirements for Certification**

Requirements for certification of scheduled drugs, non-scheduled drugs and related organic substances include one of the following:

10.6.1 One positive non-confirmatory test from Section 10.2 and one positive confirmatory test from Section 10.4, each done using an independent sub-sample or aliquot from the exhibit.

10.6.2 Two positive confirmatory tests from Section 10.4, each done using an independent sub-sample or aliquot from the exhibit.

10.7 **Minimum Requirements for an Analyst Report**

Requirements for including a substance in an Analyst Report include one of the following:

10.7.1 One non-confirmatory test from Section 10.2 consistent with the substance identified and one positive confirmatory test from Section 10.4, each done using an independent sub-sample or aliquot from the exhibit. The CPS or PDR or on Pharmaceutical Manufacturer's websites (retain a copy) may be used instead of a non-confirmatory test (refer to the note at section 10.2.2).

10.7.2 Two positive confirmatory tests from Section 10.4, each done using an independent sub-sample or aliquot from the exhibit.

10.8 **Minimum Requirements for a Visual Identification Report**

10.8.1 The sample must be compared to a recognized published source as described in the document related to Visual Identification CAN-POL-0002.

10.8.2 Only a macroscopic examination is required.

### 10.9 Reporting Results

Record sufficient details regarding all tests, so they can be repeated using the same techniques.

### 11.0 Quality Control / Results Verification

Each reference standard is verified by an Analyst, as detailled in CAN-DAS-0006.

Scheduled routine maintenance and performance checks on instruments/equipment are done, and documented as required by the SOP for Instruments/Equipment, CAN-DAS-0007 and the lab site's instrument quality assurance procedures.

### 12.0 Method Validation

(Not applicable)

### 13.0 Bibliography

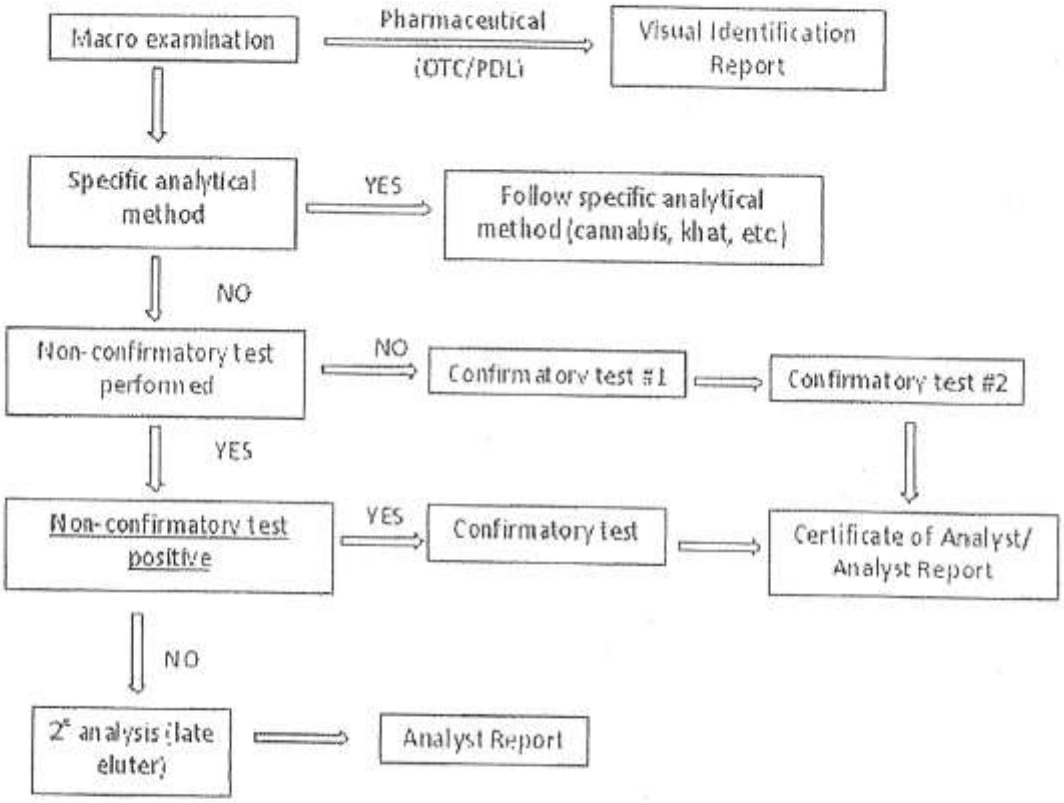
"Forensic Science Handbook Vol.II", Richard Saferstein, PhD, Editor, Prentice Hall, 1988; especially the chapter entitled "Forensic Identification of Controlled Substances" by Jay A. Siegel, PhD.

### 14.0 Appendices

Appendix A: Identification Scheme.

Appendix A

Identification Scheme.




CHROMATOGRAPHIC TESTS
- Gas Chromatography (GC)
- High Performance Liquid Chromatography (HPLC)
- Thin Layer Chromatography (TLC)
- Capillary Electrophoresis (CE)

CONFIRMATION TESTS
- Infrared spectrometry
- Mass spectrometry

SEPARATION and PURIFICATION TECHNIQUES (among others)
- Dry or wet extraction
- Preparatory TLC
- Column Chromatography
- HPLC