

Account : BRASSETS PTY LTD  
Account ID : CO115151  
Client Code : BRAADS  
Location ID : 11476629

Subject Name : Cooke, Stephen  
Subject ID : XXX-XXX-AADS  
CCF ID : A2693659  
LAN : 217827199

BRASSETS GROUP AWDTS DRUG SAFE PROGRAM

Source : Head Hair  
Reason for Test : Unknown  
Collected : Sep 25, 2024 11:20 AM  
Received at Lab : Oct 01, 2024 11:11 AM  
Released by Lab : Oct 03, 2024 12:32 PM  
Sample Length : 0 to 3.9cm

Test Panel : 781 Hair AMad3 CO ET KT OP PH D89

Test	Result	Screening Cutoff	Confirmation Cutoff
<b>COCAINE</b>	<b>NEGATIVE</b>		
Cocaine Screen		5 ng/10 mg	
Cocaine	Negative		5 ng/10 mg
Benzoylecgonine	Negative		0.5 ng/10 mg
Cocaethylene	Negative		0.5 ng/10 mg
Norcocaine	Negative		0.5 ng/10 mg
<b>OPIOIDS</b>	<b>NEGATIVE</b>		
Opiates Screen		2 ng/10 mg	
Codeine	Negative		2 ng/10 mg
Morphine	Negative		2 ng/10 mg
6-MAM	Negative		2 ng/10 mg
Hydrocodone	Negative		2 ng/10 mg
Hydromorphone	Negative		2 ng/10 mg
Oxycodone Screen		2 ng/10 mg	
Oxycodone	Negative		2 ng/10 mg
Oxymorphone	Negative		2 ng/10 mg
<b>PHENCYCLIDINE (PCP)</b>	<b>NEGATIVE</b>		
Phencyclidine Screen		3 ng/10 mg	
Phencyclidine	Negative		3 ng/10 mg
<b>AMPHETAMINES</b>	<b>POSITIVE</b>		
Amphetamines Screen		5 ng/10 mg	
Methamphetamine	Negative		5 ng/10 mg
MDMA	Negative		5 ng/10 mg
MDEA	Negative		5 ng/10 mg
<b>D-Amphetamine Screen</b>		3 ng/10 mg	
Amphetamine	Positive MS 4.69 ng/10 mg		3 ng/10 mg
MDA	Negative		3 ng/10 mg
<b>MARIJUANA</b>	<b>NEGATIVE</b>		
Cannabinoids/THC Screen		10 pg/10 mg	
Delta 9 CarboxyTHC	Negative		1 pg/10 mg
Delta 8 CarboxyTHC	Negative		1 pg/10 mg

CHECKED  
- 4 OCT 2024

Continued on next page...

Test Performed by PSYCHEMEDICS Corporation  
Tel: 800-522-7424 / 5832 Uplander Way, Culver City, CA 90230

Print Date: 10/03/2024 01:05:42 PM STN6-CL

This page is Annexure "B" in the  
Affidavit of Stephen Christopher Cooke  
sworn before me



Account : BRASSETS PTY LTD  
 Account ID : CO115151  
 Client Code : BRAADS  
 Location ID : 11476629

 Subject Name : Cooke, Stephen  
 Subject ID : XXX-XXX-AADS  
 CCF ID : A2693659  
 LAN : 217827199

... Continued

Test	Result	Screening Cutoff	Confirmation Cutoff
<b>ALCOHOL</b>	<b>NEGATIVE</b>		
Ethyl Glucuronide MS Screen		2 pg/mg	
Ethyl Glucuronide MS	Negative		2 pg/mg
<b>KETAMINE</b>	<b>NEGATIVE</b>		
Ketamine Screen		5 ng/10 mg	
Ketamine	Negative		5 ng/10 mg
Norketamine	Negative		0.5 ng/10 mg

- SUPPLEMENTAL ADDERALL SCREEN: For this Test Panel, the Amphetamines class includes screening and confirmation for Methamphetamine, MDMA, MDEA at cutoffs of 5 ng/10 mg and screening for D-Amphetamine (e.g., Adderall) at cutoffs of 3 ng/10 mg. Adderall (a brand name) will report as Amphetamine Positive.
- \*\*\* SECTIONAL ANALYSIS \*\*\* Be sure to view test results for all sections before making a determination about subject's drug use. The segment of this section is specified by Segment Length.
- Negative - is defined as an EtG level that is less than 2.0 pg/mg.
- Sample received with Chain of Custody Intact.
- Screening by Enzyme Immunoassay and Confirmation by Mass Spectrometry (MS). ETG, Marijuana Cannabinoids and Synthetic Cannabinoids Screening and Confirmation by MS. A "Negative" result means that the drug was not detected in an amount that meets or exceeds the cutoff. A "Positive" result means that the drug was detected in an amount that meets or exceeds the MS cutoff.
- Technical questions concerning these results should be directed to the Laboratory Director. Please contact your Client Services Representative for assistance.
- Psychemedics conforms to the recommendations of the Society of Hair Testing and utilizes a Thermo Quantum GC/MS/MS instrument (tandem MS) with deuterated internal standards for the accurate measurement of Ethyl Glucuronide in hair.

I Certify that the sample identified by the Lab Accession Number (LAN) on this result has been examined upon receipt, handled and analyzed in accordance with applicable procedures, and that the results set forth above are for that specimen.



Certifying Scientist : Ping Guan, BS

PSYCHEMEDICS Alcohol Reference Ranges	
LEVEL	RESULT
0 - 1.9 pg/mg	Negative
2 - 29.9 pg/mg	Positive: Low to Moderate Consumption
30+ pg/mg	Positive: Excessive Consumption

\*\*\* END OF REPORT \*\*\*

All testing was conducted between the date Received at Lab and the date Released at Lab. This test report applies to only the sample submitted and shall not be reproduced except in full, without written approval of Psychemedics Corporation.

Test Performed by PSYCHEMEDICS Corporation

Tel: 800-522-7424 / 5832 Uplander Way, Culver City, CA 90230

Print Date: 10/03/2024 01:05:42 PM STN6-CL



Account : BRASSETS PTY LTD  
 Account ID : CO115151  
 Client Code : BRAADS  
 Location ID : 11476629

 Subject Name : Cooke, Stephen  
 Subject ID : XXX-XXX-AADS  
 CCF ID : A2693659  
 LAN : **217827200**

BRASSETS GROUP AWDTS DRUG SAFE PROGRAM

 Source : Head Hair  
 Reason for Test : Unknown  
 Collected : Sep 25, 2024 11:20 AM  
 Received at Lab : Oct 01, 2024 11:12 AM  
 Released by Lab : Oct 03, 2024 12:32 PM  
 Sample Length : 3.9 to 7.8cm

**Test Panel : 781 Hair AMad3 CO ET KT OP PH D89**

<u>Test</u>	<u>Result</u>	<u>Screening Cutoff</u>	<u>Confirmation Cutoff</u>
<b>COCAINE</b>	<b>NEGATIVE</b>		
Cocaine Screen		5 ng/10 mg	
Cocaine	Negative		5 ng/10 mg
Benzoylcegonine	Negative		0.5 ng/10 mg
Cocaethylene	Negative		0.5 ng/10 mg
Norcocaine	Negative		0.5 ng/10 mg
<b>OPIOIDS</b>	<b>NEGATIVE</b>		
Opiates Screen		2 ng/10 mg	
Codeine	Negative		2 ng/10 mg
Morphine	Negative		2 ng/10 mg
6-MAM	Negative		2 ng/10 mg
Hydrocodone	Negative		2 ng/10 mg
Hydromorphone	Negative		2 ng/10 mg
Oxycodone Screen		2 ng/10 mg	
Oxycodone	Negative		2 ng/10 mg
Oxymorphone	Negative		2 ng/10 mg
<b>PHENCYCLIDINE (PCP)</b>	<b>NEGATIVE</b>		
Phencyclidine Screen		3 ng/10 mg	
Phencyclidine	Negative		3 ng/10 mg
<b>AMPHETAMINES</b>	<b>NEGATIVE</b>		
Amphetamines Screen		5 ng/10 mg	
Methamphetamine	Negative		5 ng/10 mg
MDMA	Negative		5 ng/10 mg
MDEA	Negative		5 ng/10 mg
D-Amphetamine Screen		3 ng/10 mg	
Amphetamine	Negative		3 ng/10 mg
MDA	Negative		3 ng/10 mg
<b>MARIJUANA</b>	<b>NEGATIVE</b>		
Cannabinoids/THC Screen		10 pg/10 mg	
Delta 9 CarboxyTHC	Negative		1 pg/10 mg
Delta 8 CarboxyTHC	Negative		1 pg/10 mg

**CHECKED**  
 - 4 OCT 2024  

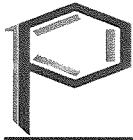

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 Test Performed by **PSYCHEMEDICS Corporation**

Tel: 800-522-7424 / 5832 Uplander Way, Culver City, CA 90230

Print Date: 10/03/2024 01:05:40 PM STN6-CL





Account : BRASSETS PTY LTD  
Account ID : CO115151  
Client Code : BRAADS  
Location ID : 11476629

Subject Name : Cooke, Stephen  
Subject ID : XXX-XXX-AADS  
CCF ID : A2693659  
LAN : 217827200

... Continued

<u>Test</u>	<u>Result</u>	<u>Screening Cutoff</u>	<u>Confirmation Cutoff</u>
<b>ALCOHOL</b>	<b>NEGATIVE</b>		
Ethyl Glucuronide MS Screen		2 pg/mg	
Ethyl Glucuronide MS	Negative		2 pg/mg
<b>KETAMINE</b>	<b>NEGATIVE</b>		
Ketamine Screen		5 ng/10 mg	
Ketamine	Negative		5 ng/10 mg
Norketamine	Negative		0.5 ng/10 mg

- SUPPLEMENTAL ADDERALL SCREEN: For this Test Panel, the Amphetamines class includes screening and confirmation for Methamphetamine, MDMA, MDEA at cutoffs of 5 ng/10 mg and screening for D-Amphetamine (e.g., Adderall) at cutoffs of 3 ng/10 mg. Adderall (a brand name) will report as Amphetamine Positive.
- \*\*\* SECTIONAL ANALYSIS \*\*\* Be sure to view test results for all sections before making a determination about subject's drug use. The segment of this section is specified by Segment Length.
- Negative - is defined as an EtG level that is less than 2.0 pg/mg.
- Sample received with Chain of Custody Intact.
- Screening by Enzyme Immunoassay and Confirmation by Mass Spectrometry (MS). ETG, Marijuana Cannabinoids and Synthetic Cannabinoids Screening and Confirmation by MS. A "Negative" result means that the drug was not detected in an amount that meets or exceeds the cutoff. A "Positive" result means that the drug was detected in an amount that meets or exceeds the MS cutoff.
- Technical questions concerning these results should be directed to the Laboratory Director. Please contact your Client Services Representative for assistance.
- Psychemedics conforms to the recommendations of the Society of Hair Testing and utilizes a Thermo Quantum GC/MS/MS instrument (tandem MS) with deuterated internal standards for the accurate measurement of Ethyl Glucuronide in hair.

Certifying Scientist : Ping Guan, BS

PSYCHEMEDICS Alcohol Reference Ranges	
LEVEL	RESULT
0 - 1.9 pg/mg	Negative
2 - 29.9 pg/mg	Positive: Low to Moderate Consumption
30+ pg/mg	Positive: Excessive Consumption

\*\*\* END OF REPORT \*\*\*

All testing was conducted between the date Received at Lab and the date Released at Lab. This test report applies to only the sample submitted and shall not be reproduced except in full, without written approval of Psychemedics Corporation.

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Print Date: 10/03/2024 01:05:40 PM STN6-CL





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# Hair Drug & Alcohol Test Interpretation



**Psychemedics** pioneered the use of hair testing over 30 years ago, after years of research proved that drugs deposited in the hair can be accurately measured. Hair analysis is a test in which a sample of a person's hair is sent to a laboratory to detect illicit drug use.

The technology capitalizes on the way the body metabolizes ingested drugs as they flow through the blood stream and deposit in the cortex of the hair. Hair is stable and the deposits are permanently embedded in the hair, so hair acts like a tape recorder — “recording” drug deposits in proportion to the use over time as drugs are deposited in proportion to use.

The two tests used by Psychemedics to analyse hair samples for the presence of drugs of abuse are an FDA-cleared immunoassay test followed by confirmation by mass spectrometry (MS/MS in most instances).

**Brassets Group** act as the Third Party Administrators for Psychemedics Hair Drug and Alcohol Tests throughout the Asia Pacific Region. Brassets Group provide specialist medical services and medical transports throughout the world.

**AWDTS** consists of forensic practitioners who have spent their professional lives in drug and alcohol testing. They have vast experience in detection, prevention, counselling and rehabilitation pertaining to drugs & alcohol misuse and abuse.

On the following pages we offer information to assist with the interpretation of Hair Drug and Alcohol test results.

For more in depth analysis we provide a Toxicologists report from our Toxicologist for an additional cost if required.





BrassetsGroup

# Hair Test Interpretation

**PSYCHEMEDICS CORPORATION**  
The Worldwide Leader in Hair Drug Testing

Page: 1 of 2

**HAIR ANALYSIS DRUG TEST RESULTS**  
Patented Technologies

Account : BRASSETS PTY LTD  
Account ID : C0115151  
Client Code : BRAADS  
Location ID : 11478629  
BRASSETS GROUP DRUG SAFE

Subject Name : Example, Stephen  
Subject ID : XXX-XXX-AADS  
CCF ID : V1234567  
LAN : 123456789

Source : Head Hair  
Reason for Test : Unknown  
Collected : Jun 09, 2019 04:15 PM  
Received at Lab : Jun 12, 2019 10:50 AM  
Released by Lab : Jun 12, 2019 10:21 AM  
Sample Length : 0 to 3.9cm

Test Panel : 819 Hair AM CO ET OPH TE

Test	Result	Screening Cutoff	Confirmation Cutoff
<b>COCaine</b>	<b>NEGATIVE</b>	5 ng/10 mg	5 ng/10 mg
Cocaine Screen	Negative		5 ng/10 mg
Cocaine	Negative		5 ng/10 mg
Benzoylcegonine	Negative		0.5 ng/10 mg
Cocaine/ene	Negative		0.5 ng/10 mg
Norcocaine	Negative		0.5 ng/10 mg
<b>OPIOIDS</b>	<b>NEGATIVE</b>	2 ng/10 mg	2 ng/10 mg
Opiaes Screen	Negative		2 ng/10 mg
Codine	Negative		2 ng/10 mg
Morphine	Negative		2 ng/10 mg
6-MAM	Negative		2 ng/10 mg
Hydrocodone	Negative		2 ng/10 mg
Hydromorphone	Negative		2 ng/10 mg
Oxycodone Screen	Negative		2 ng/10 mg
Oxycodone	Negative		2 ng/10 mg
Oxymorphone	Negative		2 ng/10 mg
<b>PHENCYCLIDINE (PCP)</b>	<b>NEGATIVE</b>	3 ng/10 mg	3 ng/10 mg
Phencyclidine Screen	Negative		3 ng/10 mg
Phencyclidine	Negative		3 ng/10 mg
<b>AMPHETAMINES</b>	<b>NEGATIVE</b>	5 ng/10 mg	5 ng/10 mg
Amphetamines Screen	Negative		5 ng/10 mg
Methamphetamine	Negative		5 ng/10 mg
MDMA	Negative		5 ng/10 mg
MDEA	Negative		5 ng/10 mg
Amphetamine	Negative		5 ng/10 mg
<b>MARIJUANA</b>	<b>POSITIVE</b>	10 ng/10 mg	1 ng/10 mg
Cannabinoids/THC Screen	Positive MS 35.1 pg/10 mg		1 ng/10 mg
Carboxy/THC	Positive: LOW TO MODERATE 209 ng/10 mg		1 ng/10 mg
<b>ALCOHOL</b>	<b>POSITIVE: LOW TO MODERATE</b>	2 pg/mg	2 pg/mg
Ethyl Glucuronide MS Screen	Confirmed MS 11.0 pg/mg		2 pg/mg
Ethyl Glucuronide MS	Confirmed MS 11.0 pg/mg		2 pg/mg

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Test Performed by PSYCHEMEDICS Corporation  
Tel: 800-522-7424 / 832 Uplander Way / 6100 Bristol Parkway, Culver City, CA 90230  
Print Date: 06/17/2019 10:55:37 AM STN6-CL

ANAB  
IAC-MSA  
CAP  
ACCREDITED

- Account:** The details here may vary depending on the collection agency. Brassets Group are the Administrators for Psychemedics in the Asia Pacific Region but we also have several laboratory certificated Doctors, Pathology and Drug Testing companies that we facilitate tests for.
  - Subject Name:** This is the Donors name
  - CCF ID:** This is the unique identifier for the Drug test. This number is on the "Chain of Custody Document" the "Sample Acquisition Card" and the Laboratory Result.
  - Source:** The Source is either "Head Hair" or "Body Hair"
  - Reason for Test:** This is often reported as Unknown, or Pre-Employment. The reason for this is to ensure a priority status at the Laboratory. If the reason is recorded as "Court" or "Legal" they are subject to USA legal processes that significantly holds up the Test.
  - Collected:** This is the date the Hair Sample was collected in Australian Time.
  - Released by Lab:** This is the date the result is released by the Laboratory in USA time.
  - Sample Length:** This is the length of hair that was tested at the laboratory (Not the sample length). Each test will test a 3.9cm length (Approx 3 month detection period) of Head hair or else the total length of Body Hair.
  - Confirmation Cutoff:** This is the cut-off level, a detection below this is reported as negative.
  - Screening Cutoff:** This is the cut-off level for the initial test (immunoassay)
  - Result:** This is the confirmed result confirmed by a certifying scientist.
  - Test:** This column lists each drug class tested and the specific metabolites tested.
  - Positive Drug Test Result:** All Positive drug test results are framed with a Blue header as illustrated in this sample report.
  - Positive Drug / Alcohol Test Level:** The level of the drug detected in the hair is stated. This is the accumulative amount of drug in the hair over the detection period.
- With Illicit drugs, the "Potency" and "Amount Ingested" are uncontrolled and subsequently vary significantly, therefore it is difficult to determine the frequency of use, or the amount ingested. The cut off levels are set to detect multiple ingestions of the drug during the detection period.
- THE LEVEL OF DRUG DETECTED in a POSITIVE drug test indicates multiple ingestions of the drug substance. For a scientific report on the drug test result Brassets Group Toxicologist can provide a report for an additional cost.**

## DETERMINING FREQUENCY AND QUANTITY USED

Determining the frequency and quantity used is not possible due to the large variation in potency and amounts ingested by different Donors.

A longer term addict will use substantially more substance than a person in early stages of addiction. What constitutes a high level for one Donor may be a medium level for another Donor. On this basis we do not generally provide a Low, Medium or High level use indication.

## DETERMINING A MEDIUM LEVEL OF USE

In order to assess the level of use we offer the below graph that shows the Australian results for over two thousand Hair drug tests in 2019 divided up into ten percentile groups.

A Patient that returns a Positive Drug Test Result of **Methamphetamine 64 ng/ 10 mg** is in the 70<sup>th</sup> percentile, that is, an average of 100 Methamphetamine detections in a Psychomedics Hair Drug Test in Australia a level of between 45.5 and 84.6 ng/ 10 mg there would be approximately 70 people with a lower detection level and 30 with a higher detection level.

PERCENTILE	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
EtG ALCOHOL	6.1	8.7	12.7	16.2	21.6	34.6	58.3	89.5	143	> 143
METHAMPHETAMINE	7.21	8.92	12	17.4	21.4	31.7	45.5	84.6	150	> 150
MARIJUANA	2.5	5.5	11.3	18.1	31	44.9	73	94.6	151	> 151
COCAINE	5.77	8.16	10.2	12.9	15	19.5	24.1	50	107	> 107
MDMA	6.93	8.24	12.7	14.6	21.9	22.4	30.2	41	47.6	> 47.6
AMPHETAMINES	5.86	6.98	9	11.4	13.8	18	26.8	35	42.9	> 42.9
OPIATES	2.57	2.79	3.43	4.26	6.24	8.23	10.8	16.7	27.1	> 27.1

Where the outcome of the Drug Test results may impact a persons life, career or family we recommend a suitable experienced Toxicologist provide an interpretation that takes into consideration additional factors including medication, other substances detected, polydrug impacts etc.

We recommend a Toxicologists interpretation report can be provided where required however an additional fee is required for a Scientists report.

# General Hair Drug Test Facts

## What is hair drug testing?

Hair testing analyses for drugs within the hair shaft, rather than body fluids like urine or saliva, to determine whether drugs of abuse are present. Compared to analysis of body fluids, hair testing is highly resistant to evasion by adulterating or substituting samples, or by simply abstaining from drug use for a few days. Psychemedics' patented method for detecting drugs in hair uses proprietary immunoassay and state-of-the-art GC/MS/MS or LC/MS/MS confirmation to measure the drug molecules and metabolites permanently entrapped in hair which were incorporated following ingestion. This technology offers significantly greater detection ability than other methods of analysing hair or body fluids.

## Who is using hair drug testing?

Thousands of corporations use Psychemedics' test to screen applicants and perform random drug tests on their employees. Schools have been using the Psychemedics test since 1997 to help their students stay drug-free. Courts routinely use Psychemedics' test in their probation, parole, and diversionary programs. The use of hair is well established, and Psychemedics has been doing hair tests since 1987.

## What drugs are included in a standard hair drug test?

Cocaine, marijuana, opiates (including heroin, codeine, morphine, oxycodone, oxymorphone, hydrocodone and hydromorphone), methamphetamine, Ecstasy (MDMA), Eve (MDEA) and phencyclidine (PCP).

## Does a Psychemedics hair test pull hair out of the scalp to examine the follicle?

No. Testing a hair follicle would require a painful collection process. Psychemedics requires the smallest sample in the industry, snipping above the scalp. No hair is "pulled" out of the scalp, and the hair follicle is not disturbed. Sample collection is a completely painless, quick procedure.

## What time period does a standard test cover?

A standard test of one-and-one-half inches of head hair cut close to the scalp can provide a several month window to detect drug ingestion.

## How fast does head hair grow?

Studies indicate that hair collected at the crown of the head grows on the average approximately 1.3 cm (or ½ inch) per month. This growth rate may vary among people; consequently, the same 3.9cm length of hair may represent slightly different time periods.

## How does hair analysis compare to urinalysis?

The primary difference is the wider window of detection with hair. Cocaine, methamphetamine, opiates, and PCP are rapidly excreted and usually undetectable in urine 72 hours after use. Rather than the hours or days covered by a body fluid test, a hair test covers a period of months, ensuring that a drug user cannot evade the test by simply abstaining for a few days. Additional advantages include: non-intrusive collection procedures, virtual elimination of test evasion through substitution or adulteration, and greater accuracy through test repetition capability. The combination of an increased window of detection and resistance to evasion makes hair testing far more effective than urinalysis in correctly identifying drug users.

## **How soon after drug use can a drug be detected in hair?**

It takes approximately 5-7 days from the time of drug use for the portion of the hair containing that drug to grow above the scalp.

## **What is the shortest time period that can be evaluated?**

In most situations, the minimum time period is approximately one month. A hair test does not determine drugs used on a particular day or week.

## **How sensitive is hair testing in detecting drug users?**

Comparison studies have proven that Psychemedics' testing is up to 6-10 times more effective in identifying drug users than urinalysis. In other words, 85% of the drug users identified by a Psychemedics test could get through a urine screen and enter the workforce.

## **Is all hair testing alike?**

No, Psychemedics uses its proprietary digestion method to remove virtually 100% of the drugs from the hair, thereby increasing detection capabilities. Other laboratories may leach drug from the hair, leaving behind or destroying some of the drug in the process. Psychemedics also employs an extensive wash procedure on test samples, and analyses the wash to ensure that any potential contamination has been removed or taken into account. Other labs may use a less effective wash and/or do not analyze the wash, putting their clients at risk for making employment decisions based on a result that may be reflective of external contamination.

## **How does Psychemedics establish its cut-off levels?**

These levels are based on field studies that establish the presence of the drugs following ingestion. These levels are included in Psychemedics' FDA submissions, and are similar to the cut-off levels in the 2004 proposed SAMHSA mandatory guidelines.

## **How much hair is needed for a hair drug test?**

Psychemedics' standard screen, along with GC/MS/MS or LC/MS/MS confirmation, usually requires a cosmetically undetectable lock of hair preferably snipped from the back of the head, just below the crown. In general, the amount needed is the thickness of a shoelace tip. Hair analysis methods used by other laboratories may require significantly more hair.

## **Can hair drug tests be run on people with little or no hair?**

Yes. Hair can be collected from several locations on the head and combined to obtain the required amount of hair. If head hair is not available, certain body hair can be used as an alternative.

## **Can hair collected from a brush be used?**

No. For workplace drug testing, Psychemedics requires a hair sample to be collected using the proper chain-of-custody protocols that will withstand a legal challenge. Psychemedics requires that the sample be submitted with Psychemedics Sample Acquisition Materials. The test subject must initial the sample to certify the authenticity of the sample at the time of collection.

## **How are collections performed on candidates that use artificial hairpieces or attachments to their own hair?**

The collection process allows the collector only to take the candidate's natural hair. Natural head hair or nape hair can be taken. Body hair can also be taken when hair from those two sources is not available.

## **Where do I get help regarding collection?**

Psychemedics provides detailed instruction through a written training manual and video. Both are available in English and Spanish. Additional help is available through Client Service Managers dedicated to each client, and from Psychemedics' professional trainer.

## **Does chemical treatment of the hair affect the test results?**

Commonly used hair procedures (e.g., shampoos, conditioners, sprays, mousses and gels) have no significant effect on results. In fact, normal hair washing helps to remove external contamination. Normal hair treatments such as bleaching, perming and dyeing generally will not significantly lower the quantitative results. If the protein matrix of the hair has been damaged to the point of breaking (cortex damage) the level of drug can be significantly affected. However, severely treated or damaged hair can be readily identified from the wash ratios and/or staining procedure.

## **Is there a risk that the results of a hair test can be affected by environmental contamination?**

Psychemedics utilizes several independent approaches which, in various combinations, rule out the possibility of a positive result from external contamination. The first method involves extensive chemical washing of the hair specimen prior to screening, followed by analysis of the content of the wash. This wash analysis is a critical step to ensure that any contamination is effectively accounted for. Additionally, Psychemedics measures the presence of metabolites. If drugs were in the air or on a person's hands and thereby got on a person's hair from outside, the drug would be present as the drug substance itself, and not as certain metabolites or with metabolite/parent drug ratios which are known to be produced by ingestion. Psychemedics' ability to distinguish and measure metabolites with its highly sensitive GC/MS/MS or LC/MS/MS equipment is one criteria used to eliminate the possibility of false positives from external contamination. In addition, any positive internal contamination (e.g., from passive inhalation or even poppy seed consumption) is distinguished from deliberate drug use by setting GC/MS/MS or LC/MS/MS cut-off levels above those which can be produced by passive internal exposure. Studies have shown that the combination of extensive washing, metabolite analysis, and proper cut-off levels are necessary to avoid false positives due to external contamination.

## **Does Psychemedics perform GC/MS/MS or LC/MS/MS confirmation of all positive results?**

Psychemedics provides automatic confirmation for samples which screen positive.

## **What is done with the excess hair that is not tested?**

The hair not used from the time period being tested and all remaining hair is stored in the chain-of-custody sample acquisition pouch. Negative hair is stored for approximately 1 month. Positive hair is stored for two years.

## How long are positive test result reports kept on file?

Laboratory records and test results are kept for a five-year period.

## Has Psychomedics' drug testing been admitted in court?

Yes. The use of Psychomedics' hair testing for drugs of abuse has been routinely admitted in both state and federal courts, as well as arbitrations and agency hearings. The test results are routinely upheld. Some court systems use hair analysis as part of their probation, parole, and diversionary programs.

## Is hair testing included in SAMHSA/NIDA guidelines?

Under SAMHSA/NIDA's current guidelines for federally-mandated testing, urine is the only specimen included for testing certain government employees and that segment of private sector testing that falls under the Department of Transportation or other agency guidelines. In a November 2008 press release, SAMHSA states that HHS will continue to pursue substance abuse testing using alternative matrices, including hair specimens, and anticipates issuing further revisions to the Mandatory Guidelines addressing the use of hair specimens.

### 1 External Exposure Triggers Positive Results.

**No.** Scientists from the Federal Bureau of Investigation (FBI) extensively researched Psychomedics and published their findings in peer-reviewed journals. Their conclusion? The Psychomedics extensive washing process eliminates external contamination as a factor in test results. A positive result indicates "ingestion" or "systemic" presence rather than "exposure" to a drug.

### 2 Hair Color Or Type Effects Results.

**Wrong.** A number of independent studies over the years have concluded neither hair color nor hair type effects the results of a hair test for drugs of abuse. In fact, a comprehensive study presented in *Criminal Justice Review* concluded that "no evidence that one group (i.e., race) was more adversely affected by hair testing compared to urine testing."

### 3 A Psychomedics Test Is A Follicle Test.

**Incorrect.** While sometimes referred to as follicle testing, the Psychomedics drug test using hair analysis does not affect the hair follicle. The sample to be tested is snipped with scissors above the scalp line. In the event head hair is too short to collect a one-half inch sample the diameter of a pencil lead, body hair is collected. The follicle is **never** removed or disturbed.

## MEASURING ALCOHOL IN HAIR

Psychomedics uses a triple quad mass spectrometry test to determine the level of ethyl glucuronide (EtG) present in hair. EtG is measured in pg/mg and we follow the guidelines determined by the World Health Organization in association with the Society of Hair Testing.

LEVEL	RESULT
0-1.9 pg/mg	Negative
2.0 pg/mg	Mild to Moderate Consumption
30+ pg/mg	Excessive Alcohol Consumption

The test will identify those consuming as few as 2-3 alcoholic drinks (on average) per week, resulting in a level reported in the "Mild to Moderate Consumption" category. To be considered in the category of "excessive alcohol consumption" and fall into the category of 30 pg/mg or greater, an average of at least 4-6 alcoholic drinks per day would have to be consumed over an average of 3 months.

## Sarah Wishney

---

**From:** results@awdts.com.au  
**Sent:** Friday, 4 October 2024 2:13 PM  
**To:** Zoe Phillips  
**Cc:** Maitland  
**Subject:** CONFIDENTIAL Hair Drug and/or Alcohol EtG Test Results SC CONFIDENTIAL  
**Attachments:** CCF COOKE, Stephen A2693659.pdf; SECTION1.PDF; SECTION2.PDF



Dear Ms Phillips,

Please find attached Hair Drug and/or Alcohol EtG Test Results with Custody and Control Form and other relevant documents.

Unless attached, no Federal Circuit/Family Court Order in relation to this matter has been sighted by the author. Court Orders are used to determine who is to be provided with results. Failing sighting of said Orders by the author or his authorised agent, an Authorisation to Release Results form may be relied upon. In the case of an Authorisation being relied upon we request that the recipient(s) ensure that this email and results in its entirety is forwarded to any/all relevant party/ies as per any extant Orders that may be in the possession of the recipient(s).  
This page is Annexure "A" in the Affidavit of Stephen Christopher Cooke sworn before me

Please be aware that the sample length as stated represents testing of the entire length of hair to the maximum length nominated. For further results interpretation click on the below link.

**Results Interpretation:** <https://irp-cdn.multiscreensite.com/a9694cff/files/uploaded/Hair-Drugs-and-Alcohol-Tests-Interpretation-Document-Rev1.0-1.pdf>

Please get back to us with any queries or concerns after reading through the results interpretation. A report may be provided in an expanded version via sworn affidavit if so required. Charges will vary based on the complexity of the report. AWDTS is able to offer the services of Australia's most eminent forensic experts in hair drug testing should you require written opinion or expert witness services.

Kind Regards,

**Tony Graham BA Dip Mgt MTIAFT**  
**FACTA SoHT FLPA**  
**Managing Director**  
**Mobile: +61 403 42 44 90**



**HAIR DRUG & EtG TESTING  
IN MEDICO-LEGAL MATTERS**

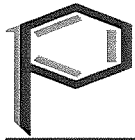
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Hair Drug Testing • Accredited & Other Training in Alcohol & Drug Testing  
Courses & Programs • Expert Witness & Written Opinion Service

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1300 DRUG TEST or 1300 37 84 83 • [info@awdts.com.au](mailto:info@awdts.com.au) • [www.awdts.com.au](http://www.awdts.com.au)

NOTICE: This email and its contents is confidential to Australian Workplace Drug Testing Services Pty Ltd (AWDTS) and unauthorised use is strictly prohibited. If you have received this email in error, please immediately inform the sender and delete all information contained in the email. While this message has been scanned for the presence of computer viruses, no warranty is offered that this message upon its receipt is virus free and no liability is accepted by AWDTS in this respect.

This page is Annexure "A" in the Affidavit of Stephen Christopher Cooke sworn before me \_\_\_\_\_



Account : BRASSETS PTY LTD  
Account ID : CO115151  
Client Code : BRAADS  
Location ID : 11476629

*19/2/2024*

Subject Name : Cooke, Stephen  
Subject ID : XXX-XXX-AADS  
CCF ID : A2402753  
LAN : 217548753

BRASSETS GROUP AWDTS DRUG SAFE PROGRAM

Source : Head Hair  
Reason for Test : Unknown  
Collected : Feb 08, 2024 11:27 AM  
Received at Lab : Feb 15, 2024 11:51 AM  
Released by Lab : Feb 17, 2024 08:59 AM  
Sample Length : 0 to 3.9cm

**Test Panel : 818 Hair AM CO ET OP PH TE**

<u>Test</u>	<u>Result</u>	<u>Screening Cutoff</u>	<u>Confirmation Cutoff</u>
<b>COCAINE</b>	<b>NEGATIVE</b>		
Cocaine Screen		5 ng/10 mg	
Cocaine	Negative		5 ng/10 mg
Benzoylcegonine	Negative		0.5 ng/10 mg
Cocaethylene	Negative		0.5 ng/10 mg
Norcocaine	Negative		0.5 ng/10 mg
<b>OPIOIDS</b>	<b>NEGATIVE</b>		
Opiates Screen		2 ng/10 mg	
Codeine	Negative		2 ng/10 mg
Morphine	Negative		2 ng/10 mg
6-MAM	Negative		2 ng/10 mg
Hydrocodone	Negative		2 ng/10 mg
Hydromorphone	Negative		2 ng/10 mg
Oxycodone Screen		2 ng/10 mg	
Oxycodone	Negative		2 ng/10 mg
Oxymorphone	Negative		2 ng/10 mg
<b>PHENCYCLIDINE (PCP)</b>	<b>NEGATIVE</b>		
Phencyclidine Screen		3 ng/10 mg	
Phencyclidine	Negative		3 ng/10 mg
<b>AMPHETAMINES</b>	<b>NEGATIVE</b>		
Amphetamines Screen		5 ng/10 mg	
Methamphetamine	Negative		5 ng/10 mg
MDMA	Negative		5 ng/10 mg
MDEA	Negative		5 ng/10 mg
Amphetamine	Negative		5 ng/10 mg
<b>MARIJUANA</b>	<b>NEGATIVE</b>		
Cannabinoids/THC Screen		10 pg/10 mg	
CarboxyTHC	Negative		1 pg/10 mg
<b>ALCOHOL</b>	<b>NEGATIVE</b>		
Ethyl Glucuronide MS Screen		2 pg/mg	
Ethyl Glucuronide MS	Negative		2 pg/mg

Continued on next page...

Test Performed by **PSYCHEMEDICS Corporation**

Tel: 800-522-7424 / 5832 Uplander Way, Culver City, CA 90230

Print Date: 02/17/2024 09:33:32 AM STN6-CL



Account : BRASSETS PTY LTD  
 Account ID : CO115151  
 Client Code : BRAADS  
 Location ID : 11476629

 Subject Name : Cooke, Stephen  
 Subject ID : XXX-XXX-AADS  
 CCF ID : A2402753  
 LAN : 217548753

... Continued

- Negative - is defined as an EtG level that is less than 2.0 pg/mg.
- Sample received with Chain of Custody Intact.
- Screening by Enzyme Immunoassay and Confirmation by Mass Spectrometry (MS). ETG, Marijuana Cannabinoids and Synthetic Cannabinoids Screening and Confirmation by MS. A "Negative" result means that the drug was not detected in an amount that meets or exceeds the cutoff. A "Positive" result means that the drug was detected in an amount that meets or exceeds the MS cutoff.
- Technical questions concerning these results should be directed to the Laboratory Director. Please contact your Client Services Representative for assistance.
- Psychemedics conforms to the recommendations of the Society of Hair Testing and utilizes a Thermo Quantum GC/MS/MS instrument (tandem MS) with deuterated internal standards for the accurate measurement of Ethyl Glucuronide in hair.
- For the identification of abstinence or Low to Moderate Consumption, no further testing is necessary. For the identification of Excessive Alcohol Consumption, it is generally recommended that an additional hair, blood, or urine test specifically designed to identify other ethanol-consumption indicators be used.



Certifying Scientist : Alberto C. Posis, Jr. CLS

PSYCHEMEDICS Alcohol Reference Ranges	
LEVEL	RESULT
0 - 1.9 pg/mg	Negative
2 - 29.9 pg/mg	Positive: Low to Moderate Consumption
30+ pg/mg	Positive: Excessive Consumption

\*\*\* END OF REPORT \*\*\*

All testing was conducted between the date Received at Lab and the date Released at Lab. This test report applies to only the sample submitted and shall not be reproduced except in full, without written approval of Psychemedics Corporation.

**Test Performed by PSYCHEMEDICS Corporation**

Tel: 800-522-7424 / 5832 Uplander Way, Culver City, CA 90230

Print Date: 02/17/2024 09:33:32 AM STN6-CL



Stephen COOKE  
DOB: 27.10.81  
Today: 08.02.24  
Chromis Occ Med  
Maitland ID: 940

Company: Individual

**Initial Drug and Alcohol Results**

DRUG	SENSITIVITY	+VE	-VE
Marijuana/tetrahydrocannabinol (THC)	50ng/ml		
Opiates/morphine	300ng/ml		
Cocaine	300ng/ml		
Benzodiazepine	200ng/ml		
Methamphetamine	300ng/ml		
Amphetamine	300ng/ml		

Action:

- Further action required. Y / N
- Sample to be Lab Tested Only. (Y) / N
- Sent for GCMS testing. Y / N Authorised by: \_\_\_\_\_

Breath Alcohol Result: 0.00%

Further action required: Y / N

**Final Drug and Alcohol Results**

Negative (Y) / N

Consistent with Declared Use (Y) / N

Positive / Non-Negative Y / N

Valid sample (Y) / N

Dilute      Substituted      Outside Temperature Range      Adulterated

**Comments**

**NEGATIVE** - Control OK  
prescribed medication

Signed: \_\_\_\_\_ **Doctors Only**

Date: 12-2-2023

Stamp  
**Dr Mary McGinty**  
CHROMIS  
Provider No. 043840FB  
PO Box 19 Lorn NSW 2320  
Ph (02) 4936 9999 Fax (02) 4936 9900

Collected and tested in accordance with AS/NZS 4308 2008

Report to	<b>CHROMIS OCCUPATIONAL, MEDICINE -</b> 47 Church Street Maitland, NSW, 2320	Patient	<b>COOKE, STEPHEN</b> 1/213 MORGAN ST MEREWETHER NSW 2291	Phone	0412846712	Age	42 years	Sex	M
Ref. by/copy to	CHROMIS OCCUPATIONAL, MEDICINE -	Collect date	08/02/2024	Lab ref	24-25158608	Collect time	01:00 PM	Your ref	
Tests requested	DL, ALC	Reported	09/02/2024	Reported	04:25 PM				

RECEIVED - 8 FEB 2024

Clinical notes

Clinical Notes : TEMP 35\*C

**URINE DRUG TEST - CHAIN OF CUSTODY**

**SUMMARY OF AS/NZ 4308 RESULTS**

The following drugs were confirmed to be present by mass spectrometry at levels above the cut-offs stated in the AS4308:2008 standard:  
Amphetamine

**SAMPLE INTEGRITY**

TEST	RESULT	UNIT	
Creatinine	3.8	mmol/L	
Urea	138	mmol/L	
pH	7.4		(4.5-10.0)
Specific Gravity	1.004		
Oxidant Check	Passed		

**NEGATIVE**  
*can be high  
negative  
medication*  
**CHECKED**  
08 FEB 2024

**INITIAL TESTING (Immunoassay)**

DRUG	RESULT	CUTOFF (ug/L)
Methadone Metabolite (EDDP)	Not Detected	100
Opiates	Not Detected	300
Amphetamine Type Substances	Require further testing	300
Benzodiazepines	Not Detected	200
Cannabis Metabolites	Not Detected	50
Cocaine Metabolites	Not Detected	300

**\*FURTHER CONFIRMATORY TESTING (Mass Spectrometry)**

Amphetamine Type Substances: Confirmatory Testing by Mass Spectrometry

DRUG	RESULT	CUTOFF (ug/L)
Amphetamine	867	150
Methylamphetamine	NOT DETECTED	150
Methylendioxyamphetamine (MDMA)	NOT DETECTED	150
Methylendioxyamphetamine (MDA)	NOT DETECTED	150
Phentermine	NOT DETECTED	500
Ephedrine	NOT DETECTED	500
Pseudoephedrine	NOT DETECTED	500

Mass Spectrometry confirms the Amphetamine Type Substances finding and indicates a pattern consistent with the ingestion of amphetamine.

Laverty Pathology has accreditation to the Standard AS/NZS 4308:2008 drugs of abuse testing in urine. This specimen was not collected by Laverty Pathology. From the time of receipt by Laverty Pathology sample

**SURGEI  
USE**  
Normal  
No Action  
Patient  
Notified  
Make  
Appoint.  
Further Te  
Notes  
Required  
Speak  
with Dr.  
On Corre  
Treatment

Report to	<b>CHROMIS OCCUPATIONAL, MEDICINE -</b>	Patient	<b>COOKE, STEPHEN</b>			
	47 Church Street		1/213 MORGAN ST MEREWETHER NSW			
	Maitland, NSW, 2320		2291			
		Phone	0412846712			
		D.O.B	27/10/1981	Age	42 years	Sex M
Ref. by/copy to	<b>CHROMIS OCCUPATIONAL, MEDICINE -</b>	Collect date	08/02/2024	Lab ref	24-25158608	
		Collect time	01:00 PM	Your ref		
Tests requested	DL, ALC	Reported	09/02/2024		04:25 PM	

Clinical notes

handling, transportation, analysis and reporting has been in accordance with AS/NZS4308:2008 (Barbiturates and Methadone metabolites are not included in AS/NZS 4308:2008).

Results authorised by Dr. Charles Appleton.

**SURGE  
USE**

- Normal
- No Action
- Patient Notified
- Make Appoint.
- Further Te
- Notes Required
- Speak with Dr
- On Corre Treatment

Report to	<b>CHROMIS OCCUPATIONAL, MEDICINE -</b> 47 Church Street Maitland, NSW, 2320	Patient	<b>COOKE, STEPHEN</b> 1/213 MORGAN ST MEREWETHER NSW 2291
		Phone	0412846712
		D.O.B	27/10/1981
		Age	42 years
		Sex	M
Ref. by/copy to	<b>CHROMIS OCCUPATIONAL, MEDICINE -</b>	Collect date	08/02/2024
		Collect time	01:00 PM
		Reported	09/02/2024
Tests requested	DL, ALC	Lab ref	24-25158608
		Your ref	
			04:25 PM
Clinical notes			

Clinical Notes : TEMP 35°C

Specimen  
Alcohol

**ALCOHOL**  
Urine  
Not Detected

*[Handwritten signature]*  
08/02/2024

**SURGEI  
USE**

- Normal
- No Action/f
- Patient  
Notified
- Make  
Appoint.
- Further Te
- Notes  
Required
- Speak  
with Dr.
- On Corre  
Treatment

## Kate Schultz

---

**From:** results@awdts.com.au  
**Sent:** Monday, 19 February 2024 4:41 PM  
**To:** Zoe Phillips  
**Cc:** Maitland  
**Subject:** CONFIDENTIAL Hair Drug and/or Alcohol EtG Test Results SC CONFIDENTIAL  
**Attachments:** CCF COOKE Stephen, A2402753.pdf; 20240217\_0933340221AM.PDF



Dear Ms Phillips,

Please find attached Hair Drug and/or Alcohol EtG Test Results with Custody and Control Form and other relevant documents.

Unless attached, no Federal Circuit/Family Court Order in relation to this matter has been sighted by the author. Court Orders are used to determine who is to be provided with results. Failing sighting of said Orders by the author or his authorised agent, an Authorisation to Release Results form may be relied upon. In the case of an Authorisation being relied upon we request that the recipient(s) ensure that this email and results in its entirety is forwarded to any/all relevant party/ies as per any extant Orders that may be in the possession of the recipient(s).

This page is Annexure "A" in the Affidavit of Stephen Christopher Cooke sworn before me \_\_\_\_\_

Please be aware that the sample length as stated represents testing of the entire length of hair to the maximum length nominated. For further results interpretation click on the below link.

**Results Interpretation:** <https://irp-cdn.multiscreensite.com/a9694cff/files/uploaded/Hair-Drugs-and-Alcohol-Tests-Interpretation-Document-Rev1.0-1.pdf>

Please get back to us with any queries or concerns after reading through the results interpretation. A report may be provided in an expanded version via sworn affidavit if so required. Charges will vary based on the complexity of the report. AWDTS is able to offer the services of Australia's most eminent forensic experts in hair drug testing should you require written opinion or expert witness services.

Kind Regards,

*tg*

**Tony Graham BA Dip Mgt MTIAFT**  
**FACTA SoHT FLPA**  
**Managing Director**  
**Mobile: +61 403 42 44 90**



# HAIR DRUG & EtG TESTING IN MEDICO-LEGAL MATTERS

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BrassetsGroup

# Hair Drug & Alcohol Test Interpretation



**Psychemedics** pioneered the use of hair testing over 30 years ago, after years of research proved that drugs deposited in the hair can be accurately measured. Hair analysis is a test in which a sample of a person's hair is sent to a laboratory to detect illicit drug use.

The technology capitalizes on the way the body metabolizes ingested drugs as they flow through the blood stream and deposit in the cortex of the hair. Hair is stable and the deposits are permanently embedded in the hair, so hair acts like a tape recorder — “recording” drug deposits in proportion to the use over time as drugs are deposited in proportion to use.

The two tests used by Psychemedics to analyse hair samples for the presence of drugs of abuse are an FDA-cleared immunoassay test followed by confirmation by mass spectrometry (MS/MS in most instances).

**Brassets Group** act as the Third Party Administrators for Psychemedics Hair Drug and Alcohol Tests throughout the Asia Pacific Region. Brassets Group provide specialist medical services and medical transports throughout the world.

**AWDTS** consists of forensic practitioners who have spent their professional lives in drug and alcohol testing. They have vast experience in detection, prevention, counselling and rehabilitation pertaining to drugs & alcohol misuse and abuse.

On the following pages we offer information to assist with the interpretation of Hair Drug and Alcohol test results.

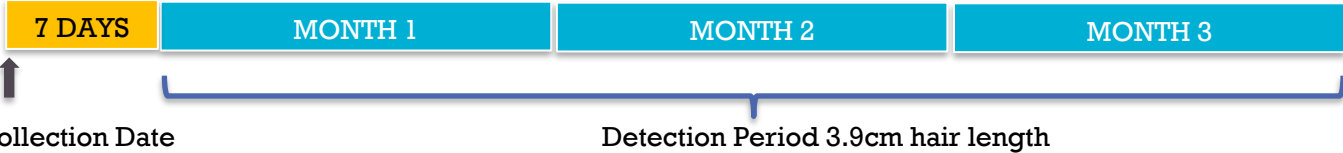
For more in depth analysis we provide a Toxicologists report from our Toxicologist for an additional cost if required.

# DRUG & ALCOHOL TEST INTERPRETATION

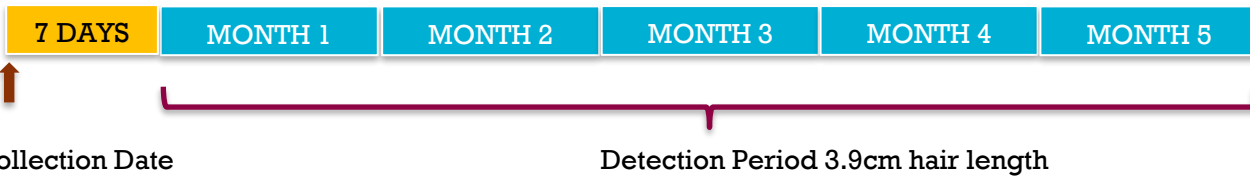
This document provides general information on the interpretation of a Psychomedics drug and alcohol hair test result.

## DETECTION PERIOD OF THE TEST

- ▶ **Detection Period (HEAD HAIR)** - A standard hair test tests a 3.9cm length of hair. This equates to an approximate three (3) month detection period. Head hair grows at a rate of 1.3cm per month. Approximately seven (7) days of hair growth resides below the skin surface.



- ▶ **Detection Period (BODY HAIR)** - a standard hair test tests the entire length of body hair. This is determined by the length of the body hair. Body hair grows in three stages with a 3.9cm length providing up to an approximate five (5) month detection period.



## CUT OFF LEVELS

- ▶ **Screening Cutoff** - The cutoff level is set to detect the present of drugs in an initial immunoassay. If detected the sample is then tested by triple mass spectrometry in a **Confirmation Cutoff**.
- ▶ **Confirmation Cutoff** - The Confirmation Cutoff is the level set to confirm the presence of drugs in the hair sample. These levels are set in accordance with the Society of Hair Testing. This level is set to detect when several ingestions have occurred.

Screening Cutoff	Confirmation Cutoff
5 ng/10 mg	5 ng/10 mg
	0.5 ng/10 mg
	0.5 ng/10 mg
	0.5 ng/10 mg

## POSITIVE RESULTS

- ▶ **Positive Result** – We illustrated below a Positive drug test which illustrates the level of drug detected.

MARIJUANA	POSITIVE	
Cannabinoids/THC Screen		10 pg/10 mg
CarboxyTHC	Positive MS 27.1 pg/10 mg	1 pg/10 mg

## POSITIVE RESULTS INTERPRETATION

- ▶ **Interpretation** – Illicit drugs vary in potency and dosage is not medically determined. A positive drug test cannot therefore determine how many times the drug was ingested. A “Sectional” drug test can section the hair into one month segments so we can identify the level of drug use month by month. (This incurs additional costs and must be specified at the time of collection).  
The cut off levels are set to detect several ingestions, the higher the level detected the higher the level of ingestion. For more detailed information we can provide a Toxicologists report and more detailed information.



BrassetsGroup

# Hair Test Interpretation

**PSYCHEMEDICS CORPORATION**  
The Worldwide Leader in Hair Drug Testing

Page: 1 of 2

**HAIR ANALYSIS DRUG TEST RESULTS**  
Patented Technologies

Account : BRASSETS PTY LTD  
Account ID : C0115151  
Client Code : BRAADS  
Location ID : 11478629  
BRASSETS GROUP DRUG SAFE

Subject Name : Example, Stephen  
Subject ID : XXX-XXX-AADS  
CCF ID : V1234567  
LAN : 123456789

Source : Head Hair  
Reason for Test : Unknown  
Collected : Jun 09, 2019 04:15 PM  
Received at Lab : Jun 12, 2019 10:50 AM  
Released by Lab : Jun 12, 2019 10:21 AM  
Sample Length : 0 to 3.9cm

Test Panel : 819 Hair AM CO ET OPH TE

Test	Result	Screening Cutoff	Confirmation Cutoff
<b>COCOAINE</b>	<b>NEGATIVE</b>	5 ng/10 mg	5 ng/10 mg
Cocaine Screen	Negative		5 ng/10 mg
Cocaine	Negative		5 ng/10 mg
Benzoylcegonine	Negative		0.5 ng/10 mg
Cocaine/ene	Negative		0.5 ng/10 mg
Norcoaine	Negative		0.5 ng/10 mg
<b>OPIOIDS</b>	<b>NEGATIVE</b>	2 ng/10 mg	2 ng/10 mg
Opiaes Screen	Negative		2 ng/10 mg
Codine	Negative		2 ng/10 mg
Morphine	Negative		2 ng/10 mg
6-MAM	Negative		2 ng/10 mg
Hydrocodone	Negative		2 ng/10 mg
Hydromorphone	Negative		2 ng/10 mg
Oxycodone Screen	Negative		2 ng/10 mg
Oxycodone	Negative		2 ng/10 mg
Oxymorphone	Negative		2 ng/10 mg
<b>PHENCYCLIDINE (PCP)</b>	<b>NEGATIVE</b>	3 ng/10 mg	3 ng/10 mg
Phencyclidine Screen	Negative		3 ng/10 mg
Phencyclidine	Negative		3 ng/10 mg
<b>AMPHETAMINES</b>	<b>NEGATIVE</b>	5 ng/10 mg	5 ng/10 mg
Amphetamines Screen	Negative		5 ng/10 mg
Methamphetamine	Negative		5 ng/10 mg
MDMA	Negative		5 ng/10 mg
MDEA	Negative		5 ng/10 mg
Amphetamine	Negative		5 ng/10 mg
<b>MARIJUANA</b>	<b>POSITIVE</b>	10 ng/10 mg	1 ng/10 mg
Cannabinoids/THC Screen	Positive MS 35.1 pg/10 mg		1 ng/10 mg
Carboxy/THC	Positive: LOW TO MODERATE 209 ng/10 mg		1 ng/10 mg
<b>ALCOHOL</b>	<b>POSITIVE: LOW TO MODERATE</b>	2 pg/mg	2 pg/mg
Ethyl Glucuronide MS Screen	Confirmed MS 11.0 pg/mg		2 pg/mg
Ethyl Glucuronide MS	Confirmed MS 11.0 pg/mg		2 pg/mg

Continued on next page.....

Test Performed by PSYCHEMEDICS Corporation  
Tel: 800-522-7424 / 832 Uplander Way / 6100 Bristol Parkway, Culver City, CA 90230  
Print Date: 06/17/2019 10:55:37 AM STN6-CL

ANAB  
IAC-MSA  
CAP ACCREDITED

- Account:** The details here may vary depending on the collection agency. Brassets Group are the Administrators for Psychemedics in the Asia Pacific Region but we also have several laboratory certificated Doctors, Pathology and Drug Testing companies that we facilitate tests for.
  - Subject Name:** This is the Donors name
  - CCF ID:** This is the unique identifier for the Drug test. This number is on the "Chain of Custody Document" the "Sample Acquisition Card" and the Laboratory Result.
  - Source:** The Source is either "Head Hair" or "Body Hair"
  - Reason for Test:** This is often reported as Unknown, or Pre-Employment. The reason for this is to ensure a priority status at the Laboratory. If the reason is recorded as "Court" or "Legal" they are subject to USA legal processes that significantly holds up the Test.
  - Collected:** This is the date the Hair Sample was collected in Australian Time.
  - Released by Lab:** This is the date the result is released by the Laboratory in USA time.
  - Sample Length:** This is the length of hair that was tested at the laboratory (Not the sample length). Each test will test a 3.9cm length (Approx 3 month detection period) of Head hair or else the total length of Body Hair.
  - Confirmation Cutoff:** This is the cut-off level, a detection below this is reported as negative.
  - Screening Cutoff:** This is the cut-off level for the initial test (immunoassay)
  - Result:** This is the confirmed result confirmed by a certifying scientist.
  - Test:** This column lists each drug class tested and the specific metabolites tested.
  - Positive Drug Test Result:** All Positive drug test results are framed with a Blue header as illustrated in this sample report.
  - Positive Drug / Alcohol Test Level:** The level of the drug detected in the hair is stated. This is the accumulative amount of drug in the hair over the detection period.
- With Illicit drugs, the "Potency" and "Amount Ingested" are uncontrolled and subsequently vary significantly, therefore it is difficult to determine the frequency of use, or the amount ingested. The cut off levels are set to detect multiple ingestions of the drug during the detection period.
- THE LEVEL OF DRUG DETECTED in a POSITIVE drug test indicates multiple ingestions of the drug substance. For a scientific report on the drug test result Brassets Group Toxicologist can provide a report for an additional cost.**

## DETERMINING FREQUENCY AND QUANTITY USED

Determining the frequency and quantity used is not possible due to the large variation in potency and amounts ingested by different Donors.

A longer term addict will use substantially more substance than a person in early stages of addiction. What constitutes a high level for one Donor may be a medium level for another Donor. On this basis we do not generally provide a Low, Medium or High level use indication.

## DETERMINING A MEDIUM LEVEL OF USE

In order to assess the level of use we offer the below graph that shows the Australian results for over two thousand Hair drug tests in 2019 divided up into ten percentile groups.

A Patient that returns a Positive Drug Test Result of **Methamphetamine 64 ng/ 10 mg** is in the 70<sup>th</sup> percentile, that is, an average of 100 Methamphetamine detections in a Psychomedics Hair Drug Test in Australia a level of between 45.5 and 84.6 ng/ 10 mg there would be approximately 70 people with a lower detection level and 30 with a higher detection level.

PERCENTILE	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
EtG ALCOHOL	6.1	8.7	12.7	16.2	21.6	34.6	58.3	89.5	143	> 143
METHAMPHETAMINE	7.21	8.92	12	17.4	21.4	31.7	45.5	84.6	150	> 150
MARIJUANA	2.5	5.5	11.3	18.1	31	44.9	73	94.6	151	> 151
COCAINE	5.77	8.16	10.2	12.9	15	19.5	24.1	50	107	> 107
MDMA	6.93	8.24	12.7	14.6	21.9	22.4	30.2	41	47.6	> 47.6
AMPHETAMINES	5.86	6.98	9	11.4	13.8	18	26.8	35	42.9	> 42.9
OPIATES	2.57	2.79	3.43	4.26	6.24	8.23	10.8	16.7	27.1	> 27.1

Where the outcome of the Drug Test results may impact a persons life, career or family we recommend a suitable experienced Toxicologist provide an interpretation that takes into consideration additional factors including medication, other substances detected, polydrug impacts etc.

We recommend a Toxicologists interpretation report can be provided where required however an additional fee is required for a Scientists report.

# General Hair Drug Test Facts

## What is hair drug testing?

Hair testing analyses for drugs within the hair shaft, rather than body fluids like urine or saliva, to determine whether drugs of abuse are present. Compared to analysis of body fluids, hair testing is highly resistant to evasion by adulterating or substituting samples, or by simply abstaining from drug use for a few days. Psychemedics' patented method for detecting drugs in hair uses proprietary immunoassay and state-of-the-art GC/MS/MS or LC/MS/MS confirmation to measure the drug molecules and metabolites permanently entrapped in hair which were incorporated following ingestion. This technology offers significantly greater detection ability than other methods of analysing hair or body fluids.

## Who is using hair drug testing?

Thousands of corporations use Psychemedics' test to screen applicants and perform random drug tests on their employees. Schools have been using the Psychemedics test since 1997 to help their students stay drug-free. Courts routinely use Psychemedics' test in their probation, parole, and diversionary programs. The use of hair is well established, and Psychemedics has been doing hair tests since 1987.

## What drugs are included in a standard hair drug test?

Cocaine, marijuana, opiates (including heroin, codeine, morphine, oxycodone, oxymorphone, hydrocodone and hydromorphone), methamphetamine, Ecstasy (MDMA), Eve (MDEA) and phencyclidine (PCP).

## Does a Psychemedics hair test pull hair out of the scalp to examine the follicle?

No. Testing a hair follicle would require a painful collection process. Psychemedics requires the smallest sample in the industry, snipping above the scalp. No hair is "pulled" out of the scalp, and the hair follicle is not disturbed. Sample collection is a completely painless, quick procedure.

## What time period does a standard test cover?

A standard test of one-and-one-half inches of head hair cut close to the scalp can provide a several month window to detect drug ingestion.

## How fast does head hair grow?

Studies indicate that hair collected at the crown of the head grows on the average approximately 1.3 cm (or ½ inch) per month. This growth rate may vary among people; consequently, the same 3.9cm length of hair may represent slightly different time periods.

## How does hair analysis compare to urinalysis?

The primary difference is the wider window of detection with hair. Cocaine, methamphetamine, opiates, and PCP are rapidly excreted and usually undetectable in urine 72 hours after use. Rather than the hours or days covered by a body fluid test, a hair test covers a period of months, ensuring that a drug user cannot evade the test by simply abstaining for a few days. Additional advantages include: non-intrusive collection procedures, virtual elimination of test evasion through substitution or adulteration, and greater accuracy through test repetition capability. The combination of an increased window of detection and resistance to evasion makes hair testing far more effective than urinalysis in correctly identifying drug users.

## **How soon after drug use can a drug be detected in hair?**

It takes approximately 5-7 days from the time of drug use for the portion of the hair containing that drug to grow above the scalp.

## **What is the shortest time period that can be evaluated?**

In most situations, the minimum time period is approximately one month. A hair test does not determine drugs used on a particular day or week.

## **How sensitive is hair testing in detecting drug users?**

Comparison studies have proven that Psychemedics' testing is up to 6-10 times more effective in identifying drug users than urinalysis. In other words, 85% of the drug users identified by a Psychemedics test could get through a urine screen and enter the workforce.

## **Is all hair testing alike?**

No, Psychemedics uses its proprietary digestion method to remove virtually 100% of the drugs from the hair, thereby increasing detection capabilities. Other laboratories may leach drug from the hair, leaving behind or destroying some of the drug in the process. Psychemedics also employs an extensive wash procedure on test samples, and analyses the wash to ensure that any potential contamination has been removed or taken into account. Other labs may use a less effective wash and/or do not analyze the wash, putting their clients at risk for making employment decisions based on a result that may be reflective of external contamination.

## **How does Psychemedics establish its cut-off levels?**

These levels are based on field studies that establish the presence of the drugs following ingestion. These levels are included in Psychemedics' FDA submissions, and are similar to the cut-off levels in the 2004 proposed SAMHSA mandatory guidelines.

## **How much hair is needed for a hair drug test?**

Psychemedics' standard screen, along with GC/MS/MS or LC/MS/MS confirmation, usually requires a cosmetically undetectable lock of hair preferably snipped from the back of the head, just below the crown. In general, the amount needed is the thickness of a shoelace tip. Hair analysis methods used by other laboratories may require significantly more hair.

## **Can hair drug tests be run on people with little or no hair?**

Yes. Hair can be collected from several locations on the head and combined to obtain the required amount of hair. If head hair is not available, certain body hair can be used as an alternative.

## **Can hair collected from a brush be used?**

No. For workplace drug testing, Psychemedics requires a hair sample to be collected using the proper chain-of-custody protocols that will withstand a legal challenge. Psychemedics requires that the sample be submitted with Psychemedics Sample Acquisition Materials. The test subject must initial the sample to certify the authenticity of the sample at the time of collection.

## **How are collections performed on candidates that use artificial hairpieces or attachments to their own hair?**

The collection process allows the collector only to take the candidate's natural hair. Natural head hair or nape hair can be taken. Body hair can also be taken when hair from those two sources is not available.

## **Where do I get help regarding collection?**

Psychemedics provides detailed instruction through a written training manual and video. Both are available in English and Spanish. Additional help is available through Client Service Managers dedicated to each client, and from Psychemedics' professional trainer.

## **Does chemical treatment of the hair affect the test results?**

Commonly used hair procedures (e.g., shampoos, conditioners, sprays, mousses and gels) have no significant effect on results. In fact, normal hair washing helps to remove external contamination. Normal hair treatments such as bleaching, perming and dyeing generally will not significantly lower the quantitative results. If the protein matrix of the hair has been damaged to the point of breaking (cortex damage) the level of drug can be significantly affected. However, severely treated or damaged hair can be readily identified from the wash ratios and/or staining procedure.

## **Is there a risk that the results of a hair test can be affected by environmental contamination?**

Psychemedics utilizes several independent approaches which, in various combinations, rule out the possibility of a positive result from external contamination. The first method involves extensive chemical washing of the hair specimen prior to screening, followed by analysis of the content of the wash. This wash analysis is a critical step to ensure that any contamination is effectively accounted for. Additionally, Psychemedics measures the presence of metabolites. If drugs were in the air or on a person's hands and thereby got on a person's hair from outside, the drug would be present as the drug substance itself, and not as certain metabolites or with metabolite/parent drug ratios which are known to be produced by ingestion. Psychemedics' ability to distinguish and measure metabolites with its highly sensitive GC/MS/MS or LC/MS/MS equipment is one criteria used to eliminate the possibility of false positives from external contamination. In addition, any positive internal contamination (e.g., from passive inhalation or even poppy seed consumption) is distinguished from deliberate drug use by setting GC/MS/MS or LC/MS/MS cut-off levels above those which can be produced by passive internal exposure. Studies have shown that the combination of extensive washing, metabolite analysis, and proper cut-off levels are necessary to avoid false positives due to external contamination.

## **Does Psychemedics perform GC/MS/MS or LC/MS/MS confirmation of all positive results?**

Psychemedics provides automatic confirmation for samples which screen positive.

## **What is done with the excess hair that is not tested?**

The hair not used from the time period being tested and all remaining hair is stored in the chain-of-custody sample acquisition pouch. Negative hair is stored for approximately 1 month. Positive hair is stored for two years.

## How long are positive test result reports kept on file?

Laboratory records and test results are kept for a five-year period.

## Has Psychomedics' drug testing been admitted in court?

Yes. The use of Psychomedics' hair testing for drugs of abuse has been routinely admitted in both state and federal courts, as well as arbitrations and agency hearings. The test results are routinely upheld. Some court systems use hair analysis as part of their probation, parole, and diversionary programs.

## Is hair testing included in SAMHSA/NIDA guidelines?

Under SAMHSA/NIDA's current guidelines for federally-mandated testing, urine is the only specimen included for testing certain government employees and that segment of private sector testing that falls under the Department of Transportation or other agency guidelines. In a November 2008 press release, SAMHSA states that HHS will continue to pursue substance abuse testing using alternative matrices, including hair specimens, and anticipates issuing further revisions to the Mandatory Guidelines addressing the use of hair specimens.

### 1 External Exposure Triggers Positive Results.

**No.** Scientists from the Federal Bureau of Investigation (FBI) extensively researched Psychomedics and published their findings in peer-reviewed journals. Their conclusion? The Psychomedics extensive washing process eliminates external contamination as a factor in test results. A positive result indicates "ingestion" or "systemic" presence rather than "exposure" to a drug.

### 2 Hair Color Or Type Effects Results.

**Wrong.** A number of independent studies over the years have concluded neither hair color nor hair type effects the results of a hair test for drugs of abuse. In fact, a comprehensive study presented in *Criminal Justice Review* concluded that "no evidence that one group (i.e., race) was more adversely affected by hair testing compared to urine testing."

### 3 A Psychomedics Test Is A Follicle Test.

**Incorrect.** While sometimes referred to as follicle testing, the Psychomedics drug test using hair analysis does not affect the hair follicle. The sample to be tested is snipped with scissors above the scalp line. In the event head hair is too short to collect a one-half inch sample the diameter of a pencil lead, body hair is collected. The follicle is **never** removed or disturbed.

## MEASURING ALCOHOL IN HAIR

Psychomedics uses a triple quad mass spectrometry test to determine the level of ethyl glucuronide (EtG) present in hair. EtG is measured in pg/mg and we follow the guidelines determined by the World Health Organization in association with the Society of Hair Testing.

LEVEL	RESULT
0-1.9 pg/mg	Negative
2.0 pg/mg	Mild to Moderate Consumption
30+ pg/mg	Excessive Alcohol Consumption

The test will identify those consuming as few as 2-3 alcoholic drinks (on average) per week, resulting in a level reported in the "Mild to Moderate Consumption" category. To be considered in the category of "excessive alcohol consumption" and fall into the category of 30 pg/mg or greater, an average of at least 4-6 alcoholic drinks per day would have to be consumed over an average of 3 months.