



BIO-OXYGEN
AUSTRALIA PTY. LIMITED

36 Bennett Place, Castle Hill NSW 2154, Australia

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Email: bio-oxy@bigpond.net.au Web: www.bio-oxygen.com.au



BACTERIA TEST REPORTS



St. Joseph's Hospital

Auburn

'UNDER THE CARE OF THE SISTERS OF CHARITY'

TEST REPORT

BIO-OXYGEN AIR PURIFIER

by M. MARCONATO
Senior Hospital Scientist
Dept. of Pathology
ST. JOSEPH'S HOSPITAL
AUBURN N.S.W. 2144

Summary

Use of the Bio-Oxygen Air Purifier was introduced into the hospital's theatre air conditioning system to hopefully further decrease airborne bacteria number. This study was carried out for:

HOSPLAN
N.S.W. DEPT. OF HEALTH

and although undertaken in a limited period of time, there appears to be a lessening of airborne bacterial numbers. This study was carried out with one basic parameter in mind, i.e. bacterial number. Since there is a significant difference between pre- and post-installation data, we conclude that the Bio-Oxygen Air Purifier does successfully decrease the number airborne bacteria.


.....
11th May, 1990.

NORMANBY ROAD, AUBURN 2144
P.O. BOX 321 TELEPHONE: (02) 649 8941 FAX: 649 7092

INTRODUCTION

Theatre rooms are subjected to intense procedures to diminish the total level of bacterial content and thereby decreasing the level of airborne bacteria. We note that bacteria levels are dependent on a number of parameters: 1. temperature, 2. humidity, 3. efficiency of filters, 4. type of air conditioner, 5. number of air changes per hour, 6. direct cleaning of rooms and furniture, 7. type of disinfectant used, 8. number of persons in the theatre at any given time. Even if all the above are set for maximum efficiency and therefore minimum bacterial numbers there is still a margin for improvement and hence the introduction of the Bio-Oxygen Air Purifier.

ENVIRONMENT

The hospital theatre complex consists of two operating rooms with all the necessary support areas served by a return air conditioner, maintained at 21 C, humidity at 50% RH and no U.V. sterilisation or HEPA filters. A Bio-Oxygen Air Purifier with 1/4 size lamp was installed in the air conditioning unit to treat the theatre air.

METHOD OF TESTING

Two media plates, one horse blood agar and other nutrient agar were exposed for a period of one hour every morning once theatre commenced operations and a second set of media plates was exposed every afternoon for the same time period. Both sets were cultured at 37 C for 24 hours and the number of colonies then counted. Total number of colonies was tabulated each day (Tables 1 and 2). Specimens were collected correctly by theatre nursing staff and brought directly to Pathology after each collection.

RESULTS

Table 1 gives the total morning and afternoon colony count for each set of plates together with a total for the day. These results refer to bacteria number before the introduction of the Bio-Oxygen unit. Similarly, Table 2 concentrates data gathered after the introduction of the Bio-Oxygen Air purifier.

TABLE 1 (WITHOUT BIO-OXYGEN)

Day	AM Colony Count	PM Colony Count	Total Colonies/Day
1	24	29	53
2	17	42	59
3	13	15	28
4	14	18	32
5	19	8	27
6	20	9	29
7	21	20	41
8	70	25	95
9	26	18	44
10	11	31	42

TABLE 2 (WITH BIO-OXYGEN)

Day	AM Colony Count	PM Colony Count	Total Colonies/Day
1	2	0	2
2	2	1	3
3	4	0	4
4	2	0	2
5	0	0	0
6	2	0	2
7	2	0	2
8	3	0	3
9	1	0	1
10	1	0	1

With the introduction of the Bio-Oxygen Air Purifier there appears to be a reduction of airborne bacterial numbers by an average of 95%.

TABLE 3

The following data was collected on three separate occasions when the air conditioner was turned-off or the system was in automatic cut-off when the ambient temperature decreased to levels below the 21 C thermostat setting.

Day	AM Colony Count	PM Colony Count	Total Colonies/Day
1	19	17	36
2	10	0	10
3	16	5	21

The above survey was carried out only on normal operating days. All known variables were maintained over the survey period. There was no intention to reference plate counts to actual airborne counts performed by other methods since all the literature does agree that plate counts are proportional to airborne bacterial counts. This research was simply designed to determine if there is a significant difference between the use or non use of the Bio-Oxygen Air Purifier.

CONCLUSIONS

Although only a minor survey, at this stage, we conclude that bacterial number in the post-installation period of the Bio-Oxygen Air Purifier were significantly reduced (Table 2) when compared to the pre-installation results (Table 1). Furthermore, on occasions when the air conditioning system was turned off, the bacterial plate counts increased dramatically for that day. Plate counts and therefore airborne bacteria remain lower in numbers when the Air Purifier was turned on.

ams Laboratories Pty Ltd

ABN 47 075 467 757

8 Rachael Close

SILVERWATER NSW 2128

Australia

Tel: +61 2 9704 2300 Fax: +61 2 9737 9425

Certificate of Analysis/Test Report

Dated: 22/04/2010

CLIENT: BIO-OXYGEN AUSTRALIA
36 Bennett Place, Castle Hill NSW 2154

REF NO: 1003525

ATT: Philipp Leicher

ORDER NO: Not Given

SAMPLE DESCRIPTION:
Bio-Oxygen Model 8000 Air Purifier

DATE RECEIVED: 15/04/10

DATE COMMENCED: 15/04/10

EXAMINATION: Test the virucidal efficacy of the Bio-Oxygen Model 8000 Air Purifier against **Human Influenza Virus Type A (H1N1)** in a surface carrier test after 5 and 10 minutes treatment times. The equipment consisted of the Bio-Oxygen Model 8000 Air Purifier inside a test chamber. This was fully prepared and operated by Client.

METHOD: ASTM- E1053-97: Standard Test Method for Efficacy of Virucidal Agents Intended for Inanimate Environmental Surfaces.

CONDITIONS:

VIRUS STRAIN: The test virus used was **Human Influenza Virus Type A (H1N1)**. The isolate was obtained from the Institute of Clinical Pathology and Medical Research, Westmead, New South Wales.

CELL SUBSTRATE: The Madin Darby Canine Kidney (MDCK) cells were stored in liquid nitrogen prior use. MDCK cells were obtained from CSL Bioscience. They were used to assay the test virus.

TEMPERATURE & HUMIDITY: 26-28° C and 50-60% RH.

RESULTS:


REDUCTION OF VIRUS AFTER TREATMENT

Bio-Oxygen Treatment	Virus Titre (TCID ₅₀)	Reduction in Viable Viruses (%)
Virus Control (no treatment)	3,160,000	-
5 minutes	316	99.99
10 minutes	316	99.99

Virus Titre: Estimate of virus numbers; TCID: Tissue Culture Infective Dose

CONCLUSIONS:

The test results demonstrate that the product complies with the virucidal efficacy requirements for disinfectants as specified in TGO 54 and 54A of the Australian Therapeutic Goods Administration.

Signed: 
Paul Priscott, PhD
Managing Director

In partnership with our community



HUNTER NEW ENGLAND
NSW HEALTH

Bio-Oxygen Australia Pty Ltd
36 Bennett Place
CASTLE HILL NSW 2154

14th December 2009

Dear Philipp,

Viral Test Report

Model Tested: Bio-Oxygen Model 8000

Date Tested: 8th December 2009

Viruses Tested: Human Influenza Virus A/South Australia (H3N2)
Swine-Origin Influenza Virus A/Auckland (H1N1)

Methods Used: Viral Test Protocol (see attached)
GLP955 - Influenza Virus Titre Determination by MDCK Cell Line
Plaque Assay

Results:

	Without Bio-Oxygen	With Bio-Oxygen	Reduction *
H3N2 SA Influenza "A"	572 PFU/mL	23 PFU/mL	96.0%

PFU/mL = Plaque-Forming Units per millilitre

* Reduction based on difference with and without Bio-Oxygen.

THIS REPORT IS ISSUED WITHOUT ALTERATION AND SHOULD NOT BE
EXTRACTED OR REPRODUCED EXCEPT IN FULL

Signed:

Date: 15/12/2009

A/Professor Peter Wark BMed FRACP PhD



Repatriation General Hospital Concord

A Teaching Hospital of the University of Sydney



Contact
Reference

Hospital Road
Concord NSW 2139

Telephone

Telephone: (02) 736 7911
Facsimile: (02) 736 6991

CLIENT: Bio-Oxygen (NSW) Pty Ltd
217 North Rocks Road
NORTH ROCKS NSW 2151

SAMPLE: Environmental Air, tested by BioTest strips
collected from: **Manly Warringah Masonic Club.**

RESULT: Poker/lounge/Dining Area.

16/12/92	24/2/93	% Reduction
1 min without Bio-oxygen	2 min with Bio-oxygen	
4,175 CFU/m ³	No growth	100%


CFU/M³ = Colony forming units/cubic metre.

COMMENT: All quantitative results are expressed as CFU/metre³.

The National Institute for Occupational Safety & Health have set 500 CFU/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc. have more stringent requirements.

im yap 4/3/93

 CENTRAL SYDNEY <i>laboratory service</i>	Patient Name: ENVIRONMENTAL, BIO-OXYGEN NSW
	Client Name: Concord Repatriation General Hospital
CONCORD Repatriation General Hospital CONCORD NSW 2139	Client MRN:
	DOB/Age/Sex: Unknown Unknown
	Location: Microbiology
	Doctor:
	Accession No: 1-EV-02-000093

Deliver To:

Concord Repatriation General Hospital
Hospital Road
CONCORD NSW 2139

ENVIRONMENTAL MICROBIOLOGY

Department of Microbiology and Infectious Diseases

Dr. R. Bradbury, Dr. T. Gottlieb Enquiries: Tel (02) 9767 6904 Fax (02) 9767 7868

PROCEDURE: **Environmental - Air Testing**
SOURCE: **Air**COLLECTED: **15/04/02 14:21**STARTED: **15/04/02 14:22**ACCESSION: **1-EV-02-000093**FREE TEXT SOURCE: **Lake Munmorah Bowling Club (Pokermachine Rm, +2)****FINAL REPORT**
0 CFU/ml presentVerified: **15/04/02 14:28**



CENTRAL SYDNEY
Laboratory service

CONCORD

Repatriation General Hospital
CONCORD NSW 2139

Patient Name: **ENVIRONMENTAL, BIO-OXYGEN NSW**
MRN: 850-10-90
Client Name: Concord Repatriation General Hospital
DOB/Age/Sex: Unknown Unknown
Location: **Microbiology**
Doctor:
Accession No: **1-EV-02-000154**

ENVIRONMENTAL MICROBIOLOGY

Department of Microbiology and Infectious Diseases

Dr. R. Bradbury, Dr. T. Gottlieb Enquiries: Tel (02) 9767 6904 Fax (02) 9767 7868

PROCEDURE: Environmental - Air Testing
SOURCE: Air

COLLECTED: 04/06/02 11:49
STARTED: 07/06/02 11:50
ACCESSION: 1-EV-02-000154

FREE TEXT SOURCE: Graphic Arts Club Pookermachine Room (+2mins)

FINAL REPORT

Nil colony forming units per cubic metre of air detected

Verified: 07/06/02 11:54



ASSOCIATED SCIENCES PTY LTD

UNIT 4, 30 FOUNDRY ROAD
SEVEN HILLS 2147

Tel: (02) 674 6805
Fax: (02) 674 6841

LABORATORY REPORT

CLIENT: Bio-Oxygen (NSW) Pty Ltd
217 North Rocks Road,
North Rocks 2151

ATTN: Philipp Leicher

REPORT NO: 1795/1811

SAMPLE: Environmental Air, tested by BioTest strips
& surface swabs collected from
Cordina & Son, Girraween
by the client on 8/12/1989 and 18/1/1990

RESULTS:

ANALYSIS:

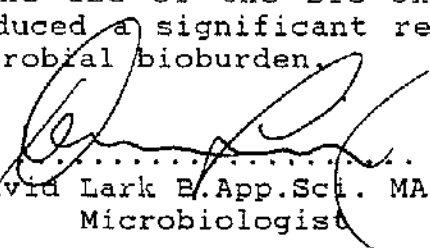
Clients Ref.	Aerobic Plate Count		% Reduction
	18/1/1990 without Bio-Oxygen	8/12/1990 with Generator"	
Air Sample #1	18750	538	
Air Sample #2	14000	225	
Air Sample #3		150	
Air Sample #4		550	
Mean Air Bioburden	16375 cfu/M ³	366 cfu/M ³	97.8
Surface Swabs			
Wall #1	>1000	<1	>99.9
Wall #2		<1	>99.9
Wall #3		<1	>99.9
Wall #4		1-10	>99

COMMENTS:

The National Institute for Occupational Safety & Health have set 500 cfu/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharm-aceutical manufacturing, food preparation and storage, etc have more stringent requirements.

It appears that the use of the Bio-Oxygen "Activated Oxygen Generator" has produced a significant reduction in the airborne and wall surface microbial bioburden.

SIGNED  DATE: 3/1/1990
David Lark B.App.Sci. MASM
Microbiologist



Repatriation General Hospital Concord

A Teaching Hospital of the University of Sydney



Contact Reference

Hospital Road
Concord NSW 2139

Telephone

Telephone: (02) 736 7911
Facsimile: (02) 736 6991

CLIENT: Bio-oxygen (NSW) Pty Ltd
217 North Rocks Road
NORTH ROCKS NSW 2151

SAMPLE: collected from: *Central Coast Leagues Club*

RESULT:

	WITHOUT BIO-OXYGEN	WITH BIO-OXYGEN	% REDUCTION
Dust from return air plenum	60,000,000 CFU/gram	3600 CFU/gram	99.9%
Swabs return air duct	Upstream 320 CFU/10.0gcm	Downstream 140 CFU/10.0gcm	58%

CFU = Colony forming units

COMMENT: All quantitative results are expressed as CFU

Joan M Yap
27/7/94

Our Ref. No. : 981741EN80777

Page 2 of 2

III. Method statement

Total bacterial count in air

Air is drawn through a two-stage Anderson impactor with TSA agar plate at a rate of 1 CFM. The impactor will differentiate particulates into respirable and non-respirable. The agar plate are incubated at 35°C for 24 hours and the counted.

IV. Results

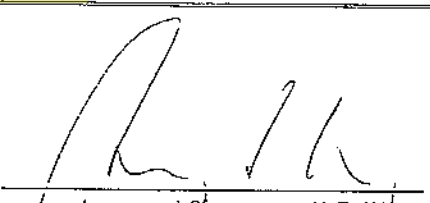
1. Sampling Date : 23/10/1998 Air purifier : OFF

Sampling location	TBC in air	
	Respirable c.f.u./ft ³	Non-respirable c.f.u./ft ³
7/F North Wing Air Supply	220	201
7/F South Wing Air Supply	212	99
8/F North Wing Air Supply	113	89
8/F South Wing Air Supply	115	68

2. Sampling Date : 13/11/1998 Air purifier : ON

Sampling location	TBC in air	
	Respirable c.f.u./ft ³	Non-respirable c.f.u./ft ³
7/F North Wing Air Supply	30	9
7/F South Wing Air Supply	20	12
8/F North Wing Air Supply	11	5
8/F South Wing Air Supply	9	5

Supervised by : K.F. Wong

Certified by : 
Approved Signatory : K.F. Wong

Date : 18/11/98

TEST REPORT

CLIENT

BIO OXYGEN

ESTIMATION OF TOTAL BACTERIAL COUNT IN DUST SAMPLE

Sampling certificate No.14745

Report date :07.10.06

Report no.	: AR 288002	Sample brought in by	: AHSL Representative
Sample no.	: AS 188707	Sampling date / time	: 02.10.06 / 1050 Hrs.
Project	: Quality Assurance	Sample receipt temperature	: Not applicable
Reference	: Not specified	Sample received on	: 02.10.06 / 1330 Hrs.
Client	: Bio Oxygen	Sampling container	: Sterile bag
Consultant	: Not specified	Test dates	: 02.10.06~06.10.06
Sample ID	: Dust (Without treatment (Bio Oxygen))	Tested by	: MS / AB
Source	: East wing 1.4.203/Palace suit	Test Method Bacteriological Analytical Manual USFDA January 2001.	
Location	: Emirates Palace Hotel		
Sampling method	: Grab		
Sampled by	: AHSL Representative		
On-site treatment	: Not applicable		

Parameter	Unit	Method	Result
Total Bacterial Count	CFU/g	BAM Jan 2001	2.5 x 10 ⁵

Remarks: None

Test Method Variation: None

CFU - Colony Forming Units; BAM - Bacteriological Analytical Manual.

AHSL certifies that the above tests were carried out in accordance with the Bacteriological Analytical Manual January 2001.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.

A. M. H.
P.P. Supervisor
Chemistry / Microbiology Section
/mm



[Signature]
Laboratory Manager
for Al Hoty-Stanger Laboratories

TEST REPORT

CLIENT

BIO OXYGEN

ESTIMATION OF TOTAL BACTERIAL COUNT IN DUST SAMPLE

Sampling certificate No.14743

Report date :07.10.06

Report no.	: AR 288000	Sample brought in by	: AHSL Representative
Sample no.	: AS 188705	Sampling date / time	: 02.10.06 / 0950 Hrs.
Project	: Quality Assurance	Sample receipt	: Not applicable
Reference	: Not specified	temperature	
Client	: Bio Oxygen	Sample received on	: 02.10.06 / 1330 Hrs.
Consultant	: Not specified	Sampling container	: Sterile bag
Sample ID	: Dust before Bio Oxygen Treatment	Test dates	: 02.10.06-06.10.06
Source	: East wing room/AHU 2.8.302	Tested by	: MS / AB
Location	: Emirates Palace Hotel	Test Method	Bacteriological Analytical Manual USFDA January 2001.
Sampling method	: Grab		
Sampled by	: AHSL Representative		
On-site treatment	: Not applicable		

Parameter	Unit	Method	Result
Total Bacterial Count	CFU/g	BAM Jan 2001	4.5 x 10 ⁴

Remarks: None

Test Method Variation: None

CFU – Colony Forming Units; BAM - Bacteriological Analytical Manual.

AHSL certifies that the above tests were carried out in accordance with the Bacteriological Analytical Manual January 2001.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.

A. Mihj
P.P Supervisor
Chemistry / Microbiology Section
/mm



[Signature]
Laboratory Manager
for Al Hoty-Stanger Laboratories

TEST REPORT

CLIENT

EMIRATES PALACE HOTEL

MICROBIOLOGICAL ANALYSIS OF SURFACE SWAB

4th Original
Report date : 12.10.06

Sampling certificate No. : 17233

Report no.	: AR 288967	Sample brought in by	: AHSL Representative
Sample no.	: AS 189326	Sampling date / time	: 09.10.06 / 0945 Hrs.
Project	: Quality Assurance	Sample received on	: 09.10.06 / 1130 Hrs.
Reference	: Not specified	Sample receipt temperature	: 3.8°C
Client	: Emirates Palace Hotel	Test dates	: 09.10.06~11.10.06
Consultant	: Not specified	Tested by	: AB / MS
Sample ID	: Swab(After Bio oxygen Treatment)	Test Method	1. Compendium of Methods for the Microbiological Examination of Foods, APHA, 4 th Edn. 2. Manual of Microbiological Methods for the Food and Drink Industry, Campden & Chorleywood Food Research Association, UK, Technical Manual # 43, 3 rd Edn
Source	: Air duct wall		
Location	: Emirates Palace Hotel / East wing rooms/ AHU 2-8-302		
Sampling method	: APHA		
Sampled by	: AHSL Representative		
On-site treatment	: Transported in ice box		

Parameter	Unit	Result
Aerobic colony count	CFU / 10 cm ²	Not detected

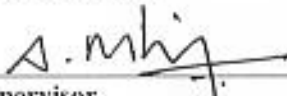
Remarks : None.

Test Method Variation: None

CFU – Colony Forming Units

AHSL certifies that the above test were carried out in accordance with the Compendium of Methods for the Microbiological Examination of Foods, APHA, 4th Edn. & Manual of Microbiological Methods for the Food & Drink Industry, Campden & Chorleywood Food Research Association, UK, Technical Manual # 43, 3rd Edn.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Supervisor
Chemistry / Microbiology Section
/aa




Laboratory Manager
for Al Hoty-Stanger Laboratories

TEST REPORT

CLIENT

BIO OXYGEN

BACTERIOLOGICAL ANALYSIS OF AIR
BY SETTLE PLATE TECHNIQUE

Sampling Certificate No.: 14747

Report date : 07.10.06

Report no.	: AR 288004	Sample receipt temperature	: 3.4°C
Sample no.	: AS 188709	Sample received on	: 02.10.06 / 1330 Hrs.
Project	: Quality Assurance	Test dates	: 02.10.06~06.10.06
Reference	: Not specified	Tested by	: AB / MS
Client	: Bio Oxygen	Test methods	1. Compendium of Methods for the Microbiological Examination of Foods, APHA, 4 th Edn. 2. Mackie & Mc Cartney Practical Medical Microbiology, 14 th Edn.
Sample source	: Air (Intet after Bio Oxygen Treatment)		
Sample brought in by	: AHSL Representative		
Location	: Emirates Palace Hotel /East wing , room no:3324		
Sampled by	: AHSL Representative		
Sampling date	: 02.10.06 / 1125 Hrs.		

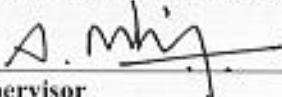
Parameter	Result
Total bacterial count (CFU) for 1 hour exposure	2

Remarks: None

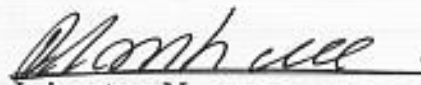
Test Method Variation: None

AHSL certifies that the above tests were carried out in accordance with Compendium of Methods for the Microbiological Analysis of Foods, American Public Health Association 4th Edn. & Mackie & Mc Cartney Practical Medical Microbiology, 14th Edn.

This report relates only to the sample tested and shall only be reproduced in full and with the written approval of AHS Laboratories.


Supervisor
Chemistry / Microbiology Section
/mm
MB/Doc. No.10/RS/Rev.03/settle plate




Laboratory Manager
for Al Hoty-Stanger Laboratories



Repatriation General Hospital Concord

A Teaching Hospital of the University of Sydney



Contact
Reference

Hospital Road
Concord NSW 2139

Telephone

Telephone: (02) 736 7911
Facsimile: (02) 736 6991

CLIENT: Bio-Oxygen (NSW) Pty Ltd
217 North Rocks Road
NORTH ROCKS NSW 2151

SAMPLE: Environmental Air, tested by BioTest strips
collected from: **Herbert Adams Bakeries**

RESULT:	19/3/93 Without Biooxygen	4/6/93 With Biooxygen	% Reduction
Pizza Preparation Area:	2,875 CFU/M ³	25 CFU/M ³	99.1%
Spiral Cooler	6,250 CFU/M ³	75 CFU/M ³	99.8%

CFU/M³ = Colony forming units/cubic metre.

COMMENT: All quantitative results are expressed as CFU/metre³.

The National Institute for Occupational Safety & Health have set 500 CFU/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc. have more stringent requirements.

DM Yap 9/6/93



Concord Repatriation General Hospital

A Teaching Hospital of the University of Sydney

Contact
Reference

Telephone

Hospital Road
Concord NSW 2139

Telephone: (02) 736 7911
Facsimile: (02) 736 6991

CLIENT: Bio-oxygen (NSW) Pty Ltd
217 North Rocks Road
NORTH ROCKS NSW 2151

SAMPLE: Environmental Air, tested by Biotest Strips
collected from: **STEGGLES**

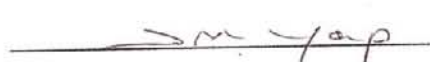
RESULT:	WITHOUT	WITH	%
	BIO-OXYGEN	BIO-OXYGEN	REDUCTION
COOLROOM 2A	18/11/93 5,000 CFU/M ³	22/11/93 13 CFU/M ³	99.7%
COOLROOM 2B	4,125 CFU/M ³	25 CFU/M ³	99.4%

CFU/M³ = Colony forming units/cubic metre.

COMMENT: All quantitative results are expressed as CFU/metre³.

The National Institute for Occupational Safety & Health have set 500 CFU/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc. have more stringent requirements.

 1/12/93



Repatriation General Hospital Concord

A Teaching Hospital of the University of Sydney



Contact
Reference

Hospital Road
Concord NSW 2139

Telephone

Telephone: (02) 736 7911
Facsimile: (02) 736 6991

CLIENT: Bio-Oxygen (NSW) Pty Ltd
217 North Rocks Road
NORTH ROCKS NSW 2151

SAMPLE: Environmental Air, tested by BioTest strips
collected from: MEKONG CLUB

RESULT:

	WITHOUT BIO-OXYGEN	WITH BIO-OXYGEN	% REDUCTION
	4/12/93	12/1/93	
AUDITORIUM	24,875 CFU/ml	262 CFU/ml	99%
POKER MACHINE AREA	34,000 CFU/ml	175 CFU/ml	99.5%

CFU/M³ = Colony forming units/cubic metre.

COMMENT: All quantitative results are expressed as CFU/metre³.

The National Institute for Occupational Safety & Health have set 500 CFU/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc. have more stringent requirements.

DM Yap 28/6/93

J. M. & M. T. LEVEY
PROFESSIONAL CONSULTATIONS
LABORATORY REPORT

100 Vernon Avenue,
Eastlakes, 2018
Phone: 667 4498

CLIENT: Bio-Oxygen (NSW) Pty Ltd
217 North Rocks Road
NORTH ROCKS NSW 2151

SAMPLE: Environmental Air, tested by BioTest strips
collected from: *HMAS Kuttabel*
Senior Sailors Mess

RESULT: *without* Bio-oxygen *with* Bio-oxygen

Senior Sailors Mess *10,200 CFU/m³* *50 CFU/m³*

70 reduction: - 99.5%

CFU/M³ = Colony forming units/cubic metre.

COMMENT: All quantitative results are expressed as CFU/metre³.

The National Institute for Occupational Safety & Health have set 500 CFU/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc. have more stringent requirements.

SIGNED: *J M Levey*

DATE: *10/2/92*

for Joseph Levey M.Sc., F.A.S.M.
J. M. & M. T. LEVEY Microbiologist
PROFESSIONAL CONSULTANTS

CLIENT: **BIO-OXYGEN NSW**
36 Bennett Place,
CASTLE HILL NSW 2154,
FAX: 9899 3161

SAMPLE: Environmental Air, tested by
Biotest Strips collected from:
IMPERIAL TOBACCO CO
GENERAL OFFICE, 3RD FLOOR

RESULT:	WITHOUT BIO-OXYGEN	WITH BIO-OXYGEN
	01/11/1999	11/11/1999
	3,050 CFU/metre ³	25 CFU/metre ³

CFU/M³ = Colony forming units/cubic metre.

99 % REDUCTION in colony counts

The National Institute for Occupational Safety & Health have set 500 CFU/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement. Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc. have more stringent requirements.



15/11/1999

Candice WOLFSON
(02) 9767 6658



Concord Repatriation General Hospital

A Teaching Hospital of the University of Sydney

Contact
Reference
Telephone

Hospital Road
Concord NSW 2139

Telephone: (02) 736 7911
Facsimile: (02) 736 6991

CLIENT: Bio-oxygen (NSW) Pty Ltd
36 Bennett Place
CASTLE HILL NSW 2154

SAMPLE: Environmental Air, tested by Biotest Strips
collected from: Nepean Rowing Club

RESULT:

	WITHOUT BIO-OXYGEN	WITH BIO-OXYGEN	% REDUCTION
	9/11/94	10/2/95	
Pokerman/Lounge	8750 CFU/M ³	100 CFU/M ³	99%

CFU/M³ = Colony forming units/cubic metre.

COMMENT: All quantitative results are expressed as CFU/metre³.

The National Institute for Occupational Safety & Health have set 500 CFU/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc. have more stringent requirements.

Sm Yap 2/3/94



ASSOCIATED SCIENCES PTY LTD

UNIT 4, 30 FOUNDRY ROAD
SEVEN HILLS 2147

Tel: (02) 674 6805
Fax: (02) 674 6841

LABORATORY REPORT

CLIENT: Bio-Oxygen (NSW) Pty Ltd
217 North Rocks Road,
North Rocks 2151

ATTN: Philipp Leicher

REPORT NO: 1813/1823

SAMPLE: Environmental BioTest strips & Surface Swabs
collected from Allied Chefs
by the client on 21/3/1990 & 10/4/1990
Plate Count Agar, Batch No: 20/3 & 10/4

RESULTS:

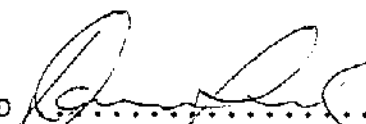
ANALYSIS:

Clients Ref.	Aerobic Plate Count		Reduction
	21/3/1990 Before Bio-Oxygen	10/4/1990 After Generator"	
Air Sample #1	> 25,000 cfu/M ³	250	99%
Surface Swab	> 1,000 cfu/50cm ²	10 - 100	90%

COMMENTS: The National Institute for Occupational Safety & Health have set 500 cfu/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc have more stringent requirements.

The reductions in airborne & surface counts are considered significant.

SIGNED  DATE: 17/4/90
David Lark/B.App.Sci. MASM
Microbiologist



ASSOCIATED SCIENCES PTY LTD

UNIT 4, 30 FOUNDRY ROAD
SEVEN HILLS 2147

Tel: (02) 674 6305
Fax: (02) 674 6341

CERTIFICATE OF ANALYSIS

CLIENT: Bio-Oxygen (NSW) Pty Ltd
217 North Rocks Road,
North Rocks 2151

ATTN: Philipp Leicher

REPORT NO: 1830

SAMPLE: Environmental BioTest strip & surface swab
from Red Lea - *Chicken Processor*
collected by the client & received on 24/4/90
Plate Count Agar, Batch 18/4
marked as follows:-

RESULTS:

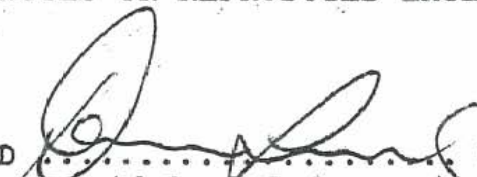
ANALYSIS:

Clients Ref.	Aerobic Plate Count		Reduction
	without BIO-OXYGEN 21/3/90	with BIO-OXYGEN 24/4/90	
Air Sample cfu/M ³	25,000	755	96.9%
Surface swab cfu/50cm ²	100-1000	10-100	90%

COMMENT: The National Institute for Occupational Safety & Health have set 500 cfu/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc have more stringent requirements.

THIS REPORT IS ISSUED WITHOUT ALTERATION AND SHOULD NOT BE EXTRACTED OR REPRODUCED EXCEPT IN FULL

SIGNED  DATE: 5/5/90
David Lark B.App.Sci. MASM
Microbiologist



Concord Repatriation General Hospital

A Teaching Hospital of the University of Sydney

Contact
Reference

Telephone

Hospital Road
Concord NSW 2139

Telephone: (02) 736 7911
Facsimile: (02) 736 6991

CLIENT: Bio-oxygen (NSW) Pty Ltd
217 North Rocks Road
NORTH ROCKS NSW 2151

SAMPLE: Environmental Air, tested by Biotest Strips
collected from: **EDIBLE OIL INDUSTRIES**

RESULT:	WITHOUT	WITH	%
	BIO-OXYGEN	BIO-OXYGEN	REDUCTION
PROCESSING/ PACKAGING	18/22/93 11,500 CFU/M ³	23/11/93 188 CFU/M ³	98.4%

CFU/M³ = Colony forming units/cubic metre.

COMMENT: All quantitative results are expressed as CFU/metre³.

The National Institute for Occupational Safety & Health have set 500 CFU/M³ as an acceptable level of airborne viable microorganisms in occupied spaces and recommend that a level of 1000 is sufficient to warrant investigation and improvement.

Specialised environments such as medical, pharmaceutical manufacturing, food preparation and storage, etc. have more stringent requirements.

SM Yap 1/12/93

(Original Report in Chinese Writing)

Military Medical Sciences, Institute of Microbiology and Epidemiology

TEST REPORT

Bacteria Test

(Staphylococcus Aureus)

Report No: 2007-V-0005

Sample Tested: 'Bio-Oxygen' Air Purifier

Test Date: 2007, June 12th

Report Date: 2007, June 18th

Address: No. 20 Fengtai Domgdajie, Beijing
Postcode: 100071

Tel: 010 6694 8509
Fax: 010 6381 5259

Page 1/4

Declaration

1. The submission of this report is only responsible for the results of the sample.
2. If the present report is altered or deleted then it shall be invalid. If the report is not stamped with the official seal on every chapter then it shall be void.
3. A copy of this report shall be faxed for reference only but the original report shall prevail.
4. This report and the name of this body shall not be used for product labelling, trade description and advertising and so on.
5. Any disagreement with this report, following the report, called after one month, the original managers of the new provisions state that a late complaint shall be inadmissible.
6. The present report is in triplicate, a cross submission unit, the two archives.

Military Medical Sciences, Institute of Microbiology and Epidemiology

2005, January

Contact: Yue Zhao

Tel: 010 6694 8509

Fax: 010 6381 5259

Page 2/4

Institute of Microbiology and Epidemiology

Institute of Microbiology & Epidemiology

Test Report Sheet (Main Page)

Principal: Ming Duang

Company: Beijing Othai Environmental Science & Technology Co. Test Date: 2007, June 12

Name of Equipment: 'Bio-Oxygen' Air Purifier

Number of Equipment & Condition: one, normal in line for testing

Manufacturer: Beijing Othai Environmental Science & Technology Co.

Product Lot: N/A

Sample Code: 2007-V-0005

Sample Received by: Jianjun Zhao

Test Date: 2007, June 12

Purpose and Requirement of Test: To test the disinfection efficiency with microbial aerosols

Test Standard: Reference (Disinfection Technical Specifications – 2002 Edition)

Persons performing Test: Jianjun Zhao, Jie Wang, Gubuo Weng

Testing Conditions and Procedures (a brief description):

1. Micro-organism Tested: Staphylococcus Aureus 6538
2. TK Microbial Aerosol Generator, Anderson 6 airborne Microbial Sampler, Aerosol Counter and so on.
3. TK Microbial Aerosol Generator generating Staphylococcus Aureus produced aerosols, spray flow 8 l/minute. Aerosol concentration after 5 minutes: 1.4×10^5 and then turn on Air Purifier, adjust output to No.8 and test each sample for 5, 10 and 30 minutes. The sampling airflow capacity is 28.3 l/minute and the sampling time is 1 minute, 2 minutes respectively. The control group is tested without the air purifier for an equal time. The sampling airflow and time were the same.
4. The above tests are repeated 3 times.
5. The bacteria samples are then incubated at 37 C

Test Result

The average disinfection efficiency of the Bio-Oxygen Air Purifier is:

After 5 Minutes = 99.73%

After 10 Minutes = 99.91%

After 30 Minutes = 99.27%

The detailed results are shown on the attached table.

Test Person/Technical Title: Zhagbo Weng, Assistant Researcher
2007, June 18

Review Panel Signatures:

Wenchen Lu, Song Li, Kai Zhao

Under Institute Seal

Test Results

The Air Purifier was tested for the disinfection of *Staphylococcus Aureus* with the following results:

Number of times Tested	Disinfection Time (Minutes)	Control without Disinfection (CFU/m3)	Surviving Numbers (CFU/m3)	Test Group	
					Reduction (%)
1	5	120333	0		100
	10	38627	0		100
	30	12086	0		100
2	5	120333	247		99.79
	10	38627	35		99.91
	30	12086	0		100
3	5	120333	707		99.41
	10	38627	71		99.82
	30	12086	265		97.81

军事医学科学院微生物流行病学研究所

检测报告

Bacteria Test (Staphylococcus Aureus)

报告编号: 2007-V-0005

送检样品: 空气净化器

送检日期: 2007年6月12日

报告日期: 2007年6月18日

通信地址: 北京 丰台大东大街 20 号 联系电话: 010 6694 8509

邮政编码: 100071 传 真: 010 6381 5259

声 明

1. 本报告仅对此次送检样品的结果负责。
2. 本报告涂改、增删无效, 未加盖公章者、骑缝章无效。
3. 本报告的复印、传真件仅供参考, 检测结果以报告原件为准。
4. 本报告及本机构名称不得用于产品标签、商品说明和广告宣传等。
5. 对本报告如有异议, 在收到报告之日起一个月之内, 由原经办人持有效证件向本所提出申诉, 逾期不予受理。无副样者, 仅给予复核, 不重新检测。
6. 本报告一式三份, 一份交送检单位, 两份存档。

军事医学科学院微生物流行病学研究所

2005 年 1 月

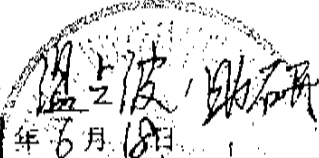
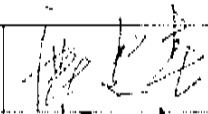
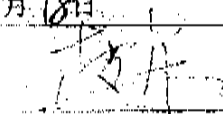
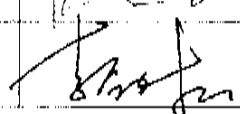
联系人: 赵月峨

联系电话: 010 6694 8509

传 真: 010 6381 5259

微生物流行病学研究所

检测报告单 (首页)

委托人 (单位名称)	殷敬 北京氧泰环保科技有限公司		送检日期	2007年6月12日	
样品名称	空气净化器	样品数量、状态说明	一台、正常符合检测要求		
生产厂家	北京氧泰环保科技有限公司	产品批号	无		
样品编号	2007-V-0005	样品接收人	赵建军	检测时间	2007年6月12-16日
送检目的与要求	测试空气净化器微生物气溶胶净化效率				
检测依据 (标准及名称)	参考《消毒技术规范》(2002版)				
检测人员	赵建军、王洁、温占波				
<p>检测条件及操作(简要说明):</p> <ol style="list-style-type: none"> 指示微生物: 金黄色葡萄球菌 6538。 TK 微生物气溶胶发生器、Anderson 六级空气微生物采样器、气雾机等。 TK 气溶胶发生器发生金黄色葡萄球菌气溶胶, 喷雾流量为 8L/min; 发生液浓度 1.4×10^5 个/毫升, 气溶胶发生时间为 5min, 然后打开净化器开关, 调至第 8 档, 在净化 5min、10min、30min 分别采样。采样流量为 28.3L/min, 采样时间分别为 1min、1min、2min。阳性对照组为不开净化器分别在相同时间点采样, 采样流量和采样时间相同。 以上测试重复 3 次。 采样平皿放入 37℃ 恒温箱中培养计数菌落数, 计算净化效率。 <p>检测结果:</p> <p>空气净化器对金黄色葡萄球菌气溶胶的净化效率三次平均值为:</p> <p>5 分钟净化效率为 $99.73 \pm 0.30\%$, 10 分钟净化效率为 $99.91 \pm 0.09\%$, 30 分钟净化效率为 $99.27 \pm 1.26\%$。详细结果见附页。</p>					
报告人(签名)/技术职称:			 2007年6月18日		
复核人(签字)			校核人(签字)		
签发人(签字)					

二、测试结果

附第 1 页

空气净化器金黄色葡萄球菌气溶胶杀菌净化结果

试验次数	作用时间 (min)	对照组存活菌数 (CFU/m ³)	试验组	
			存活数(CFU/m ³)	杀菌率(%)
1	5	120333	0	100
	10	38627	0	100
	30	12086	0	100
2	5	120333	247	99.79
	10	38627	35	99.91
	30	12086	0	100
3	5	120333	707	99.41
	10	38627	71	99.82
	30	12086	265	97.81

附页加盖骑缝章有效，页数填写到 4 页。

