BALANCING REPORT

PROJECT: Woods Hole Oceanographic Inst.
Woods Hole , Mass
Atlantis, Portable Lab Van,

DATE: 3/6/2013

TECHNICIAN: JACK WALSH
TABB CERTIFICATION: BB8094737

L E O N H A R D T

WELLESLEY, MASSACHUSETTS (781) 237-7200

LEONHARDT COMPANY, INC.
892 Worcester Street, Suite 220
Wellesley, Massachusetts 02482
Tel: (781) 237-7200 ~ Fax: (781) 237-3399

Fume Hood Testing and Certification Report

Facility:	Woods Hole Oceanographic Inst.	Test Date:	2/15/13
Building:	ATLANTIS	Re-Certification Due Date:	2/15/14
Room #:	HYDRO LAB	Hood Manufacturer:	LABCONCO
Hood #:	H-1	Velocity Sensor Manufacturer:	None

Sash Type: ☑ Vertical ☐ Horizontal ☐ Combo

Testing Services Performed

Velocity Profile: ☑ Pass ☐ Fail ☐ N/A ☐ ANSI/AIHA Z9.5-92
Sash Height: 18" Sash Width 41-1/2" ☑ SEFA 1.2-1996
Sash Height authorized by: Rick Galat - Facilities
Sash Operation: ☑ Operational ☐ Non-operational Face Velocity Sensor Calibrated: ☐ Yes ☑ No
Hood Lighting: ☑ Operational ☐ Non-operational

Certification Criteria:
- Acceptable face velocities on standard hood 90-110 FPM
- Acceptable face velocities on "Air Sentry" hood 70 FPM (+/- 10%).
- Sash height may be modified within reason to achieve face velocities.
- Target sash height is 20".

Service Remarks: NO FACE VELOCITY MONITOR

Face Velocity Profile

134	114	98

Velocity Totals: 346
No. of Readings: 3
Average Face Velocity: 115

Instrumentation

Test Instrument: Shortridge AirData Multimeter Calibration Date: 10/31/12
Model No.: ADM 870 Calibration Due Date: 10/31/13
Serial No.: M98404

Accessories: ☑ Velgrid ☑ Airfoil

Note: The velgrid accessory samples air velocity over a one square foot area.
Therefore only **three** readings are required to obtain an accurate average face velocity.

Technician: *JACK WASLSH*

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Fume Hood Testing and Certification Report

Facility:	Woods Hole Oceanographic Inst.	Test Date:	2/15/13
Building:	ATLANTIS	Re-Certification Due Date:	2/15/14
Room #:	WET LAB	Hood Manufacturer:	HAMILTON
Hood #:	H-2	Velocity Sensor Manufacturer:	None

Sash Type: ☑ Vertical ☐ Horizontal ☐ Combo

Testing Services Performed

Velocity Profile: ☑ Pass ☐ Fail ☐ N/A ☐ ANSI/AIHA Z9.5-92
Sash Height: 14-1/2" Sash Width 32-1/2" ☑ SEFA 1.2-1996
Sash Height authorized by: Rick Galat - Facilities
Sash Operation: ☑ Operational ☐ Non-operational Face Velocity Sensor Calibrated: ☐ Yes ☑ No
Hood Lighting: ☑ Operational ☐ Non-operational

Certification Criteria:
- Acceptable face velocities on standard hood 90-110 FPM
- Acceptable face velocities on "Air Sentry" hood 70 FPM (+/- 10%).
- Sash height may be modified within reason to achieve face velocities.
- Target sash height is 20".

Service Remarks: NO FACE VELOCITY MONITOR

Face Velocity Profile

98	100	101

Velocity Totals:	299
No. of Readings:	3
Average Face Velocity:	100

Instrumentation

Test Instrument: Shortridge AirData Multimeter Calibration Date: 10/31/12
Model No.: ADM 870 Calibration Due Date: 10/31/13
Serial No.: M98404
Accessories: ☑ Velgrid ☑ Airfoil
Note: The velgrid accessory samples air velocity over a one square foot area.
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Fume Hood Testing and Certification Report

Facility:	Woods Hole Oceanographic Inst.	Test Date:	2/15/13
Building:	ATLANTIS	Re-Certification Due Date:	2/15/14
Room #:	MAINE LAB	Hood Manufacturer:	LABCONCO
Hood #:	H-3	Velocity Sensor Manufacturer:	None

Sash Type: ☑ Vertical ☐ Horizontal ☐ Combo

Testing Services Performed

Velocity Profile: ☑ Pass ☐ Fail ☐ N/A ☐ ANSI/AIHA Z9.5-92 ☑ SEFA 1.2-1996

Sash Height: 13 Sash Width 41

Sash Height authorized by: Rick Galat - Facilities

Sash Operation: ☑ Operational ☐ Non-operational

Hood Lighting: ☑ Operational ☐ Non-operational

Face Velocity Sensor Calibrated: ☐ Yes ☑ No

Certification Criteria:
- Acceptable face velocities on standard hood 90-110 FPM
- Acceptable face velocities on "Air Sentry" hood 70 FPM (+/- 10%).
- Sash height may be modified within reason to achieve face velocities.
- Target sash height is 20".

Service Remarks: NO FACE VELOCITY MONITOR

Face Velocity Profile

97	95	92

Velocity Totals: 284
No. of Readings: 3
Average Face Velocity: 95

Instrumentation

Test Instrument: Shortridge AirData Multimeter — Calibration Date: 10/31/12
Model No.: ADM 870 — Calibration Due Date: 10/31/13
Serial No.: M98404

Accessories: ☑ Velgrid ☑ Airfoil

Note: The velgrid accessory samples air velocity over a one square foot area.
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Fume Hood Testing and Certification Report

Facility:	Woods Hole Oceanographic Inst.	Test Date:	2/15/13
Building:	ATLANTIS	Re-Certification Due Date:	2/15/14
Room #:	BIO-CLEAN LAB	Hood Manufacturer:	HAMILTON
Hood #:	H-4	Velocity Sensor Manufacturer:	None

Sash Type: ☑ Vertical ☐ Horizontal ☐ Combo

Testing Services Performed

Velocity Profile: ☑ Pass ☐ Fail ☐ N/A ☐ ANSI/AIHA Z9.5-92 ☑ SEFA 1.2-1996

Sash Height: 22 Sash Width 39

Sash Height authorized by: Rick Galat - Facilities

Sash Operation: ☑ Operational ☐ Non-operational

Face Velocity Sensor Calibrated: ☐ Yes ☑ No

Hood Lighting: ☑ Operational ☐ Non-operational

Certification Criteria:
- Acceptable face velocities on standard hood 90-110 FPM
- Acceptable face velocities on "Air Sentry" hood 70 FPM (+/- 10%).
- Sash height may be modified within reason to achieve face velocities.
- Target sash height is 20".

Service Remarks: NO FACE VELOCITY MONITOR

Face Velocity Profile

118	110	97

Velocity Totals: 325
No. of Readings: 3
Average Face Velocity: 108

Instrumentation

Test Instrument: Shortridge AirData Multimeter
Model No.: ADM 870
Serial No.: M98404
Calibration Date: 10/31/12
Calibration Due Date: 10/31/13

Accessories: ☑ Velgrid ☑ Airfoil

Note: The velgrid accessory samples air velocity over a one square foot area.
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Fume Hood Testing and Certification Report

Facility:	Woods Hole Oceanographic Inst.	Test Date:	2/15/13
Building:	PORTABLE LAB VAN	Re-Certification Due Date:	2/15/14
Room #:	RV KNORR	Hood Manufacturer:	HAMILTON
Hood #:	FLOW SCIENCES VENTRO WORK STATION	Velocity Sensor Manufacturer:	None
		Sash Type:	☐ Vertical ☐ Horizontal ☐ Combo

Testing Services Performed

Velocity Profile: ☑ Pass ☐ Fail ☐ N/A ☐ ANSI/AIHA Z9.5-92 ☑ SEFA 1.2-1996
Sash Height: 8" / 19" Sash Width 22-1/4"
Sash Height authorized by: Rick Galat - Facilities
Sash Operation: ☑ Operational ☐ Non-operational
Hood Lighting: ☐ Operational ☑ Non-operational
Face Velocity Sensor Calibrated: ☐ Yes ☑ No

Certification Criteria:
- Acceptable face velocities on standard hood 90-110 FPM
- Acceptable face velocities on "Air Sentry" hood 70 FPM (+/- 10%).
- Sash height may be modified within reason to achieve face velocities.
- Target sash height is 20".

Service Remarks:
THIS IS A CUSTOM HOOD WITH HINGED DOOR THAT OPENS SO THAT MATERIAL CAN BE ADDED. READINGS TAKEN WITH DOOR OPEN (19") AND WITH DOOR CLOSED (8") BOTH SET OF READINGS WERE TAKEN WITH FAN AT HIGH SPEED.

Face Velocity Profile

@ 19"	@ 8"
230 215 200	125

DOOR HEIGHT	19"	8"
Velocity Totals:	645	125
No. of Readings:	3	1
Average Face Velocity:	215	125

Instrumentation

Test Instrument: Shortridge AirData Multimeter
Model No.: ADM 870
Serial No.: M98404
Calibration Date: 10/31/12
Calibration Due Date: 10/31/13
Accessories: ☑ Velgrid ☑ Airfoil
Note: The velgrid accessory samples air velocity over a one square foot area.
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Facility:	Woods Hole Oceanographic Inst.	Test Date:	2/15/13
Building:	ATLANTIS	Re-Certification Due Date:	2/15/14
Room #:	ISOTOP	Hood Manufacturer:	FLOW SCIENCE
Hood #:	H-5 FLOW SCIENCE	Velocity Sensor Manufacturer:	None
	VENTRO WORK STATION	Sash Type:	☐ Vertical ☐ Horizontal ☐ Combo

Testing Services Performed

Velocity Profile: ☑ Pass ☐ Fail ☐ N/A ☐ ANSI/AIHA Z9.5-92
Sash Height: 8" / 19" Sash Width 22-1/4" ☑ SEFA 1.2-1996
Sash Height authorized by: Rick Galat - Facilities
Sash Operation: ☑ Operational ☐ Non-operational Face Velocity Sensor Calibrated: ☐ Yes ☑ No
Hood Lighting: ☐ Operational ☑ Non-operational

Certification Criteria:
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- Sash height may be modified within reason to achieve face velocities.
- Target sash height is 20".

Service Remarks:
THIS IS A CUSTOM HOOD WITH HINGED DOOR THAT OPENS SO THAT MATERIAL CAN BE ADDED. READINGS TAKEN WITH DOOR OPEN (19") AND WITH DOOR CLOSED (8") BOTH SET OF READINGS WERE TAKEN WITH FAN AT HIGH SPEED. FAN DISCHARGE DUCT HAS BEEN RELOCATED TO OPPOSITE SIDE OF VAN WHICH MAY AFFECT AIR VELOCITY READINGS

Face Velocity Profile

@ 19"	@ 8"
132 140 129	85

DOOR HEIGHT	*19"*	*8"*
Velocity Totals:	401	85
No. of Readings:	3	1
Average Face Velocity:	134	85

Instrumentation

Test Instrument: Shortridge AirData Multimeter Calibration Date: 10/31/12
Model No.: ADM 870 Calibration Due Date: 10/31/13
Serial No.: M98404
Accessories: ☑ Velgrid ☑ Airfoil
Note: The velgrid accessory samples air velocity over a one square foot area.
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