TEST REPORT NO. 56261

wyle laboratories

TEST, ENGINEERING AND RESEARCH GROUP, SAN BERNARDINO

Pelican Products, Inc.
23215 Early Avenue
Torrance, CA 90505

Our Job No.	T56261
Contract	—
Your P.O. No.	4500001654
Date	November 19, 2008

This report contains true and correct data obtained in the performance of the test program set forth in your purchase order. Test methods, results, and equipment used are recorded on these data sheets.

Where applicable, instrumentation used in obtaining this data has been calibrated using standards which are traceable to the National Institute of Standards and Technology.

SUMMARY:

One (1) Toolbox, Part No. 0450 and identified as W1, was subjected to Immersion Testing in accordance with MIL-STD-810F, Paragraph 512.4.

One (1) Toolbox, Part No. 0450 and identified as W2, was subjected to Blowing Dust Testing in accordance with MIL-STD-810F, Paragraph 510.4.

Complete test details, including photos and equipment list, and test results are contained in this report.

Test Dates: 11/17/08-11/18/08

STATE OF CALIFORNIA
COUNTY OF SAN BERNARDINO } SS.

Douglas G. Anderson, being duly sworn, deposes and says: That the information contained in this report is the result of complete and carefully conducted tests and is to the best of his knowledge true and correct in all respects.

11-19-08

SUBSCRIBED and sworn to before me this 19 day of NOV, 2008 by Douglas G. Anderson proved to me on the basis of satisfactory evidence to be the person who appeared before me.

CAROL A. GARRITY
Commission # 1791094
Notary Public - California
San Bernardino County
My Comm. Expires Mar 8, 2012

TEST OPERATIONS

TEST ENGINEER 11/19/08
M. Bovard

DEPT. MANAGER 11/19/08
T. Knoll

QUALITY ASSURANCE 11/19/08
J. Cornejo

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DATA SHEET

Customer Pelican Products Inc. **Job No.** T56261

Date 11/17/2008

Specimen Toolbox

RECEIVING INSPECTION

No. of Specimens Received: 2 (Two)

Record identification information exactly as it appears on the tag or specimen:

Manufacturer: Pelican Products

P/N's	S/N's
0450	W1 (Dust Test)
0450	W2 (Immersion Test)

How does identification information appear: (name plate, tag, painted, imprinted, etc.)

Part number was customer provided.

Examination: Visual, for evidence of damage, poor workmanship, or other defects, and completeness of identification.

Inspection Results: There was no visible evidence of damage to the specimen(s) unless otherwise noted below.

recinsp

Inspected By 11-17-08

Sheet No. 1 of 1

Approved Date 11/19/08

SB – 614 – Rev. 08/06

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DATA SHEET

Test Title Immersion

Customer	Pelican Products Inc.	**Job No.**	T56261
Specimen	Toolbox	**Date Started**	11/17/2008
Part No.	See Recv. Insp. **Serial No.** See Recv. Insp.	**Date Comp.**	11/17/2008
Spec.	MIL-STD-810F **Par.** 512.4 **Photo** Yes	**Amb. Temp.**	77 ± 18°F

Requirements:

No. of Specimens:	One (1)
Temperature:	Temperature of the test item should be no less than 27°C above the water temperature immediately before immersion
Conditioning:	2 hours before water exposure
Water Level:	1 m covering depth, measured from the uppermost surface of the test item to the surface of the water
Soak Duration:	30 minutes

Test Method:

With the test item at standard ambient conditions perform a visual inspection. Prior to conditioning and testing the test item shall be unlatched, opened, closed, and re-latched 10 times. Condition the test item for 2 hours at no less than 27°C above the temperature of the water to be used for immersion.

Immerse the test item in water so that the uppermost point of the test item is no less than 1 m below the surface of the water. The test item shall be tied down using the handles or the tiedown points or weighted with other loaded units stacked upon the test item. The test item shall remain immersed in water for no less than 30 minutes.

Upon completion of the immersion period, remove the test item from the water and wipe the exterior surfaces dry. Perform a visual inspection and check for the presence of water inside the test item. Document all results.

Test Results:

All testing was performed per the Test Method and Requirements stated above. No visible evidence of water penetration or damage to the test specimen was observed upon completion of testing.

Tested By 11-17-08

Engineer 11/19/08

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Photograph 1
Immersion Test Pre-Conditioning

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Photograph 2
Immersion Test

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Photograph 3
Post Immersion Test

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Photograph 4
Post Immersion Test

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Photograph 5
Post Immersion Test

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Photograph 6
Post Immersion Test

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Pelican Products Inc J/N-T56261

Toolbox

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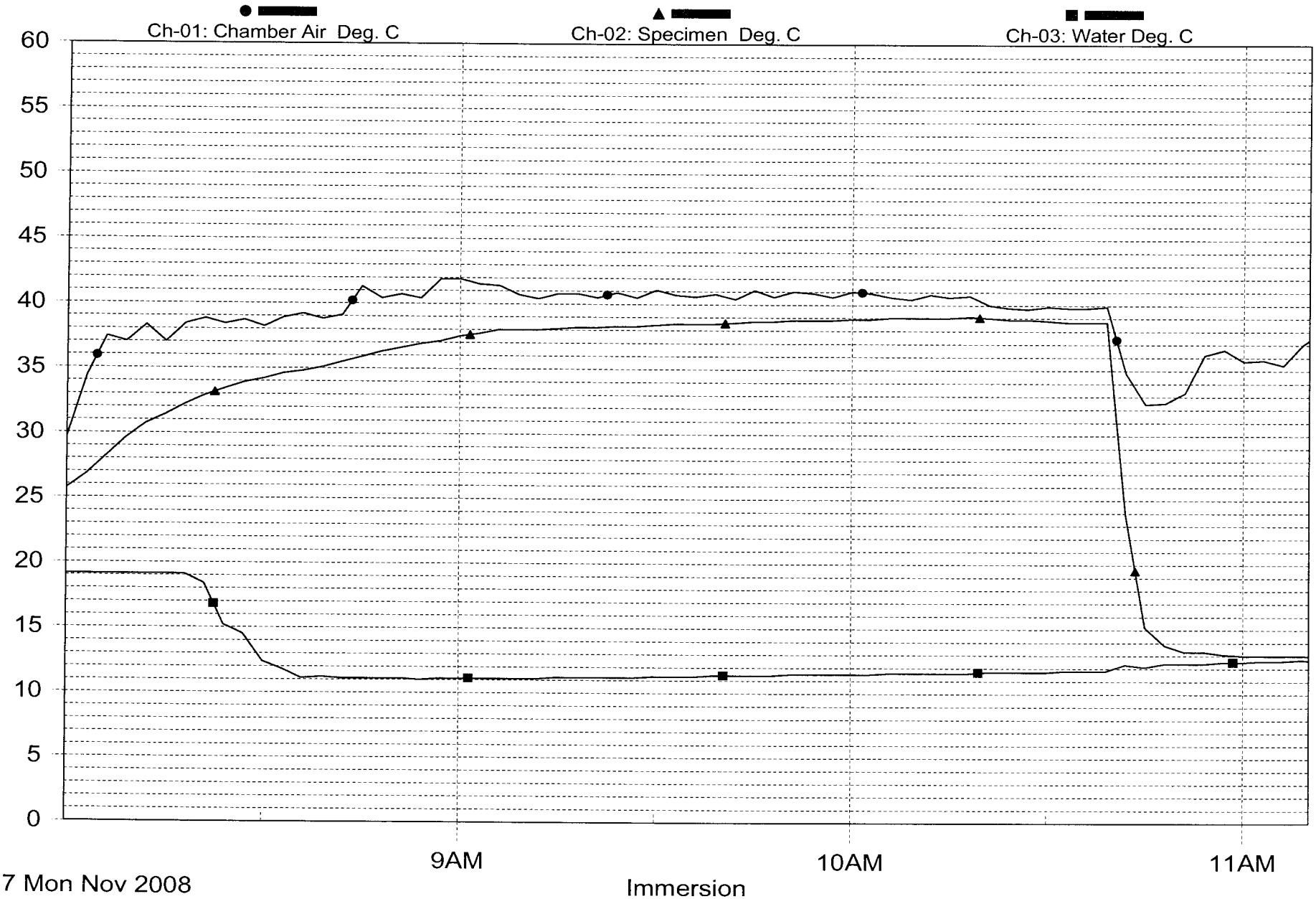

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TEST TITLE: Immersion

CUSTOMER: Pelican Products Inc. Job No.: T56261 Date: 11/17/2008

Specimen: Toolbox Technician: I. Garcia IG 11-17-08

Part No.: See Recv. Insp. Serial No.: See Recv. Insp. Engineer: M. Bovard MB 11/19/08

EQUIPMENT	MANUFACTURER	MODEL #	RANGE	WYLE #	CALIBRATION		ACCY.
					LAST	DUE	
Chamber - Environmental	Bally	Chamber 1	-80 to +240°F & Rh / 8' x 8' x 7'10" / CO2 & LN2	W50713	* System	Calibration *	Mfg. Spec.
Controller - Chamber	Watlow / Omega	920 / CN9000	-100° to 240°F	W50707	* System	Calibration *	Mfg. Spec.
Multimeter/DAS	Keithley	2700	10VDC & Type T TC's	W12435	10/03/2008	10/03/2009	±2%
Multiplexer Module	Keithley	7700	20 Channels Volts or TC's	W50701	10/03/2008	10/03/2009	Mfg. Spec.
Stopwatch	Micronta	63 5010	10 Hrs.	W10298	06/18/2008	12/18/2008	.1 Sec.
Tape Measure	Lufkin	AL725MAG	0 to 25 Feet	W50758	12/18/2007	12/18/2008	Mfg. Spec.

W-616 rev 01

Where applicable, the listed test equipment has been calibrated using standards which are traceable to the National Institute of Science & Technology. Certificates and reports of all calibrations are retained in the Wyle Laboratories QA files and are available for inspection upon request. *Equipment identified as System Calibration are verified prior to use.

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DATA SHEET

Test Title Blowing Dust

Customer	Pelican Products Inc.			**Job No.**	T56261
Specimen	Toolbox			**Date Started**	11/17/2008
Part No.	See Recv. Insp.	**Serial No.**	See Recv. Insp.	**Date Comp.**	11/18/2008
Spec.	MIL-STD-810F	**Par.** 510.4	**Photo** Yes	**Amb. Temp.**	25 ± 10°C

Requirements:

Temperature (°F):	77 ± 3.6	150 ± 3.6	150 ± 3.6
Humidity (%):	<30	<30	<30
Air Velocity (ft/min):	1750 ± 175	approx. 300	1750 ± 175
Dust Concentration (g/m^3):	10.6 ± 7	none	10.6 ± 7
Dust Size:	100% less than 150 µm		
Total Duration (hrs):	6	1	6
Orientation:	Most vulnerable face exposed to dust stream		

Test Method:

Install the test item in the test chamber and ensure that it is securely connected w/ a grounding strap to facility ground. Verify that no more than 50% of the cross sectional area (normal to the airflow) and 30% of the volume of the test chamber is occupied by the test specimen. Instrument the test item with a thermocouple and photograph the test setup.

Stabilize the chamber conditions to 77 ± 3.6°F and <30% relative humidity. Adjust the air velocity to 1750 ± 175 ft/min (8.9 m/s). Allow dust to enter the airstream at a rate of 10.6 ± 7g/m^3 (0.3 ± 0.2 g/ft^3). Maintain these conditions for a period of 6 hours. Note: If necessary, the test can be stopped after the first 6-hour period provided that prior to starting the second 6-hour period the chamber conditions are restabilized and held for 1 hour.

At the conclusion of the 6-hour period, stop the dust feeder and reduce the air velocity to approximately 300 ft/min. Raise the chamber temperature to 150 ± 3.6°F with the humidity < 30%. Maintain these conditions for a minimum of 1 hour following stabilization of the chamber.

Adjust the air velocity to 1750 ± 175 ft/min (8.9 m/s) while maintaining a temperature of 150 ± 3.6°F and relative humidity < 30%. Allow dust to enter the airstream at a rate of 10.6 ±7 g/m^3 (0.3 ± 0.2 g/ft^3). Maintain these conditions for a period of 6 hours.

Upon completion of the testing, turn off all chamber controls and allow the test item to return to standard ambient conditions and the dust to settle. Remove accumulated dust from the test item by brushing, wiping, or shaking, taking care to avoid introducing additional dust into the test item. Do not remove dust by either air blast or vacuum cleaning. Perform a visual examination for dust penetration, as well as evidence of damage or deterioration. Document all results.

(continued)

Tested By 11/18/08
Engineer 11/19/08

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DATA SHEET

Test Title	Blowing Dust	**Date**	11/18/2008
Customer	Pelican Products Inc.	**Job No.**	T56261
Specimen	Toolbox	**Technician**	S. Paysen SP 11/18/08
Part No.	See Recv. Insp. **Serial No.** See Recv. Insp.	**Engineer**	M. Bovard MB 11/19/08

(continued)

Test Results:

The test was performed following the test method and requirements stated above. Upon completion of the test the accumulated dust was removed from exterior of the test specimen. No dust was observed in the interior of the specimen during the inspection for dust ingression. Photos were taken before and after testing.

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Photograph 7
Blowing Dust Test Setup

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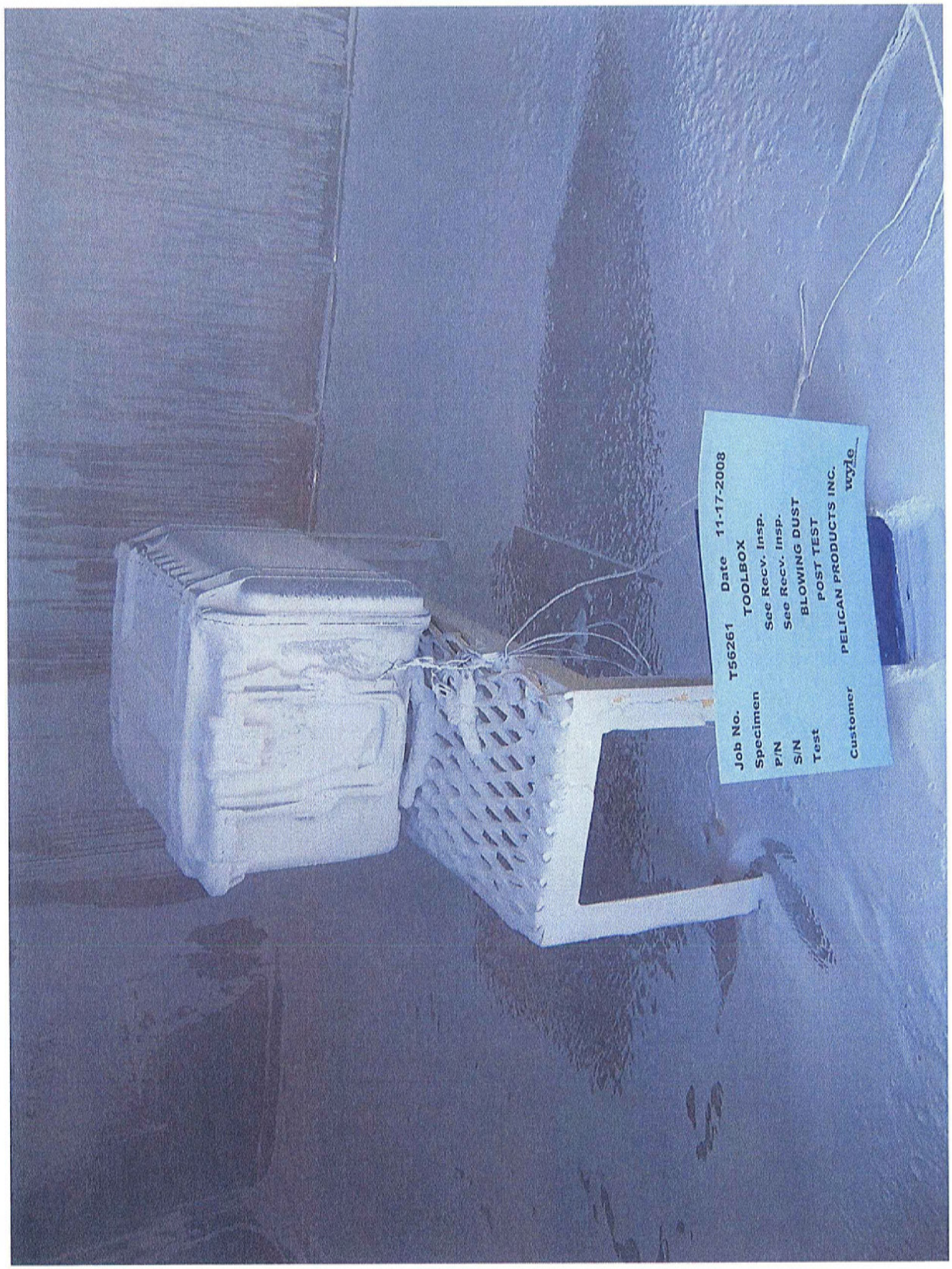

Photograph 8
Post Blowing Dust Test

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Photograph 9
Post Blowing Dust Test

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Photograph 10
Post Blowing Dust Test

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Pelican Products Inc J/N-T56261

Tool Box S/N: W1

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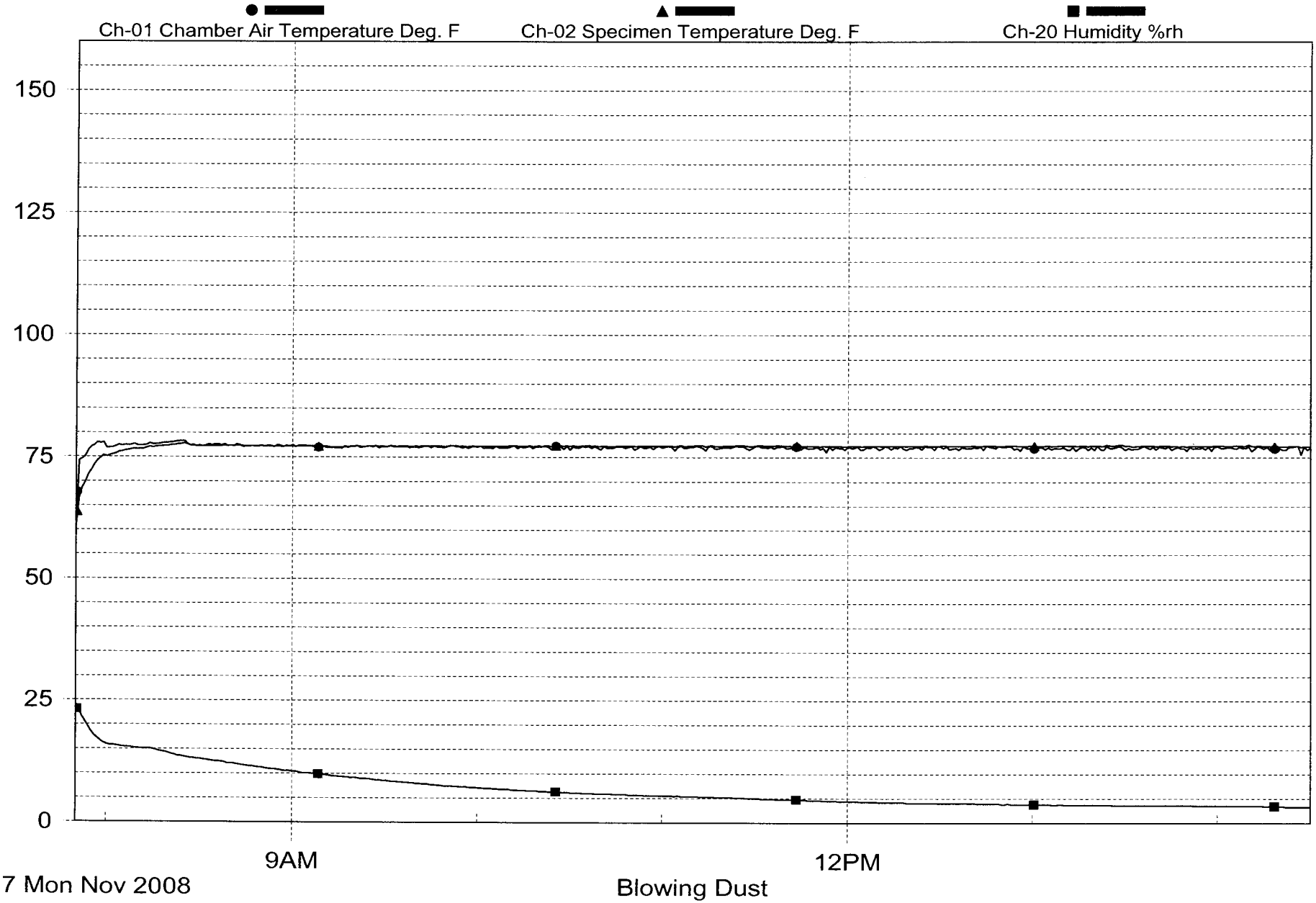

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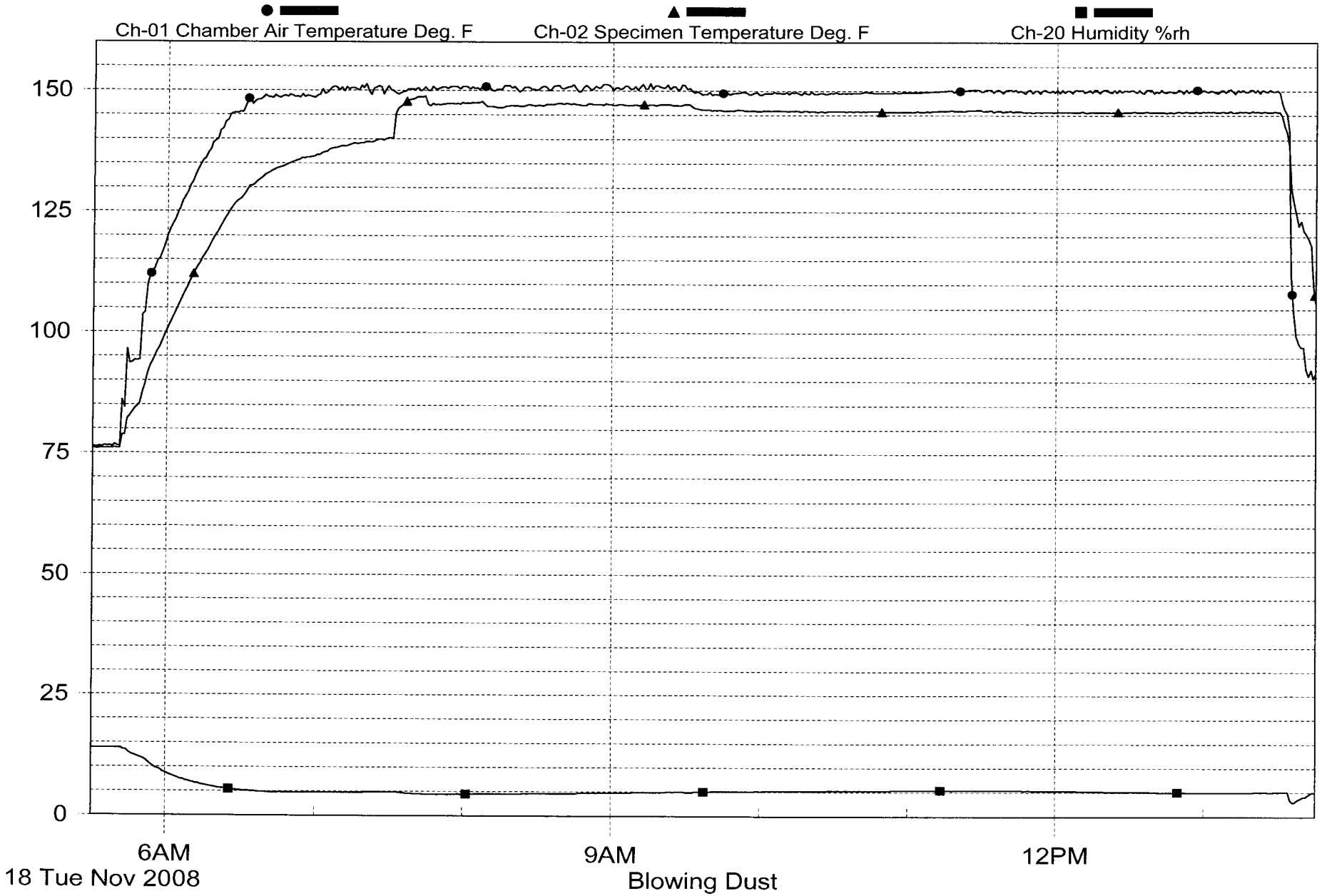
Pelican Products Inc J/N-T56261

Tool Box S/N: W1

File: D:\WyleDL\56261A101.prn

11-18-2008 14:29:17 DL2k5



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TEST TITLE: Blowing Dust

CUSTOMER: Pelican Products Inc. Job No.: T56261 Date: 11/14/2008

Specimen: Toolbox Technician: S. Paysen SP 11/14/08

Part No.: See Recv. Insp. Serial No.: See Recv. Insp. Engineer: M. Bovard MB 11/19/08

EQUIPMENT	MANUFACTURER	MODEL #	RANGE	WYLE #	CALIBRATION		ACCY.
					LAST	DUE	
Anemometer	TSI	8345	0 to 6000 ft/min	W50764	09/11/2008	03/11/2009	3% rdg or ±3 ft/min
Balance	Ohaus	E120	120 Grams	W11886	03/13/2008	03/13/2009	.002 Gram
Chamber - Environmental	Wyle	Dust	-60 to +180°F / 11' x 7' x 7' / LN2	W50716	* System	Calibration *	Mfg. Spec.
Controller - Chamber	Watlow / Omega	922 / CN9000	-100° to 240°F	W50708	* System	Calibration *	Mfg. Spec.
High Volume Air Sampler	Staplex	TFIA	70CFM	W09584	* System	Calibration *	Mfg. Spec.
Multimeter/DAS	Keithley	2700	10VDC & Type T TC's	W13690	11/04/2008	11/04/2009	±2%
Multiplexer Module	Keithley	7700	20 Channels Volts or TC's	W14903	11/04/2008	11/04/2009	Mfg. Spec.
Rh Probe	Vaisala	HMP135	0 - 100% rH	W11874	08/05/2008	02/05/2009	3%
Stopwatch	Micronta	63 5010	10 Hrs.	W10298	06/18/2008	12/18/2008	.1 Sec.

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