CASCADE™ TEK

TEST REPORT

CTC C1009-1

April 28, 2014

Accredited by
American Association for
Laboratory Accreditation (A2LA)

Certified Commercial
Package Testing Laboratory
(ISTA)

MIL-STD Laboratory
Suitability Status by
Defence Logistics Agency (DLA)

LABORATORY LOCATIONS

OREGON
5245-A NE Elam Young Pkwy.
Hillsboro, OR, 97124 • Ph: 503-648-1818

COLORADO
1530 Vista View Drive
Longmont, CO, 80504 • Ph: 720-340-7810

www.cascadetek.com

Job Number: C1009-1

Rev.	Description of the Revision	Date
---	Initial Release of the Certification Report.	April 28, 2014

Test Title	Test Summary
Atmospheric Conditioning	The test was conducted per the required standard with no deviations.

Cascade Technical Sciences
www.cascadetek.com
1-888-835-9250

TESTING CERT #2582.02

April 28, 2014

Certification No: CTC C1009-1

Attention: Mr. Bob Giese
SVTS Global
15334 E Hinsdale Circle, Unit 1E
Centennial, CO 80112

Reference:

a. Cascade Tek Job No.:	C1009-1
b. Cascade Tek Quote No.:	CTQ 14235A
c. Client Purchase Order No.:	N/A
d. Technical Specification:	1. ISTA 3E

Cascade Technical Sciences hereby certifies that Two (2) GOS-48x40 Pallets were subjected to the following test:

1. Atmospheric Conditioning Test per Reference (b) Item 1 and (d1) Sequence 2: Samples with customer-supplied test loads on top were subjected to +100°F and 85%RH for 72 hours.

Testing was done in accordance with the above references as evidenced and reported in the accompanying data. The test samples were returned to the customer's facility for evaluation.

The original of this report is on file at Cascade Technical Sciences, Inc. under the above referenced certification number for review by authorized personnel. The results of the testing reported herein relate only to the actual items tested.

Respectfully submitted,

David Bowles
Quality Administrator
Cascade Technical Sciences, Inc.

Total number of pages in this document is 62.

The objective of this test program was to subject customer provided test hardware to environmental simulation in compliance with customer stated specification, including any authorized modification, deviations or concessions to the original requirements. The hardware consisted of items identified in the appropriate sections of this report. In addition to test hardware identification, each section contains information that describes the associated test setup and performance and the resulting data. Cascade TEK, Inc. measuring instruments used in testing were calibrated according to the requirements of ANSI/NCSL Z540-1-1944 and ISO/IEC 17025, 2nd Edition and are NIST traceable. Calibration records are on file and available for inspection by request. Because the test methods are well established and are qualitative or semi-quantitative in nature, Cascade TEK, Inc. does not apply measurement uncertainty unless obligated by contract. Measured value related to the corresponding tolerance requirement is used to decide whether a test meets the requirements of the specification. Any test hardware operational setups and resulting evaluations or inspections performed by the customer are not included in this report, unless they were explicitly requested. While observations and/or specification compliance statements may be reported, no interpretations or opinions regarding customer product performance are intended. Unless otherwise indicated in the appropriate report section, all contract obligations were met and the test objective achieved.

Test Data Log

Job Number: C1009-1
Customer: SVTS

Date Started: 4/21/2014
Date Completed: 4/25/2014

Reviewing Engineer: David Bowles
Signature: 

Responsible Technician: Keefe Hart

Type of Test: Temperature/Humidity
Test Specification: ISTA 3E Sequence 2

Specimen Description: Shipping/warehousing pallet

Specimen P/N or Model No.	Specimen S/N
GOS-48x40	Sample 1
GOS-48x40	Sample 2

Laboratory Temperature: +69

Laboratory Humidity: 22% RH

Test Description: Samples will be subjected to +100°F and 85% RH for a continuous period of 72 hours. At the conclusion of the 72 hour exposure, chamber will remain at exposure set points until customer is onsite.

Initials	Date	Time	Notes	Photo
KH	4/21/2014	1000	Customer onsite to deliver components and product for testing.	☐
KH	4/22/2014	1000	Customer onsite to set up racks and samples with test loads in chamber 1267.	☒
KH	4/22/2014	1030	Chamber is loaded. We will bring the temperature to +100°F (+38°C) and then slowly raise the RH to avoid overshoot. Over/under temp limits are set at +10°C and +45°C.	☒
KH	4/22/2014	1115	Chamber temperature is +100°F (+38°C) and humidity is 84.8%; start exposure time.	☐
KH	4/22/2014	1555	Chamber temperature is +100°F (+38°C) and humidity is 84.8%; continue exposure.	☐
KH	4/23/2014	0815	Chamber temperature is +100°F (+38°C) and humidity is 85.1%; continue exposure.	☐
KH	4/23/2014	1620	Chamber temperature is +100°F (+38.1°C) and humidity is 85.1%; continue exposure.	☐
KH	4/24/2014	0827	Chamber temperature is +100.0°F (+38.0°C) and humidity is 85.0%; continue exposure.	☐
KH	4/24/2014	1600	Chamber temperature is +100.0°F (+38.0°C) and humidity is 85.1%; continue exposure.	☐
KH	4/25/2014	0755	Chamber temperature is +100.0°F (+38.0°C) and humidity is 85.0%; continue exposure.	

Initials	Date	Time	Notes	Photo
KH	4/25/2014	1100	Exposure period is complete. Chamber will be brought back to ambient conditions over a 30 minute period. Customer is onsite to evaluate testing results.	☐
KH	4/25/2014	1120	Chamber is opened and customer evaluates condition of samples. Photos are taken per customer instructions.	☒
KH	4/25/2014	1130	Weight loads are removed and samples are taken out of the chamber.	☐
KH	4/25/2014	1145	Testing is complete.	☐

DS2 - Test Equipment List

Test: Temperature Humidity **Job Number:** C1009-1 **Date:** 4/21/2014

Test Equipment List						
Equipment Description	**Manufacturer**	**Model**	**S/N**	**Cal No.**	**Calibrated Date (mm/dd/yy)**	**Calibration Due Date (mm/dd/yy)**
Walk In Temperature/Humidity Chamber	Espec	EWPX823-30CW	358174	1267	06-25-13	06-25-14
Digital Temp/ RH Meter	Cole Palmer	90080-03	130033077	FR417	03-27-13	03-27-15
Tape Measure	Stanley	FatMax	---	FR66	Verified	Before Use

Start Time : 2014/04/22 10:45:50.000
Stop Time : 2014/04/23 10:45:40.000

Printed Group : GROUP 2
Printed Range : 2014/04/22 10:45:50.000 - 2014/04/23 10:45:40.000
Comment : SVTS Global, Job #C1009-1

Start Time : 2014/04/23 10:45:50.000
Stop Time : 2014/04/24 10:45:40.000

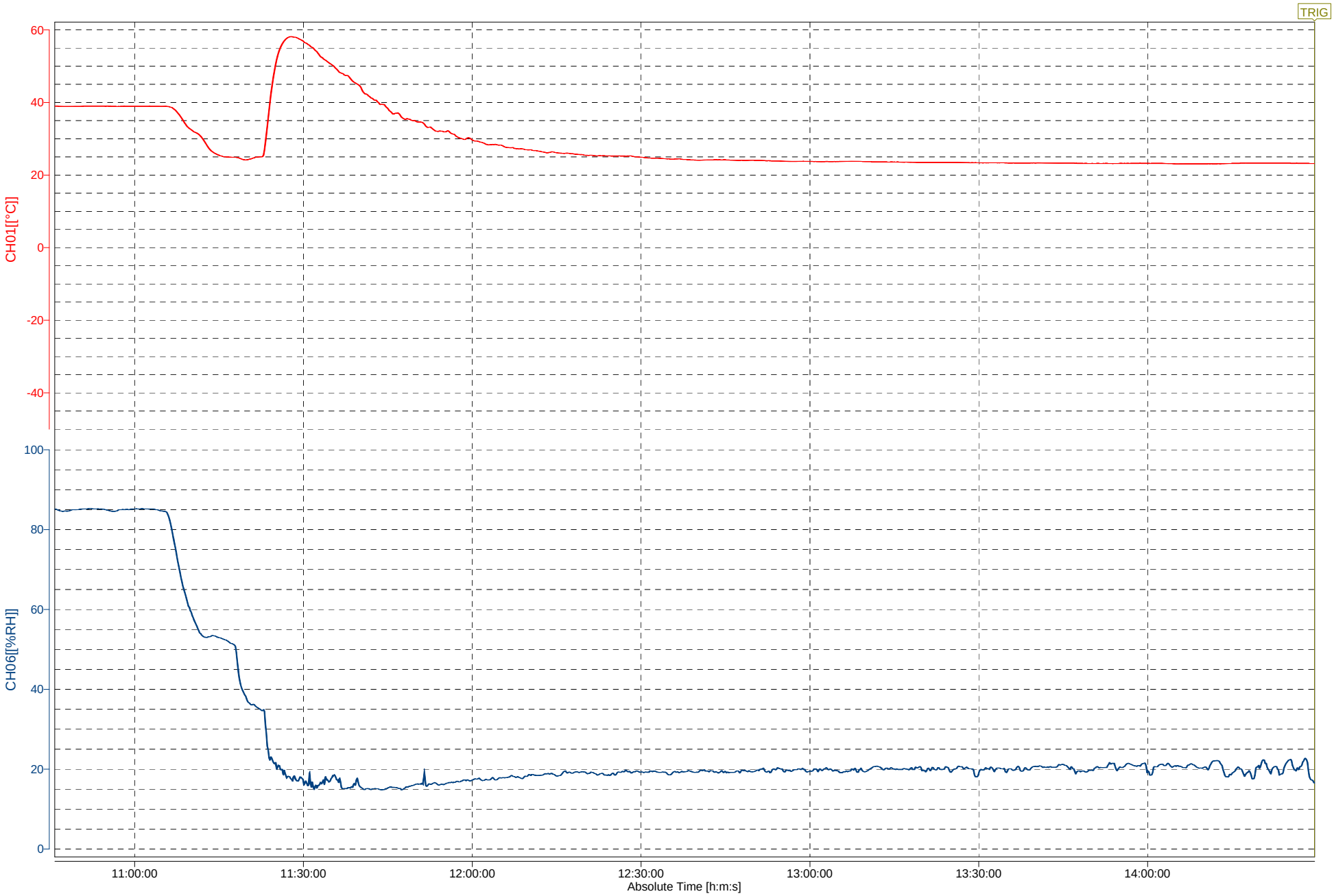
Printed Group : GROUP 2
Printed Range : 2014/04/23 10:45:50.000 - 2014/04/24 10:45:40.000
Comment : SVTS Global, Job #C1009-1

Start Time : 2014/04/24 10:45:50.000
Stop Time : 2014/04/25 10:45:40.000

Printed Group : GROUP 2
Printed Range : 2014/04/24 10:45:50.000 - 2014/04/25 10:45:40.000
Comment : SVTS Global, Job #C1009-1

Start Time : 2014/04/25 10:45:50.000
Stop Time : 2014/04/25 14:29:40.000

Printed Group : GROUP 2
Printed Range : 2014/04/25 10:45:50.000 - 2014/04/25 14:29:40.000
Comment : SVTS Global, Job #C1009-1



PRE-EXPOSURE PHOTOS


GreenOX
PALLET TECHNOLOGY
Patent No. 7,234,402
04/22/2014


GreenOX
PALLET TECHNOLOGY
Patent No. 7,234,402
04/22/2014


GreenOX.
PALLET TECHNOLOGY
Patent No. 7,234,402
04/22/2014


GreenOx
04/22/2014


04/22/2014


04/22/2014


GreenOX
04/22/2014


GreenOX.
PALLET TECHNOLOGY
Patent No. 7,234,402
04/22/2014


GreenOX.
PALLET TECHNOLOGY
Patent No. 7,234,402
04/22/2014


GreenOX
PALLET TECHNOLOGY
04/22/2014


GreenOX
04/22/2014


GreenOX.
PALLET TECHNOLOGY
Patent No. 7,234,402
04/22/2014


Green
X.
PALLET TE
OGY
Patent
4,402
04/22/2014


04/22/2014


GreenOX
04/22/2014


GreenOX
PALLET TECHNOLOGY
04/22/2014


GreenOX
PALLET TECHNOLOGY
04/22/2014


#10
GreenOX
04/22/2014


GreenOX
04/22/2014


nOX.
T TECHNOLOGY
tent No. 7,234,402
04/22/2014

Gre

04/22/2014


Gree
OX
PAL
ECHNOLOGY
No. 7,234,402
04/22/2014


GreenOX
PALLET TECHNOLOGY
04/22/2014


GreenOX
Date: 04-22–2014
SVTS Global
Job C1009-1
Atmospheric
Conditioning
04/22/2014

POST-EXPOSURE PHOTOS


GreenOX.
PALLET TECHNOLOGY
04/25/2014


60
04/25/2014


04/25/2014


GreenOX
04/25/2014


cascadetek.com
Front Range
720-340-7810
Date: 04-25–2014
SVTS Global
Job C1009-1
Atmospheric Cond.
Post Exposure
GreenOX
PALLET TECHNOLOGY
04/25/2014


GreenOX
Date: 04-25-2014
SVTS Global
Job C1009-1
Atmospheric Cond.
Post Exposure
04/25/2014

GreenOX
PALLET TECHNOLOGY

04/25/2014


04/25/2014


04/25/2014


04/25/2014


GreenOX
04/25/2014


GreenOX
PALLET TECHNOLOGY
Patent No. 7,234,402
04/25/2014


Gree
PALLE
Pa
04/25/2014


enOX
LET TECHNOLOGY
Patent No. 7,234,402
04/25/2014


GreenOX
04/25/2014


2F
60
04/25/2014
TECHNOLOGY


04/25/2014


GreenOx
04/25/2014


04/25/2014


04/25/2014

GreenOx
PALLET TECHNOLOGY
Patent No. 7,234,402
04/25/2014


04/25/2014


04/25/2014


04/25/2014


enox
LLET TECHNOLOGY
Patent No. 7,234,402
04/25/2014