



Performance
Validation
Integrity

REPORT TO: PackagingSupplies.com
1120 W 130th St.
Brunswick, Ohio. 44212

PROJECT: Temperature Validation

PROJECT NUMBER: T20720-122

LAB NUMBER: HQE3

DATE: March 24th, 2020

IDENTIFIER: AirSea USA Item #9255
Gel Bricks 2-8°C
48 Hour

Temperature Profile Performance Testing was completed on one (1) type of packages in accordance with standard laboratory practices and referenced test methods. The results of the test are presented in the accompanying report. The results contained in this report are related only to the items tested.

Please contact HighQ should you have any questions concerning this report.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Barry E. Johnston".

Barry E. Johnston
HighQ, LLC



SCOPE OF SERVICES

General

On March 21st, 2020, the following package was submitted to HighQ, LLC for Temperature Profile Validation Testing.

Purpose of Validation

The AirSea USA Item #9255 is used to ship samples which require refrigeration and must maintain defined temperatures until they reach their destination. The report is to indicate the testing that is required, not inclusive of IATA requirements. The testing is to ensure that samples stay at their selective temperatures when exposed to simulated environmental conditions.

Description of Packaging per each Package

Inner Box

Description:	81 Slot Cryovial Box
Material:	Chip Board
Closure Type:	Layover Top
Quantity:	2
Tare Weight:	106 Grams Each – 212 Grams Combined

Primary Receptacle:

Description:	Cryovial
Closure Type:	Threaded Screw Cap
Quantity:	81
Tare Weight:	6.3 Grams Each – 510.3 Grams Combined

Refrigerant:

Description:	Gel Brick
Quantity:	4
Tare Weight:	657.9 Grams Each – 2,631.6 Grams Combined



Refrigeration System:

Description: EPS Cooler
Material: Expanded Polystyrene- High Density
Wall Thickness: 2 ½"
Closure Type: Seat Fitted Lid
Quantity: 1
Tare Weight: 1282.3 grams

Weight as tested: 4,848.2 Grams – 10.68 lbs

Packaging

All packaging was prepared and assembled in an ambient environment of approximately 22°C.

Test Procedure

Temperature probes were affixed inside cryovial boxes then placed into AirSea USA Insulated Shipper item #9255, then surrounded with four (4) 1.5 lb. Gel Bricks. Gel Bricks were frozen overnight at -18°C. The Gel Bricks were placed on all four sides of the internal packaging. Packages were immediately placed into the environmental chamber where the temperature was recorded by the probes in 10-minute intervals for 48 hours.

Temperature Probe Calibration Data

Temperature Probe Data		
Serial Number	Calibration Date	Recalibration Date
Chamber		
2001311004	03-2020	03-2022
Kit 1		
2001311005	03-2020	03-2022
Kit 2		
2001311002	03-2020	03-2022



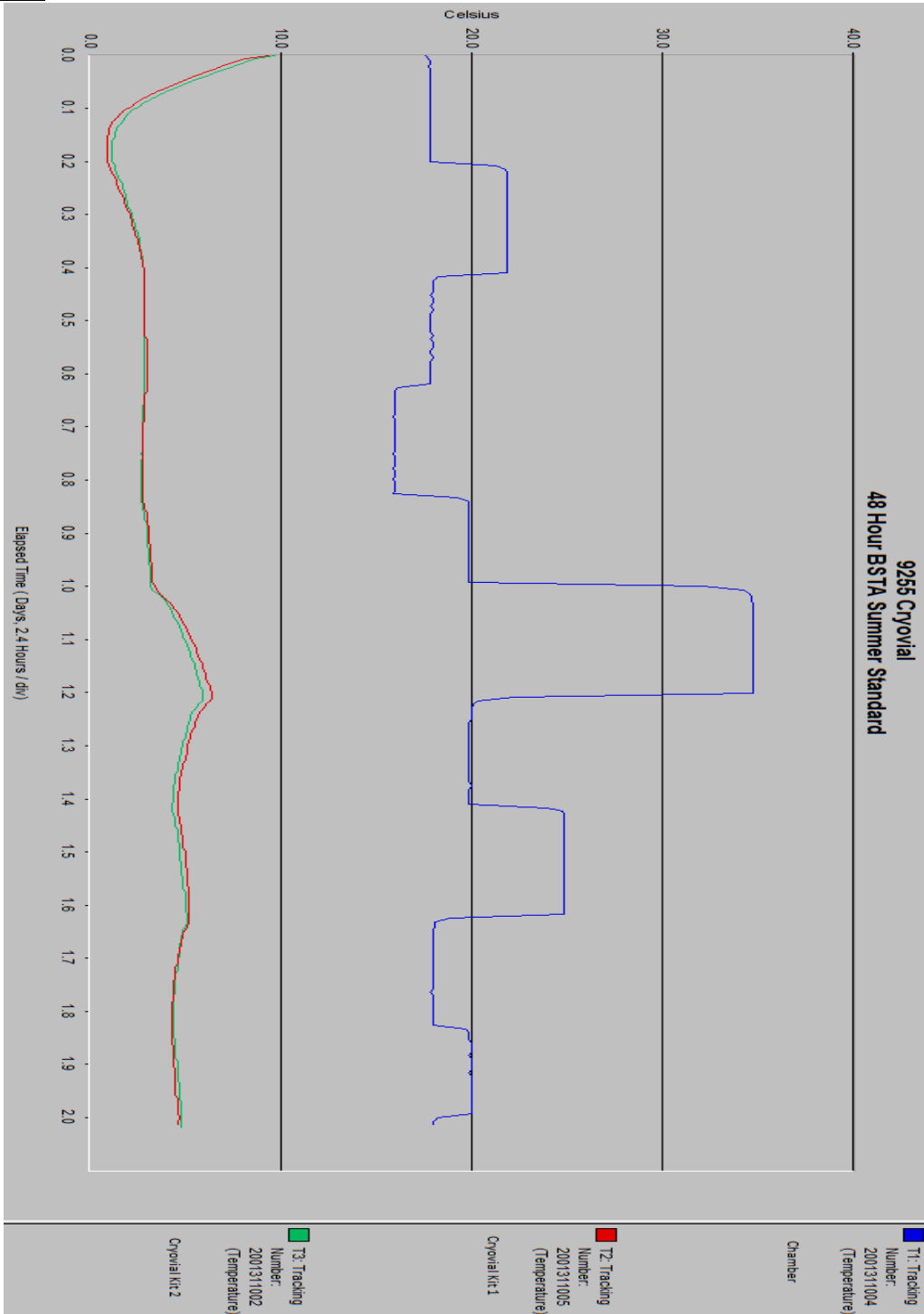
The package was subjected to the following temperature profile:

48 Hour BSTA Summer Standard

Temperature	Cycle Period (Hours)	Total Time (Hours)
18°C	5	5
22°C	5	10
18°C	5	15
16°C	5	20
20°C	4	24
35°C	5	29
20°C	5	34
25°C	5	39
18°C	5	44
20°C	4	48



Test Results





CONCLUSION

PASS

For 48 hours, the 9255 was capable of keeping the test material within the cryovials at 2-8°C.

AirSea USA ITEM #9255 In Box



AirSea USA ITEM #9255 Cooler

