



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials Safety  
Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

MAY 23 2005

Ref. No.: 05-0057

Mr. Thomas R. Hamilton  
Manager, Quality Assurance and Safety  
Wyle Laboratories  
7800 Highway Twenty West  
P. O. Box 077777  
Huntsville, AL 35807-7777

Dear Mr. Hamilton:

This is in response to your March 7, 2005 letter concerning the definition of "non-bulk packaging," as defined in § 171.8 of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). The fiberboard packaging described in your letter, with dimensions of 47" X 39 ¼" X 57 ½", is designed to carry less than 400 kg (882 pounds). Specifically you ask if your packaging meets the definition of a "non-bulk packaging."

The answer is no. Non-bulk packaging means a packaging that has a maximum net mass of 400 kg (882 pounds) or less and a maximum capacity of 450 L (119 gallons) or less as a receptacle for a solid. Based on the information provided, it is our opinion that the packaging you describe is not a non-bulk packaging because it has a maximum capacity greater than 450 L (119 gallons).

In your letter, you state that § 178.516 restricts the net mass of a 4G packaging to 400 kg and does not set forth restrictions for the volume of a 4G. All packagings manufactured and certified under Part 178, Subparts L and M must meet the definition of a non-bulk packaging in § 171.8, and therefore, may not exceed a volumetric capacity of 450 L (119 gallons). You should be aware that Fireworks (UN0336) may not be transported in bulk packaging, nor (without separate approval or an exemption from the Associate Administrator for Hazardous Materials Safety), a "large packaging" as defined in § 171.8. Because the packaging you describe in your letter has a volumetric capacity of 458 gallons, it is not an authorized packaging.

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

Hattie L. Mitchell  
Chief, Regulatory Review and Reinvention  
Office of Hazardous Materials Standards



050057

171.8



Pollock  
3171.8  
Non-Bulk-Packaging  
05-0057

March 7, 2005

John Heneghan  
U.S. Department of Transportation  
Pipeline & Hazardous Materials Safety Administration  
233 Peachtree Street NE, Suite 602  
Atlanta, Georgia 30303

Subject: Exit Briefing Report Control No. 04464084 Revised 3/4/05

Dear Mr. Heneghan:

This letter is to address the first specific probable violation identified in the revised exit briefing dated 3/4/05 and discussed over the phone by myself and Jimmy Stanford and yourself. As we discussed Wyle believes the reference to capacity requirement identified in the probable violation is not applicable here and we set forth our reasoning below.

Reference Exit Briefing Report Control No. 04464084 Revised 3/4/05

Example: Report Number 47014-01+AC1898 (Package doesn't meet the criteria for a UN Specification non-bulk package as prescribed in the HMR.  
American Promotional Events (TNT Fireworks) Report.

Wyle Laboratories believes this is an authorized 4G Packaging.

Per 49 CFR 178.8 (2) A Non-bulk packaging means a packaging which has: A maximum net mass of 400 kg (882 lbs) or less and a maximum capacity of 450 L (119 gallons) or less as a receptacle for a solid.

Note: "as a receptacle for a solid" being the key phrase here. When the Packaging is a Combination Packaging the Firework displays become the Inner Packaging (inner receptacles). Under 178.8 the definition of an Inner Receptacle, says it may be an inner packaging of a combination packaging.

**Letter to DOT**

**3-7-2005**

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Per 49 CFR, under the Standards for Specification Packaging:

178.504 Standards for Steel Drums,  
(8) Maximum Capacity of Drum: 450 L (119 gallons)  
(9) Maximum Net Mass: 400 kg (882 pounds)

178.507 Standards for Plywood Drums,  
(6) Maximum Capacity of Drum: 250 L (66 gallons)  
(7) Maximum Net Mass: 400 kg (882 pounds)

178.508 Standards for Fiber Drums,  
(5) Maximum Capacity of Drum: 450 L (119 gallons)  
(6) Maximum Net Mass: 400 kg (882 pounds)

Under Standards for boxes, the only constraint is the Net Mass, examples:

178.512 Standards for Steel or Aluminum Boxes,  
(4) Maximum Net Mass 400 kg (882 pounds)

178.514 Standards for Plywood Boxes,  
(2) Maximum Net Mass 400 kg (882 pounds)

178.516 Standards for Fiberboard Boxes,  
(6) Maximum Net Mass 400 kg (882 lbs)

The Maximum Capacity constraint (450 L/119 gallons) is on Drums, not Boxes. No volume or size constraint on boxes. Only limit on boxes is the Net Mass (400 kg/882 lbs.). Examples:

- (1) 178.507 Standards for Plywood Drums (Max. Cap. 250 L (66 gallons)  
178.514 Standards for Plywood Boxes (Max. Net Mass 400 kg (882 lbs.)),
- (2) 178.508 Standards for Fiber Drums (Max. Cap. 450 L (119 gallons)  
178.516 Standards for Fiberboard Boxes (Max. Net Mass 400 kg (882 lbs.)), and
- (3) 178.504 Standards for Steel Drums (Max. Cap. 450 L (119 gallons)  
178.512 Standards for Steel Boxes (Max. Net Mass 400 kg (882 lbs.))

Per the above references and definitions, Wyle believes the referenced Packaging is an authorized 4G Fiberboard box.

**Letter to DOT**

**3-7-2005**

**Page Two**

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Photo and the Wyle Report accompany this letter.

Responses to the balance of the revised exit briefing document will be submitted later.

Should you have any questions or need additional information, please feel free to contact the undersigned by phone at (256) 837-4411, extension 483, or by email at [thamilton@hnt.wylelabs.com](mailto:thamilton@hnt.wylelabs.com).

Sincerely yours,

WYLE LABORATORIES, INC

A handwritten signature in black ink, appearing to read "Thomas R. Hamilton". The signature is written in a cursive style with a large initial "T" and "H".

Thomas R. Hamilton  
Manager, Quality Assurance and Safety



Huntsville, Alabama 35807  
FAX (256) 721-0144, Phone (256) 837-4411

# CERTIFICATION TEST REPORT

**American Promotional Events**  
4511 Helton Drive  
Florence, AL 35631

REPORT NO. 47014-01+AC1898  
CUSTOMER P.O. NO. 1161  
CONTRACT NO. N/A  
NUMBER OF PAGES 9  
DATE April 10, 2002

**1.0 SPECIMEN:** Combination Packaging, 4G Fiberboard Box, Two-Part Box W/Wood Pallet, 48-1/8"L x 40"W x 62-7/8"H (OD), including Pallet. Top: 47"L x 39-1/4"W x 57-1/2"H (OD), SW Fiberboard, ECT 44C, 56-33-56, Flaps Closed with 48mm (2") Clear Plastic Pressure Sensitive Tape, One Piece, 2" Onto Sides; Bottom: 48-1/8"L x 40"W x 17-3/4"H (OD), DW Fiberboard, ECT 51 BC, 42-33-33-33-33, Attached to Pallet with 1"W x 3/4"H Staples (12" Spacing), Flaps Closed with 48mm (2") Clear Plastic Pressure Sensitive Tape, One Piece, 2" onto Sides. Top Section Slides Inside Bottom Section.  
Closure: Shrink Wrap, Two Plies Minimum, Four Sides  
Manufactured by: Packaging Materials.

**Inner Packaging:** Fireworks Displays (Simulated for Test)  
16 DW Fiberboard Boxes, 57" x 21" x 5-1/4" with Wood (Two 2" x 4"s, 20-3/4"L and Three Landscape Timbers 53"L), with one SW Fiberboard Top Pad, 47-1/4 x 38-1/4

**2.0 PART DESCRIPTION:** Fireworks UN0336

**3.0 SAMPLE NO:** 21 Total (5 Drop, 3 Stack, 3 Vibration, and 10 Cobb Tested)

STATE OF ALABAMA }  
COUNTY OF MADISON }

Donald E. Smith, being duly sworn, deposes and says:  
The information contained in the report is the result of complete and carefully conducted tests and is to the best of his knowledge true and correct in all respects.

SUBSCRIBED and sworn to before me this 12<sup>th</sup> day of April, 2002

Patricia Phillips **SEAL**  
Notary Public in and for the State of Alabama at large  
My Commission expires Jan. 16, 2005

Wyle shall have no liability for damages of any kind to person or property, including special or consequential damages, resulting from Wyle's providing the services covered by this report.

PREPARED BY J. F. Stanford 4/11/02  
J. F. Stanford, Project Engineer Date

APPROVED BY Donald E. Smith 4/12/02  
D. E. Smith, Department Manager Date

WYLE Q. A. T. R. Hamilton 4/15/02  
T. R. Hamilton, Q. A. Manager Date

(pap)

#### **4.0 REQUIREMENTS**

The specimens shall be subjected to the required test environments to qualify for Packing Group II as described in the United Nations Recommendations on the Transport of Dangerous Goods (Orange Book) and 49 CFR Regulations.

#### **5.0 PROCEDURES AND RESULTS**

##### **5.1 Preconditioning**

The specimens were preconditioned at 27°C and 65% RH for a minimum of 24 hours prior to test in accordance with UN/DOT Regulations.

##### **5.2 Preparations**

The specimens were received with simulated fireworks displays and were tested to represent the actual shipping weight.

##### **5.3 Drop Test**

Five specimens were subjected to the test requirements specified in the UN Orange Book (paragraph 9.7.3) and 49 CFR 178.603 Regulations. Refer to the Drop Test Data Sheet for further information.

A post-test visual inspection of each specimen revealed no leakage.

##### **5.4 Stack Test**

Three specimens were subjected to the test requirements specified in the UN Orange Book (paragraph 9.7.6) and 49 CFR 178.606 Regulations for a minimum of 24 hours. Refer to the Stack Test Data Sheet for further information.

A post-test visual inspection of each specimen revealed no leakage.

##### **5.5 Vibration Test**

Three specimens were filled as described above, closed as for transport, and subjected to the test requirements specified in 49 CFR 178.608. The duration of the test was one hour at one-inch peak-to-peak displacement and a frequency of 219 rpm. Refer to the Vibration Test Data Sheet for further information.

A visual inspection, conducted during and after the test, revealed no leakage.

## 5.0 PROCEDURES AND RESULTS (Continued)

### 5.6 Cobb Test

This test was performed on 10 specimens (5 top and 5 bottom) in accordance with 49 CFR 178.516 and ISO 1991 (E). The maximum allowable absorption must be less than or equal to 155 g/m<sup>2</sup>. The maximum absorption exhibited by the specimens was less than the maximum allowable. Refer to the Cobb Test Data Sheets for further information.

## 6.0 QUALITY ASSURANCE

All work performed on this program was completed in accordance with Wyle Laboratories' Quality Assurance Program.

The Wyle Laboratories, Huntsville Facility, Quality Management System is registered in compliance with the ISO-9001 International Quality Standard. Registration has been completed by Quality Management Institute (QMI), a Division of Canadian Standards Association (CSA).

## 7.0 TEST EQUIPMENT AND INSTRUMENTATION

All instrumentation, measuring, and test equipment used in the performance of this test program were calibrated in accordance with Wyle Laboratories' Quality Assurance Program, which complies with the requirements of ANSI/NCSL Z540-1, ISO 10012-1, and Military Specification MIL-STD-45662A. Standards used in performing all calibrations are traceable to the National Institute of Standards and Technology (NIST) by report number and date. When no national standards exist, the standards are traceable to international standards or the basis for calibration is otherwise documented.

A listing of the equipment used in the performance of this test program is maintained on file at Wyle Laboratories and is available for inspection.

## 8.0 CERTIFICATION QUALIFICATION

The certification issued under this test report details the test requirements as imposed by UN Recommendations and 49 CFR Regulations. It does not define the product carried or the quantity of product carried. It is the SHIPPER'S responsibility to verify and comply with all regulations and requirements as to Hazard Class and quantity limitations for which the container is suitable.

For Combination Packaging, Periodic Retests must be conducted at least once every 24 months. +AC1898 has been assigned this packaging, certifying compliance with 49 CFR 178 Subpart M.

9.0 MARKINGS

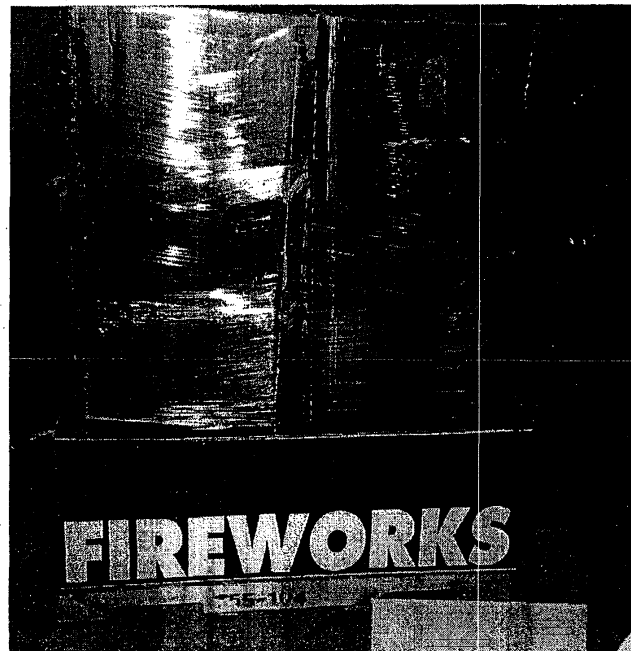
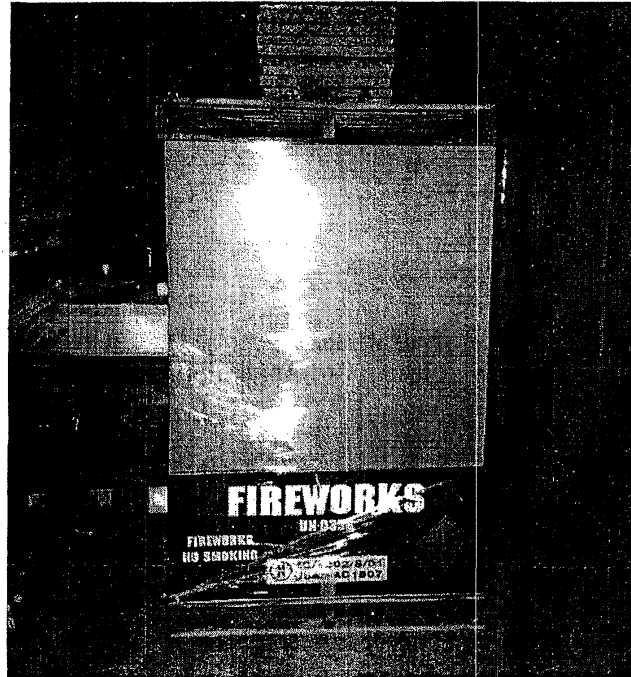


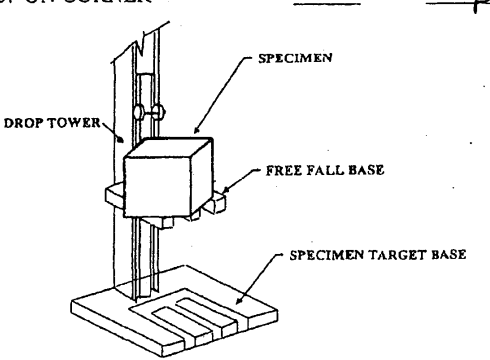
4G/Y359/S/\*  
USA/\*\*

- \* Insert year packaging is manufactured.
- \*\* Name and address or symbol of the manufacturer or approval agency certifying compliance with Subpart L and M of 49 CFR 178.

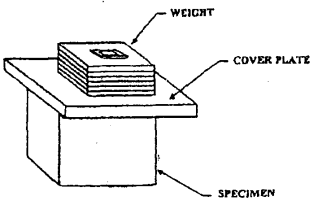
**NOTE:** Shipper is to apply all markings required for Flammable and any other Hazardous products transported as defined in the regulations.





<b>wyle</b> <small>laboratories</small>	<b>DROP TEST DATA SHEET NO. 2</b>		
DATE: <u>3-14-02</u>	REPORT NO.: <u>47014-01</u>		
SPECIMEN TYPE: <u>FIBER-ROPA Rod</u>	WYLE JOB NO.: <u>47014</u>		
CUSTOMER: <u>American Promotional Events</u>	NET WT = <u>720 lbs</u>		
CONTENTS: <u>Simulcast Fireworks Displays</u>	Box, Prod, Pkwt = <u>72 lbs</u>		
<u>16 Boxes @ ~45 lbs EACH</u>	<u>MAP. Cap. = 59.5 ft<sup>3</sup></u>		
Packing Group Tested To: <u>II</u>	Specific Gravity Tested To: <u>N/A</u>		
Specification: <input checked="" type="checkbox"/> UN/DOT <input type="checkbox"/> NSTA <input type="checkbox"/> OTHER			
<b>PROCEDURE</b>			
Number of Specimens Tested: <u>5</u>	Drop Height: <u>47.25"</u>		
Describe How Inner Package Is Prepared: <u>16 Dbl EB Boxes with wood, 2x4's and landscaping timbers, open front display area w/ plastic film</u>			
Drop Height Calculation: <u>(1.2m) 1.2 X 39.37'</u>			
The test specimen is placed on to a free fall drop table as shown and allowed to impact a hard non-yielding surface. The specimen is then inspected for damage. Five (5) orientations are performed.			
<b>RESULTS</b>			
<u>DROP ORIENTATION</u>	<u>I.D.#</u>	<u>PASS/FAIL</u>	<u>REMARKS</u>
1. FLAT ON BOTTOM	<u>1</u>	<u>PASS</u>	<u>NO LEAKAGE</u>
2. FLAT ON TOP	<u>2</u>	<u>PASS</u>	<u>NO LEAKAGE</u>
3. FLAT ON LONG SIDE	<u>3</u>	<u>PASS</u>	<u>NO LEAKAGE</u>
4. FLAT ON SHORT SIDE	<u>4</u>	<u>PASS</u>	<u>NO LEAKAGE</u>
5. ON CORNER	<u>5</u>	<u>PASS</u>	<u>* NO LEAKAGE</u>
			<u>* TOP CORNER</u>
			
TESTED BY: <u>Austin Batten</u>		<u>3/14/02</u>	
APPROVED BY: <u>[Signature]</u>		<u>4/8/02</u>	

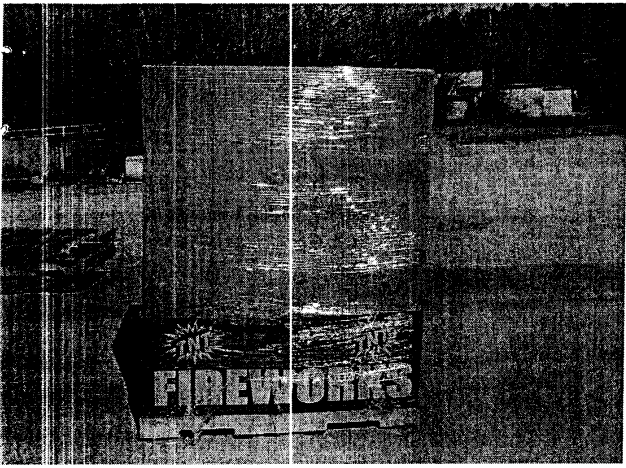
WIH-1423, Rev. DEC '97

<b>wyle</b> <small>laboratories</small>	<b>STACK TEST DATA SHEET</b>	
DATE: <u>3-21-02</u>	REPORT NO.: <u>47014-01</u>	
SPECIMEN TYPE: <u>FIBERGLASS Box</u>	WYLE JOB NO.: <u>47614</u>	
CUSTOMER: <u>AMERICAN PROMOTIONAL EVENTS</u>		
CONTENTS: <u>SIMULATED FIREWORKS LANDSCAPE TIMBERS 3"X4"</u> <u>(SAME AS DROP TEST)</u>		
Packing Group Tested To: <u>II</u>	Specific Gravity Tested To: <u>N/A</u>	
Specification: <input checked="" type="checkbox"/> UN/DOT	<input type="checkbox"/> NSTA	
<input type="checkbox"/> OTHER		
<b>PROCEDURE</b>		
Specimen Preconditioned: <input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Number of Specimens Tested: <u>3</u>	Specimen Height: <u>62 7/8"</u>	
Stack Weight Calculation:	3 Meters = 118.11 Inches	
	118.11/Box Height = # of Boxes to Make a 3-Meter Stack	
	Rounded to the next higher whole number.	
	# Boxes-1 x Box Specified Gross Weight = Minimum Stack Weight	
	118.11 / <u>62 7/8</u> = <u>2</u> - 1 = <u>1</u> (Total Boxes Stacked)	
	(Box Height)	
PACKAGE SPECIFIED GROSS WEIGHT:	<u>791.595</u> LBS.	
STACKING WEIGHT:	<u>865</u> LBS. (ACTUAL) <u>791.595</u> LBS. (MINIMUM)	
The test specimen is placed onto a hard non-yielding surface. A cover sheet of plywood is then placed on the specimen to distribute the load. The specific load is then placed on the specimen for a period of 24 hours. The specimen is then inspected for damage and stack stability.		
<b>RESULTS</b>		
<u>I.D.#</u>	<u>PASS/FAIL</u>	<u>REMARKS</u>
<u>1- 6</u>	<u>PASS</u>	<u>24 HRS NO DAMAGE</u>
<u>1- 7</u>	<u>PASS</u>	<u>24 HRS NO DAMAGE</u>
<u>1- 8</u>	<u>PASS</u>	<u>24 HRS NO DAMAGE</u>
		
TESTED BY: <u>[Signature]</u> 4/8/02 APPROVED BY: <u>[Signature]</u> 4/8/02		

WH-1424, Rev. DEC '97







**Gorsky, Susan <PHMSA>**

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**From:** Burger, Donald <PHMSA>  
**Sent:** Monday, March 14, 2005 10:43 AM  
**To:** Gorsky, Susan <PHMSA>  
**Cc:** Heneghan, John <PHMSA>; Hilder, Mike <PHMSA>  
**Subject:** RE: Wyle Response to revised (dated 3-4-2005) DOT exit briefing



Wyle Letter to Wyle Test American  
OT RE Revised rt 47014-01+AC1898 Promotional Events

Susan,

Can we get an interpretation drafted on this and sent out to Wyle on this? It is a "large 4G package"; it should not be certified as a 4G Box since it does not meet the definition in 171.8 of a non-bulk package since the volumetric capacity is above the 119 gallon limit.

Thanks - Don B

-----Original Message-----

**From:** Heneghan, John <PHMSA>  
**Sent:** Monday, March 07, 2005 9:05 PM  
**To:** Burger, Donald <PHMSA>  
**Cc:** Nichols, Marc <PHMSA>  
**Subject:** FW: Wyle Response to revised (dated 3-4-2005) DOT exit briefing

Don,

If you could review this and give us your opinion, it would be greatly appreciated.

Thanks.

John

-----Original Message-----

**From:** Hamilton, Tom  
**To:** Heneghan, John <PHMSA>  
**Cc:** Stanford, Jimmy  
**Sent:** 3/7/2005 6:33 PM  
**Subject:** RE: Wyle Response to revised (dated 3-4-2005) DOT exit briefing

Mr. Heneghan,

Attached is Wyle's Letter to you per our discussion this afternoon. Also attached is a photo and a copy of the applicable Wyle Test Report.

<<Wyle Letter to DOT RE Revised Exit Briefing dated 3-4-05.pdf>> <<Wyle Test Report 47014-01+AC1898.pdf>> <<American Promotional Events - TNT Fireworks.jpg>>

Tom Hamilton  
Quality Assurance/Safety Manager  
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Fax: (256) 721-0144  
e-mail: thamilton@hnt.wylelabs.com

<<Wyle Letter to DOT RE Revised Exit Briefing dated 3-4-05.pdf>>  
<<Wyle Test Report 47014-01+AC1898.pdf>> <<American Promotional Events  
- TNT Fireworks.jpg>>