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Legacy report on the 2000 International Building Code®, the 2000 International Residential Code®, the 2001 Supplement to the International Codes®, the BOCA® National Building Code/1999, the 1999 Standard Building Code®, the 1997 Uniform Building Code™, and the 1998 International One and Two Family Dwelling Code®

DIVISION 06—WOOD AND PLASTICS
Section 06070—Wood Treatment

OSMOSE, INC.
1016 EVEREE INN ROAD
GRIFFIN, GEORGIA 30224-0249
800-241-0240
www.osmose.com

And Wholly Owned Subsidiary:
TIMBER SPECIALTIES COMPANY
9184 TWISS ROAD
CAMBELLVILLE, ONTARIO, CANADA L0P 1B0

LISTEES (Refer to Table 3 for Trade Names) :

Alabama-Georgia Wood Pres. Co.
Allweather Wood Treaters

C.M. Tucker Lumber Corp.
California Cascade Industries
Coastal Treated Products Co.

Collum's Lumber Mill, Inc.
Colonie Wood Treating & Stain
Columbus Lumber Co.
Commonwealth Wood Preservers, Inc.
Creative Playthings
Culpeper Wood Preservers
D & D Wood Preserving, Inc.
Eastex Forest Products
Fortress Wood Products

Perry Logistics
dba Fortress Wood Products
Great Southern Wood Preserving

Great Southern Wood
of North Alabama, Inc
Great Southern Wood
of Florida, Inc.

Lafayette, AL
White City, OR
Washougal, WA
Loveland, CO
Fort Collins, CO
Pageland, SC
Woodland, CA
Weldon, NC
Bellington, WV
Havana, FL
Hopwood, PA
Oxford, PA
Allendale, SC
Albany, NY
Brookhaven, MS
Hampton, VA
Emporia, VA
Shelbyville, IN
Albany, GA
Houston, TX
Martinsville, VA
Elizabeth City, NC
Greensboro, NC

Henderson, NC
Abbeville, AL
Conyers, GA
Irvington, AL

Muscle Shoals, AL

Bushnell, FL

Great Southern Wood
of Statesboro, Inc.
Great Southern Wood
of Statesboro, Inc.
Texas Great Southern Wood, LLC
Gulf Treating, Inc.
Hixson Lumber Sales, Inc.

Land O Lakes Wood Preserving Co.
Land & Sea Forest Products
MG Building Materials
Maine Wood Treaters
Midwest Manufacturing
New South Wood Preserving, LLC

Pollard Lumber Company
Potomac Supply Corporation
S. I. Storey Lumber Co.
Universal Forest Products

USA Deck
Western Wood Preserving Co.
Wood Protection LP

Jessup, GA
Statesboro, GA
Columbus, TX
Mobile, AL
Magnolia, AR
Caddo Hills, TX
Hillsboro, IL
Pine Bluff, AR
Plumerville, AR
Willis TX
Tenstrike, MN
Fairless Hills, PA
San Antonio, TX
Mechanic Falls, ME
Eau Claire, WI
Conway, SC
Camden, SC
Appling, GA
Kinsale, VA
Armuchee, GA
Grand Rapids, MI
Moultrie, GA
Union City, GA
Gordan, PA
Salisbury, NC
Aubumdale, FL
Granger, IN
Janesville, WI
Belchertown, MA
Windsor, CO
Saginaw, TX
Ranson, WV
Harrisonville, MO
Hamilton, OH
Stockertown, PA
Elizabeth City, NC
Lodi, OH
Schertz, TX
New Waverly, TX
Silsbee, TX
Westville, IN
Blanchester, OH
WhiteBear Lake, MN
Janesville-South, WI
Lansing, MI
Woodbridge, VA
Sumner, WA
Houston, TX

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1.0 SUBJECT

NatureWood® and Smart Sense™ Pressure Treated Wood

2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT

Preservative-Treated Wood

3.0 DESCRIPTION

3.1 General

NatureWood® and Smart Sense™ Pressure Treated Wood are preservative-treated wood used for wood members that are required by the applicable Code to be protected against decay or termites.

NatureWood (NW) and Smart Sense™ brand wood preservatives are produced by Osmose, Inc. and used by independently owned and operated wood preserving plants to pressure treat wood products in accordance with NatureWood® and Smart Sense™ Quality Control Standards and Procedures. Some NatureWood® and Smart Sense™ products are also available with a factory applied water-repellent additive.

NatureWood® and Smart Sense™ products are appropriate for use in above-ground, ground contact, and fresh water contact applications and resist attack by rot, fungal decay, and subterranean termites, including Formosan termites.

3.2 Preservative System

NatureWood® and Smart Sense™ preservatives are waterborne, Copper-Quat preservative systems used for wood members that are required by the applicable Code to be protected against fungal decay or termites, or where such protection is desired.

NatureWood® and Smart Sense™ compositions are based on copper combined with a quaternary ammonium compound (quat). The ratio of copper, expressed as CuO, to quat is 2:1, by weight.

3.3 Materials

NatureWood® and Smart Sense™ Copper Quat Preservatives are used to pressure treat the following materials as specified in the quality control manuals:

- 3.3.1 Dimensional lumber and timbers of the following sapwood species: Southern Pine, Ponderosa Pine, Red Pine, Radiata Pine, and Caribbean Pine.
- 3.3.2 Dimensional lumber and timbers of the following heartwood species (NW only): Douglas-Fir, Western Hemlock, Hem-Fir, Lodgepole Pine, Jack Pine, and Redwood.
- 3.3.3 Maximum nominal size of 2-by-8 in all listed species for decking use only.
- 3.3.4 Southern Pine and Douglas-Fir (NW only) plywood.
- 3.3.5 Round and sawn posts and building poles of Southern Pine, Ponderosa Pine, Red Pine, Douglas-Fir, Hem-Fir and Western Hemlock.

Minimum preservative retention levels are provided below in Table 1.

TABLE 1—MINIMUM PRESERVATIVE RETENTION REQUIREMENTS FOR NATUREWOOD® AND SMART SENSE™ PRODUCTS BY END USE

END USE	MIN. ACTIVES ^{1,2} RETENTION PCF (KG/M ³)
Above Ground - General Use	0.25 (4.0)
Decking, Fencing & Specialties Use - Above Ground	
• Sapwood species Listed in Section 3.3.1	0.15 (2.4)
• Heartwood Species	0.25 (4.0)
Ground Contact	0.40 (6.4)
Critical Structural Members	0.60 (9.6)
Wood Foundation Systems	0.60 (9.6)

Table 1 Notes:

¹ Actives retention expressed as CuO + quat.

² Pounds of preservative per cubic foot of wood.

3.4 Treatment and Processing

Only the vacuum-pressure treating process described in American Wood-Preservers' Association (AWPA) Commodity Standard C1-00 and in the Processing and Treatment Standard of the Use Category System (UCS) shall be used to produce NatureWood® and Smart Sense™ products.

The minimum preservative retention levels are shown above in Section 3.3. Other processing provisions including the minimum preservative penetration requirements are specified in the approved quality control manual. The use of incising may be required to meet the minimum penetration requirements in certain species or sizes of materials.

3.5 Quality Assurance

Treatment of materials is conducted in the facilities noted under Listees above according to NatureWood® and Smart Sense™ Quality Control Standards and Procedures with inspections by an NES listed independent, third party inspection agency.

3.6 Corrosion

Metals used in contact with NatureWood® and Smart Sense™ pressure treated wood shall be hot dip galvanized, stainless steel or triple coated zinc polymer materials. Carbon steel, aluminum, red brass and bronze shall not be used in contact with NatureWood® and Smart Sense™ products.

3.7 AWPA Standards

NatureWood Copper-Quat Preservatives and NatureWood® and Smart Sense™ Pressure-Treated Wood standards and specifications rely primarily on those recognized by the American Wood-Preservers' Association (AWPA). Additional specifications set forth by Osmose are proprietary and differ from AWPA standards.

All applicable AWPAs Standards are listed in **Section 6** of this report.

4.0 INSTALLATION

4.1 General

NatureWood® and Smart Sense™ Pressure Treated Wood is installed as preservative-treated lumber, timbers and plywood in accordance with the requirements of the applicable Code.

The manufacturer's and industry published installation instructions for wood and pressure-treated wood and this report shall be strictly adhered to and a copy of these instructions shall be available at all times on the job site during installation.

The instructions within this report govern if there are any conflicts between the manufacturer's instructions and this report.

4.2 Applications

NatureWood® and Smart Sense™ pressure treated products are permitted in locations where wood is used and/or in locations required by the applicable Code to be fungal decay and/or termite resistant. The treated wood members are listed for use in above-ground and ground contact applications. Typical applications are listed below in **Table 2**.

Locations requiring preservative-treated wood for fungal decay and/or termite resistance are listed in:

- Section 2304.11 *International Building Code*
- Section 2304 *Standard Building Code*
- Section 2311 *BOCA National Building Code*
- Section 2306 *Uniform Building Code™*
- Sections R323, R324 *International Residential Code™ for One- and Two-Family Dwellings*

- Sections 322, 323 *International One and Two Family Dwelling Code.*

TABLE 2—TYPICAL APPLICATIONS FOR NATUREWOOD® AND SMART SENSE™ PRESSURE TREATED WOOD PRODUCTS

SERVICE CONDITIONS	TYPICAL APPLICATIONS
Above Ground	Decking, Rails, Spindles, Trim and Fascia, Framing, Flooring, Sill Plates, Trellises, Gazebos, Fencing
Ground Contact	Deck Support Posts, Fence Posts
Critical Structural	Permanent Wood Foundations, Building Poles

4.3 Fasteners

The fasteners used with the product shall be hot dip galvanized, stainless steel or triple coated zinc polymer materials.

4.4 Structural

The maximum load duration factor allowed for structural members pressure-treated with NatureWood Preservatives shall be 1.6 in accordance with section 2.3 of the **AFPA, National Design Specification for Wood Construction**.

5.0 IDENTIFICATION

Each piece of NatureWood® and Smart Sense™ Pressure Treated Wood lumber, timber and plywood shall be labeled with the manufacturer's name and/or trademark, address, the product name, grade mark, third-party inspection label Timber Products Inspection, Inc. (IAS AA-696), and this ICC-ES legacy evaluation report number, NER-628. Sample Labels see **Figure 1** of this report.

6.0 EVIDENCE SUBMITTED

6.1 American Wood-Preservers' Association (AWPA) Standards.

- 6.1.1** AWPA Analytical Standards A2-98 (sections 1 and 6), A3-00, A9-00, A11-93, A16-93, A17-97, A18-99.
- 6.1.2** AWPA Commodity Standards C1-00, C2-00, C4-99, C5-00, C9-00, C14-99, C15-00, C16-00, C17-00, C22-96.
- 6.1.3** AWPA Preservative Standard P5-01.

6.2 AWPA Reports of Treatments Subcommittees

- 6.2.1** Report of Subcommittee T-2, Lumber and Timbers, September 23, 1992
- 6.2.2** Report of Subcommittee T-8, Composites, September 23, 1992
- 6.2.3** Report of Subcommittee T-2, Lumber and Timbers, September 14, 1994
- 6.2.4** Report of Subcommittee T-2, Lumber and Timbers, September 27, 1995
- 6.2.5** Report of Subcommittee T-8, Composites, September 27, 1995

6.3 Technical Information on the Use of ACQ (Alkaline Copper Quaternary) as a Wood Preservative, Chemical Specialties, Inc., dated April 2001.

6.3.1 Laboratory Tests

- Soil Block Tests, AWPA E10-91.
- Termite Tests, CSIRO Australian Laboratory Choice Test Method, CSIRO, Melbourne, Australia.

6.3.2 Simulated Field Tests

- Soil Bed Exposure Test, AWPA E14-94.

6.3.3 Field Tests

- Ground Contact Field Stake Tests, AWPA E7-93 at Hilo, HI, Harrisburg, NC, and Gainesville, FL.
- Ground Contact Field Stake Tests, AWPA E7-93 at Dorman, MS and Saucier, MS, Mississippi Forest Products Laboratory, MSU, Starkville, MS.
- Ground Contact Field Stake Tests, AWPA E7-93 at Innisfail, Queensland, Australia and Canal Creek, North Queensland, Australia, DPI Queensland Forest Service.
- Ground Contact Field Stake Tests, AWPA E7-93 at Whakarewarewa, New Zealand, New Zealand Forest Research Institute.

6.3.4 Preservative Permanence

- Laboratory Leaching Test, AWPA E10-87 and E11-87, Michigan Technological University.
- Depletion from Soil Bed Test Samples, AWPA E15-93.
- Depletion from Ground Contact Stakes, E7-93 at Hilo, HI and Gainesville, FL.

6.3.5 Effects on Wood Properties

- Static Bending Strength Test, ASTM D 143, Clemson University and Michigan Technological University.
- Glueline Shear Properties of 4-ply 15/32 Southern Pine Plywood, Michigan Technological University.

6.3.6 Corrosivity

- Corrosion of Metals by Treated Wood, AWPA E12-94.

6.3.7 Treatment Testing

- Treatment Trials of Various Wood Species, Vacuum-Pressure Method described in AWPA C1.

6.4 Osmose NatureWood™ Pressure Treated Wood Quality Control Manual, which includes Osmose Standards NW-01 (General Use QC Procedures) and NW-DECK-01 (Decking QC Procedures), dated October 2001. Signed by Osmose, Inc., Licensed Producers and Timber Products Inspection, Inc. (TPI).

6.5 Osmose Smart Sense™ Pressure Treated Wood Quality Control Manual AMP, which includes Osmose Standards NW-01-AMP (General Use QC Procedures) and NW-DECK-01-AMP (Decking QC Procedures), dated January 5, 2006. Signed by Osmose, Inc., Licensed Producers. Timber Products Inspection, Inc. (TPI) or Southern Pine Inspection Bureau, Inc. (SPIB).

7.0 CONDITIONS OF USE

The ICC-ES Subcommittee for the National Evaluation Service finds that the NatureWood® and Smart Sense™ Pressure Treated Wood as described in this report complies with or is a suitable alternate to that specified in the 2000 *International Building Code*®, the 2000 *International Residential Code*®, the 2001 *Supplement to the International Codes*®, the BOCA® *National Building Code/1999*, the 1999 *Standard Building Code*®, the 1997 *Uniform Building Code*™, and the 1998 *International One and Two Family Dwelling Code*® subject to the following conditions:

- 7.1** This Evaluation Report and the manufacturer's published installation instructions, when required by the code official, shall be submitted at the time of permit application.
- 7.2** The NatureWood® and Smart Sense™ products are limited to the wood species and minimum retentions noted under Section 3.3 and Table 1 above.
- 7.3** The treatment process complies with this report and Osmose Quality Control Standards and Procedures for NatureWood® and Smart Sense™ products.

7.4 The treatment process is carried out at the manufacturing facilities of the listees noted in this report, under a quality control program with inspections by an NES listed independent, third party quality assurance agency.

7.5 Dimensional lumber designated for "Decking Use" shall be a maximum of 2 inches thick and 8 inches wide.

7.6 The product is limited to the applications noted under Section 4.2 above.

7.7 NatureWood® and Smart Sense™ Pressure Treated Wood preservatives shall not be used to treat LVL, OSB, or FRTW wood products.

7.8 Surface treatment of field cuts shall be in accordance with the manufacturer's recommendations.

7.9 In areas where a soil treatment/barrier termiticide treatment is required by the applicable Code or local code official, NatureWood® and Smart Sense™ Pressure Treated Wood is used only as supplemental protection from termites and is not a replacement for required treatments or barriers.

7.10 NatureWood® and Smart Sense™ Pressure Treated Wood has not been evaluated for exposure to salt water.

7.11 This report is subject to periodic re-examination. For information on the current status of this report, contact the ICC-ES.

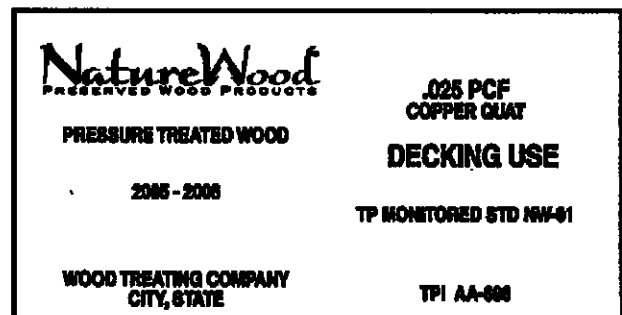
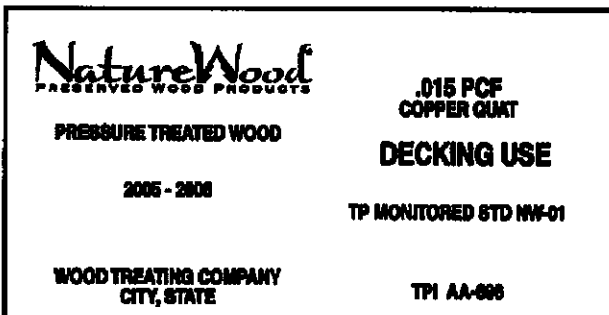
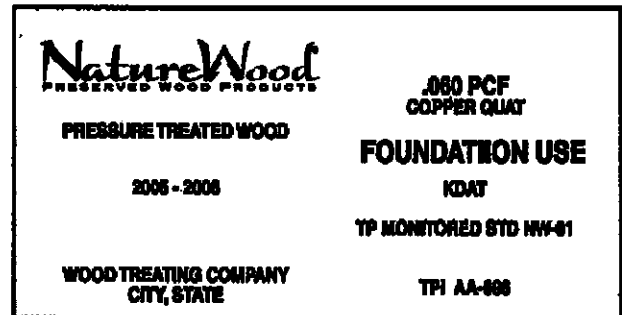
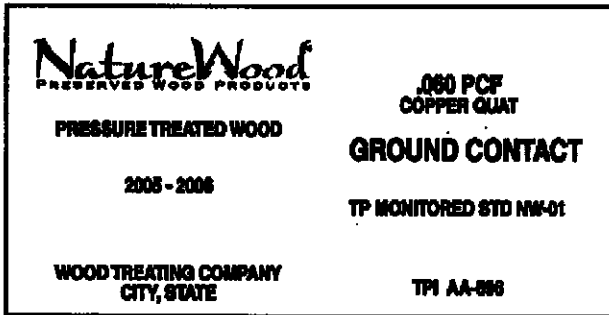
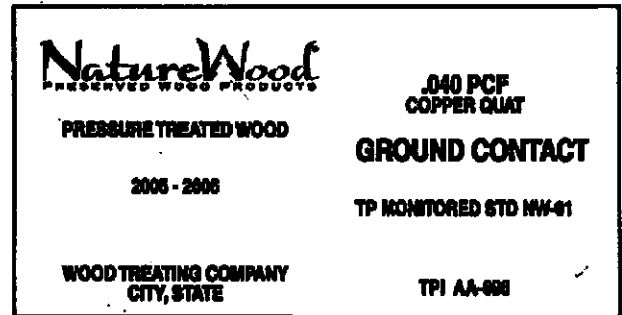
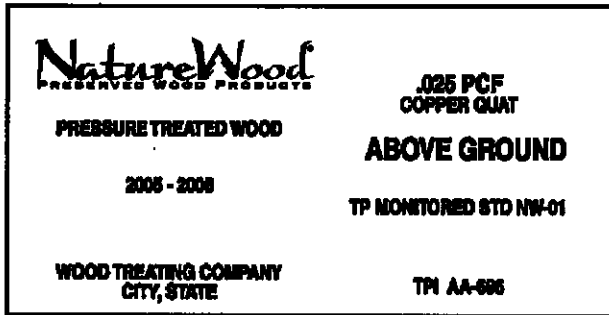


FIGURE 1—SAMPLE PRODUCT LABELS

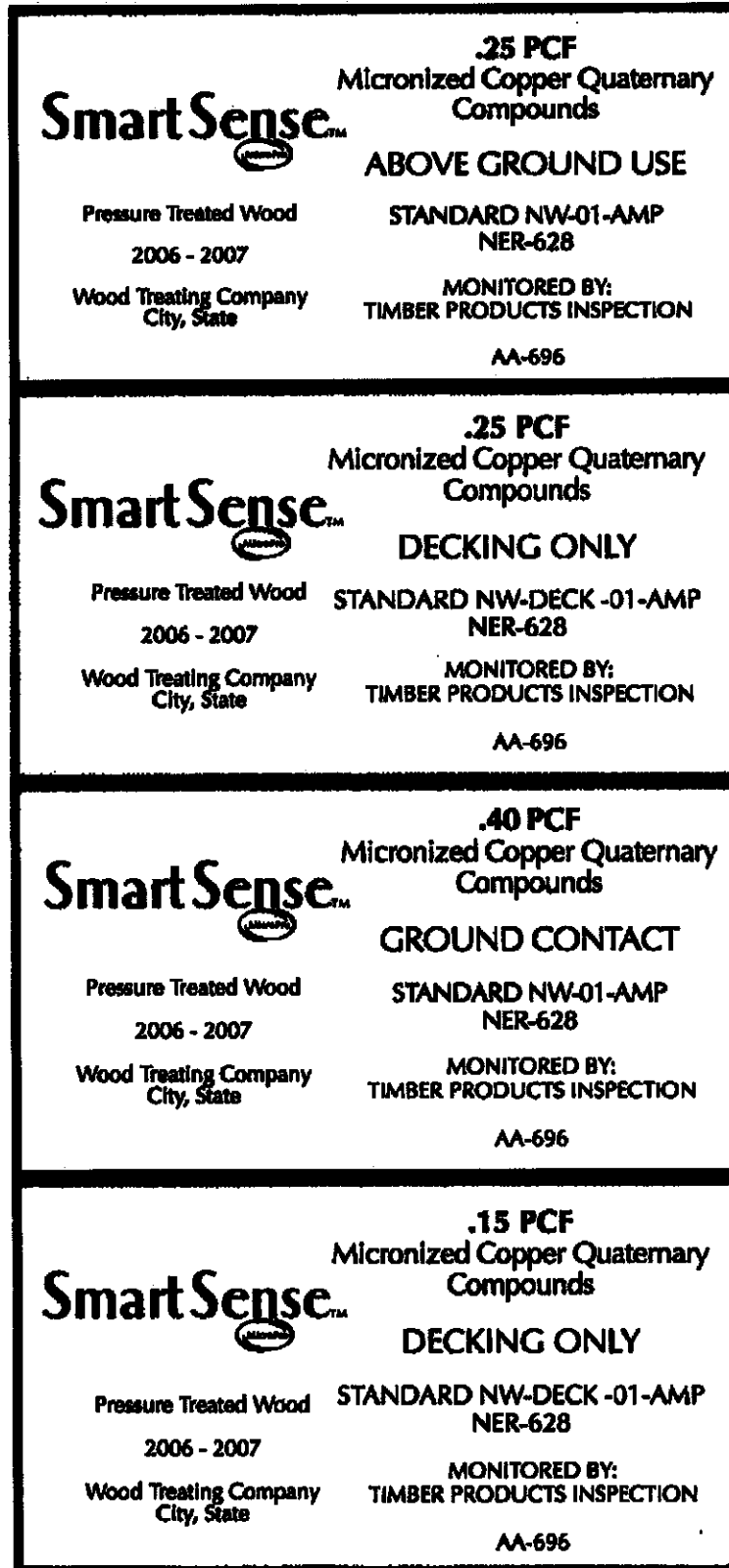


FIGURE 2

**TABLE 3—LISTEES AND PRIVATE BRAND NAMES FOR EACH COMPANY FOR
WOOD TREATED WITH NATUREWOOD® AND SMART SENSE™ WOOD PRESERVATIVES**

COMPANY	PRIVATE BRAND NAME	
	NatureWood®	Smart Sense™
Osmose, Inc.		
Alabama-Georgia Wood Pres. Co.	Note 1	Note 1
Allweather Wood	All Weather Deck and Top choice	Note 1
C.M. Tucker Lumber corp.	Top Choice	Note 1
California Cascade Industries	Top Choice	Note 1
Coastal Treated Products Co.	Note 1	Note 1
Collum's Lumber Mill, Inc.	Note 1	Note 1
Colonie Wood Treating & Stain	Note 1	Note 1
Columbus Lumber Co.	Note 1	Note 1
Commonwealth Wood Preservers, Inc.	Note 1	Note 1
Creative Playthings	Note 1	Note 1
Culpeper Wood Preservers	Note 1	Note 1
D & D Wood Preserving, Inc.	Note 1	Note 1
Eastex Forest Products	Note 1	Note 1
Fortress Wood Products	Note 1	Note 1
Perry Logistics dba Fortress Wood Products	Note 1	Note 1
Great Southern Wood Preserving	Yella Wood and Thompsonized	Note 1
Gulf Treating, Inc.	Note 1	Note 1
Hixson Lumber Sales	Top Choice	Note 1
Land O Lakes Wood Preserving Co.	Note 1	Note 1
Land & Sea Forest Products	Top Choice	Note 1
MG Building Materials	Note 1	Note 1
Maine Wood Treaters	Note 1	Note 1
Midwest Manufacturing	AC2	Note 1
New South Wood Preserving, LLC	Thompsonized and Top choice	Note 1
Pollard Lumber Company	Note 1	Note 1
Potomac Supply Corp.	Great Deck and Top Choice	Note 1
S.I. Storey Lumber Co.	Note 1	Note 1
Universal Forest Products	ProWood ACQ ProWood Dry Thompsonized and Top choice	ProWood Micro ProWood Microshades ProWood Dry
USA Deck	Note 1	Note 1
Western Wood preserving Co.	Note 1	Note 1
Wood Protection LP	Note 1	Note 1

Footnotes:

¹The private brand name shall be as noted for the report holder, Osmose, Inc.