

Mussels, Wood & the Innovation That's Changing an Industry

Elizabeth Whalen
Columbia Forest Products



PureBond.™

→ Who is Columbia Forest Products?

- ✓ Largest North American manufacturer of hardwood plywood, hardwood veneer and hardwood flooring
- ✓ 100% employee-owned, celebrating 50 years in business
- ✓ Headquartered in Portland, OR, with multiple manufacturing operations across N. America and global expansion in the works





→ Hardwood Plywood Overview

- ✓ A decorative panel product with a hardwood veneer face and back
- ✓ Typical constructions include: veneer core, composite cores (MDF and particleboard), agrifiber cores (e.g. wheat & rice straws)
- ✓ Used for interior applications, not to be confused with softwood plywood, which is for exterior, structural use

→ Hardwood Plywood Overview

- ✓ Columbia's products are used for making kitchen cabinets, furniture, retail store fixtures, architectural millwork – all interior applications



 PureBond™
A breath of
fresh thinking.

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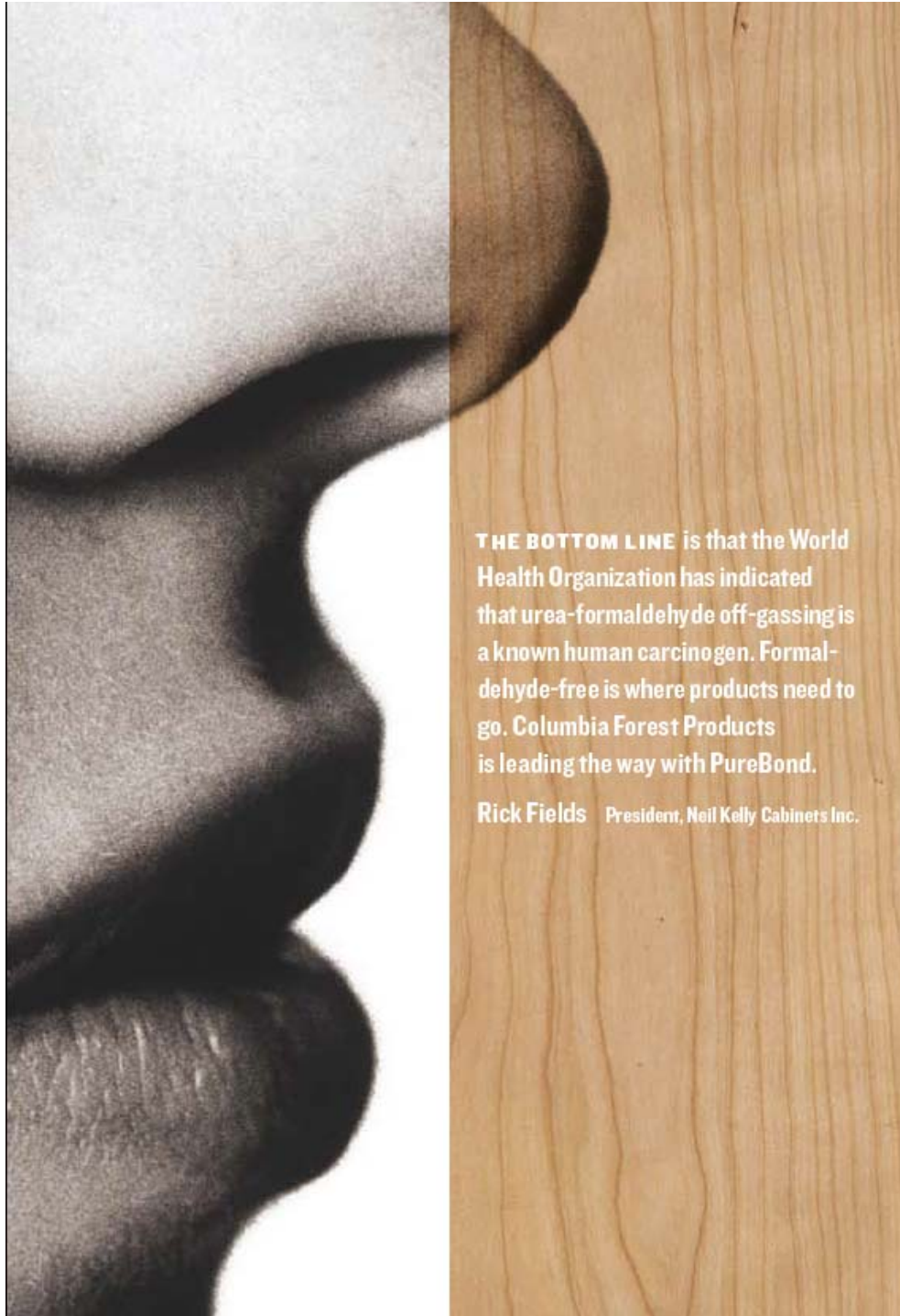


Wood should smell like...well, wood.



→ Hardwood Plywood Adhesives

- ✓ Traditionally urea formaldehyde (UF)
- ✓ Non-UF options include: PVA, Phenolic, MDI
- ✓ Hardwood Plywood impacts indoor air quality

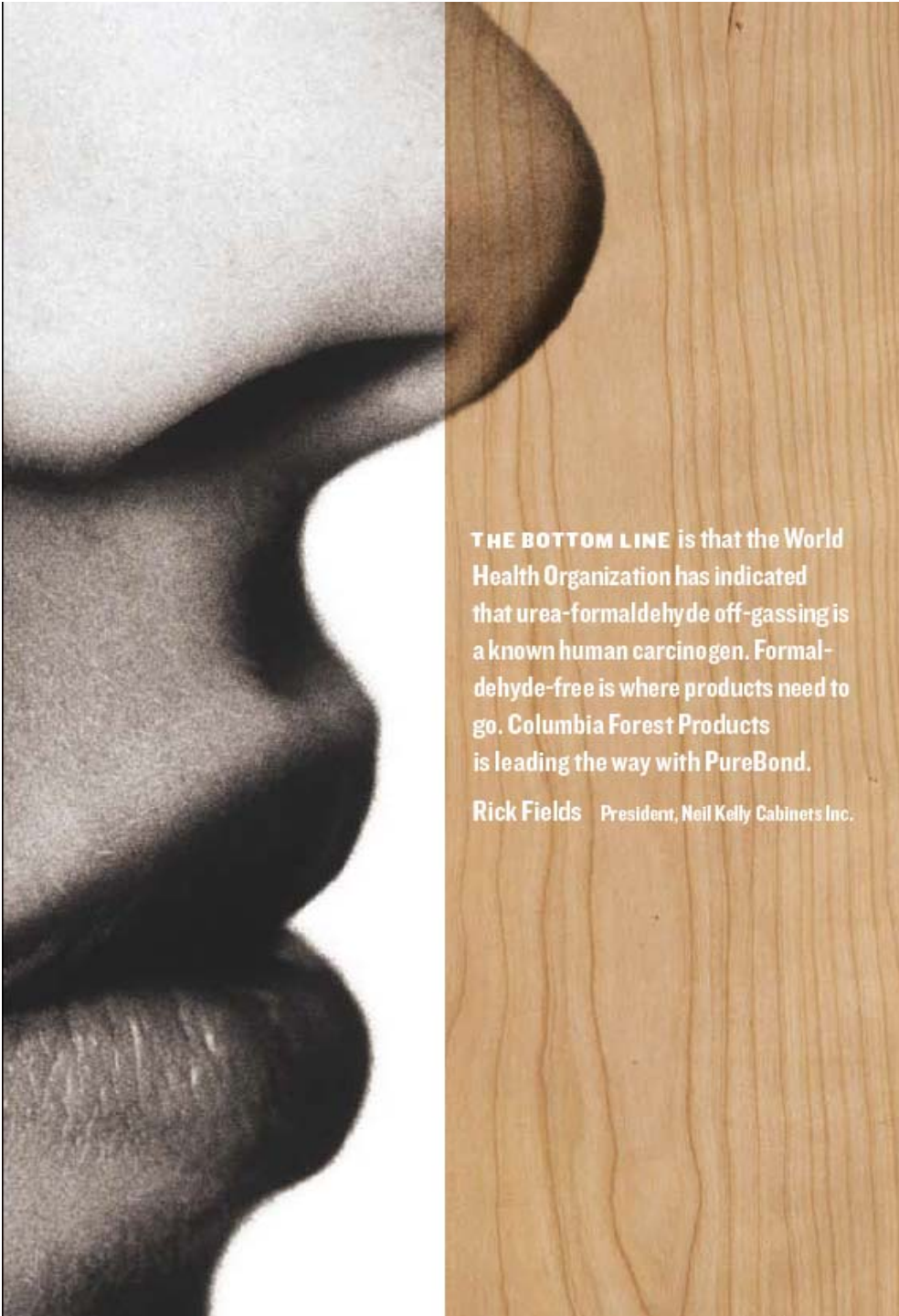


THE BOTTOM LINE is that the World Health Organization has indicated that urea-formaldehyde off-gassing is a known human carcinogen. Formaldehyde-free is where products need to go. Columbia Forest Products is leading the way with PureBond.

Rick Fields President, Neil Kelly Cabinets Inc.

→ Why the fuss about formaldehyde?

- ✓ IARC reclassified it as a known human carcinogen in 2004
- ✓ Other government agencies worldwide reviewing it or currently regulating it



→ Why the fuss about formaldehyde?

✓ California Air Resources Board (CARB) proposed regulation

✓ FEMA trailers

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**NATURE-INSPIRED DESIGN
ROOTED IN BIOMIMICRY.**

How PureBond works.

→ **Dr. Kaichang Li, Ph.D.**
Associate Professor,
Oregon State University

→ PureBond™:
The Formaldehyde-Free
Hardwood Plywood
Innovation



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www.columbiaforestproducts.com

PureBond™
A breath of fresh thinking.

Formaldehyde-free.
Cost-competitive.
And only from
Columbia Forest Products.

Now there's a cost-effective way to get decorative hardwood plywood without getting formaldehyde. PureBond™ is Columbia Forest Products' exclusive formaldehyde-free innovation for hardwood plywood manufacturing. Replacing traditional urea formaldehyde (UF) hardwood plywood construction with our new environmentally safe PureBond construction enables Columbia to eliminate formaldehyde from standard veneer-core and wheat straw agrifiber-core panel production. That's good news for our employees, customers and the environment.

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→ Why did Columbia take this leap?

- ✓ A history of environmental stewardship
- ✓ Need for differentiation in an increasingly competitive marketplace



→ Rewarding benefits & the inevitable challenges

- ✓ Positioned ourselves as leaders in environmental innovation
- ✓ Experiencing an upward trend in architectural specifications
- ✓ Breaking from the pack can draw unwanted controversy...though with good results

Questions?



PureBond.™