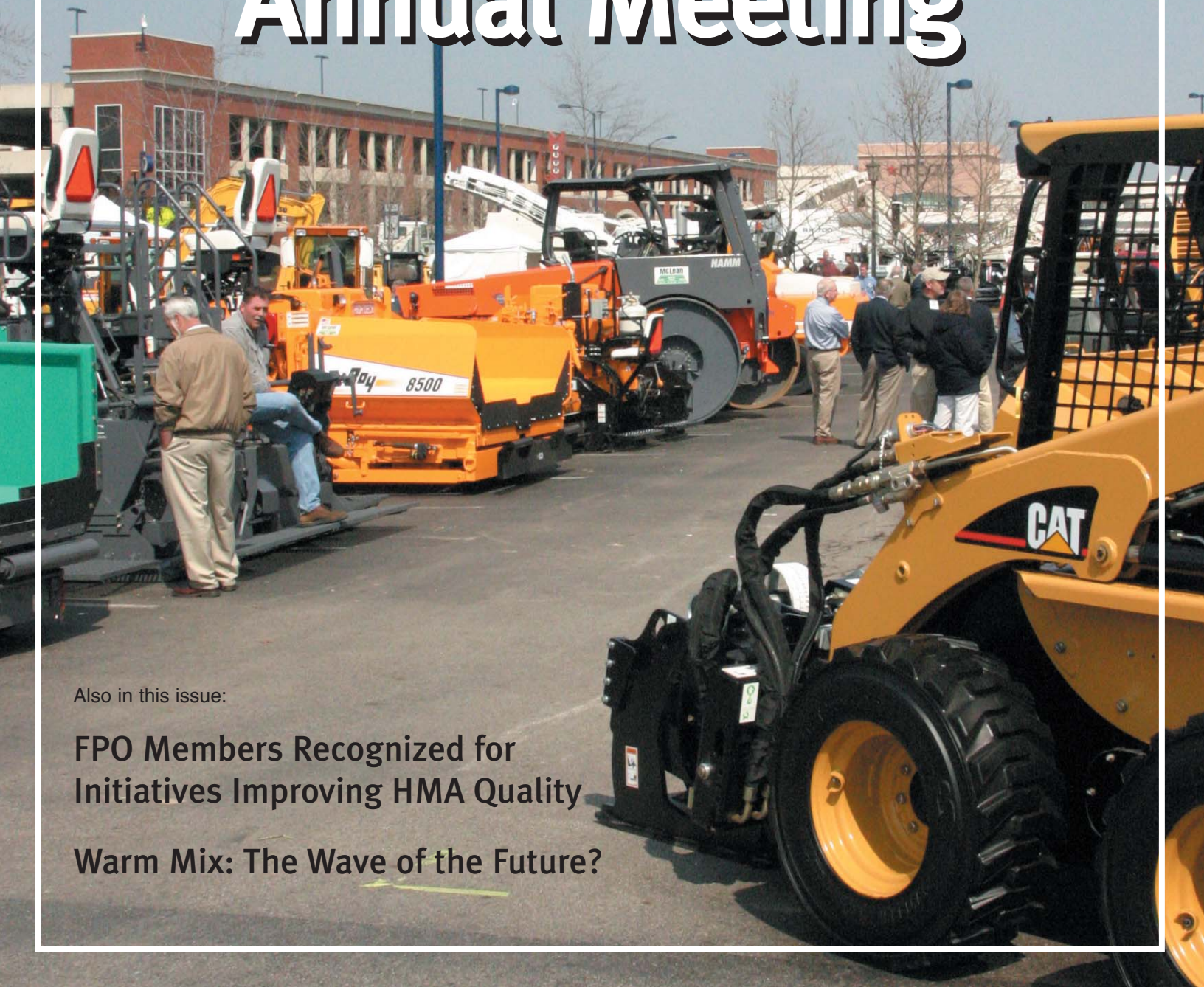


OHIO ASPHALT

Issue 2, Volume 3

Spring 2006

FPO Holds 44th Annual Meeting



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**FPO Members Recognized for
Initiatives Improving HMA Quality**

Warm Mix: The Wave of the Future?

CHEW *it up*



Milling - Cold Recycle



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OHIO ASPHALT

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Attendees of FPO's 44th Annual Meeting, Equipment Exhibition and Trade Show get a sneak peek of the latest asphalt machinery at this spring's two-day event. For coverage of the Annual Meeting's seminars and pavement and service awards see coverage beginning on page 6.



Flexible Pavements of Ohio is an association for the development, improvement and advancement of quality asphalt pavement construction.
info@flexiblepavements.org

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Fax: 614-221-0394

Website: www.flexiblepavements.org

Creative Director
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Megan Brown

Layout & Design
William Voisard

Ad Sales & Editorial Preparation
TRIAD, Inc.

Editorial Staff
Jerry Marks
Laura Van Houten

371 County Line Road West
Westerville, OH 43082
614.846.8761 or 1.800.288.7423
fax: 614.846.8763
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Ohio to Showcase Warm Mix Asphalt Technologies



FRED F. FRECKER P.E.,
President &
Executive Director

The newest technology to emerge from the asphalt world is called warm mix asphalt (WMA) and it is creating quite a stir. It's easy to see why. WMA has the potential to aid compaction, extend the paving season, allow longer haul distances, extend pavement life, save fuel, reduce emissions and odor at the asphalt plant, reduce emissions at the paving site, and provide a more comfortable work environment.

You probably have read or heard something about WMA by now. In case you haven't, this issue of *Ohio Asphalt* contains an article by Dr. David Newcomb, NAPA's vice president for Research & Technology, which explains the various technologies used to create WMA. Also in this issue is an article describing The Shelly Company's experience with using one of the WMA technologies to build a new haul road to one of its asphalt plants.

All the excitement about WMA has lead FHWA to put together a Technical Working Group (TWG) to serve as the focal point in the evaluation and implementation of WMA technology. The WMA-TWG is comprised of representatives from FHWA, state DOTs, AASHTO, unions, contractors, NCAT, NAPA and the state asphalt pavement associations. Flexible Pavements of Ohio is one of the three state asphalt pavement associations representing their counterparts on the TWG committee.

One of the first goals of the TWG was to put together a testing protocol for evaluating WMA and then constructing two projects to field trial this protocol. Establishing this protocol is critical in order to establish comparable results in a database of testing and performance information. The two state DOTs that will be constructing the field trial projects this construction season are Texas and Ohio.

The ODOT project will be constructed on State Route 541 just west of Interstate 77 in District 5. The sale date is June 25th. The 12-mile project will use three WMA technologies and a control section, all of approximately equal length. The three WMA technologies to be evaluated are Aspha-min, Sasobit and Evotherm. These three technologies have been constructed on the NCAT test track at Auburn University in Alabama. Data from that test project provided the basis for the draft protocol and documented their suitability for inclusion in the field trial.

A national Open House will be held Sept. 12, 2006, in conjunction with Ohio's Warm Mix Asphalt Field Trial. This

Open House will showcase presentations on warm mix in general and the specific technologies used in the field trial. It will also include a field trip to the asphalt plant and the paving site. This is an excellent opportunity for Ohio specifiers, contractors, consultants and others to learn about WMA from a cadre of national quality presenters without having to travel out of state. More information on the Ohio WMA Field Trial and Open House will soon be available on our website at www.flexiblepavements.org. In the meantime, set aside September 12th to learn what WMA is all about.

I should also mention that the 2nd International Conference on Perpetual Pavement is being held in Columbus, September 13-15. The Warm Mix Open House was backed up to this conference to facilitate those traveling to Ohio from around the nation to attend these events. To have these two conferences available to us in Ohio is truly extra-ordinary and an opportunity that should not be squandered.

On another note, if you did not attend the Flexible Pavements Annual Meeting and Equipment Exhibition this past March 28th & 29th, you missed quite an event. For the first time the meeting was held at The Hilton at Easton. Attendance was up more than 20 percent from the previous year and it featured the largest trade show we have had in quite a few years. So while you are marking your calendars be sure to note the tentative dates for next year's meeting on March 20th & 21st, 2007. I say tentative, because of a change in the schedule for next year's World of Asphalt, it may be necessary to re-schedule our meeting. In any event, we'll be back at Easton.

A closing note on the optional bid projects ODOT has been letting to contract. These projects allow the contractor the option of bidding either asphalt or concrete pavement. If an asphalt pavement is bid, the amount of the assumed additional maintenance over the next 35 years is added to the bid to determine the low bidder. Three such projects have recently gone to sale: DEF-24-9.76, CUY-480-15.81 and FRA/LIC-161-22.15/0.00; in all three cases an asphalt pavement was the low bid, even when assuming an increased maintenance cost for the next 35 years. These projects confirm that HMA provides the best choice for long-term economical benefit in addition to having the lowest first cost.



Members Enjoy It To The Hilt

FPO holds 44th Annual Meeting at the Hilton Columbus at Easton

Companies were honored; students received scholarships; individuals learned new ideas concerning asphalt – and that was just part of Flexible Pavements of Ohio's 44th Annual Meeting, Equipment Exhibition and Trade Show.



Having the two-day event, held March 28-29, at a new venue proved to be successful for FPO officials. Many association members worked their way through the Equipment Exhibition and Trade Show, which was held in the hallways and parking lot of The Hilton Columbus at Easton.



Tuesday, March 28, started with the Indoor and Outdoor Trade Show, where companies – despite the rainy weather – received the opportunity to “show off” their work and equipment to peers. Following the Membership Luncheon and Annual Business Meeting, association members had the opportunity to hear the first of nine seminars spread over the two-day event.

Attendees of FPO's 44th Annual Meeting, Equipment Exhibition and Trade Show received a warm, albeit wet, welcome from the event's new venue at the Hilton Columbus at Easton. More than 300 FPO members and industry representatives attended the March 28 & 29 meeting.

During General Session 1, FPO members had the opportunity to learn from:

- David Hein of Applied Research Associates, who spoke on “Preventative Maintenance Process Analysis”
- Dr. Shad Sargand, a Russ Professor of Engineering at Ohio University, who spoke on “Wayne US 30 Perpetual Pavement – Lessons Learned”
- George White, CEO of Pavia Systems, who spoke on “New Computer Tools and On-Line Training”
- Brian Wood, executive director of Plantmix Asphalt Industry of Kentucky, who spoke on “Pavement Selection Kentucky Style”

- Kent Lande, chief engineer at the Louis Berger Group, who spoke on “Rebuilding 389km of War-Torn Roads in 207 Days: The Kabul Kandahar Road, Afghanistan”

The annual meeting’s first day’s activities concluded with the Chairman’s Reception.

During the Prayer Breakfast on Wednesday, March 29, 26 students from Ohio universities and colleges received association scholarships from Fred Frecker, president of FPO. Awards for the HMA Mixture Competition also were presented before participants heard from Alan Pisarski, consultant and chairman of The TRB History Committee, who discussed “Celebrating the 50th Anniversary of the Interstate Highway System.”

Following the breakfast, association members participated in General Session 2’s seminars, which included:

- Patrick Jacomet, executive director of the Ohio Aggregates and Industrial Minerals Association, who spoke on “Aggregate Certification Issues and Availability of Quality Aggregate”
- Larry Shively, vice president of Quality Control at The Shelly Co., who spoke on “Warm Mix Asphalt Trial” (see page 24)
- Bill Haverland of Conoco-Phillips, Inc., who discussed the “World Asphalt Binder Outlook”
- David Powers, Asphalt Materials Engineer from ODOT, who gave an update on “ODOT Specifications”

Information from the presentations made at the Annual Meeting is available on the association’s website at www.flexiblepavements.org under the Education/Training section.

The 44th Annual Meeting, Equipment Exhibition and Trade Show ended with a luncheon and awards ceremony (see page 8) where companies were honored for 32 different projects. The Industry Service Award and William B. Baker Award were also announced.

All in all, trying out a new place for the annual meeting started and ended successfully for FPO. So successful in fact, they plan to go back in 2007.



David Hein



Brian Wood



Kent Lande



Patrick Jacomet



Larry Shively



Bill Haverland



David Powers

FPO Members Recognized For Initiatives Improving HMA

Projects, facilities and individuals honored at association's Annual Meeting Awards Ceremony

BY LAURA VAN HOUTEN

Flexible Pavements of Ohio has always focused on "development, improvement and advancement of quality asphalt pavement construction." So like Nick Little, FPO Chairman of the Board, said during the association's Annual Meeting Awards Ceremony, "it is fitting that our industry should embrace initiatives that improve HMA quality."

The FPO Awards Ceremony was held during the association's 44th Annual Meeting, Equipment Exhibition and Trade Show, held March 28 and 29 at the Hilton at Easton in Columbus. The event, which included trade and equipment shows, forums, seminars and meetings, was host to more than 300 members and industry representatives.

FPO members are continuing to improve the industry. In cooperation with ODOT, every project will require that a "Field Quality Control Supervisor" be responsible for each day's production and construction of the asphalt pavement. In addition, all asphalt pavers must be certified with ODOT before the paving season begins. "These steps further enhance our industry's commitment to the construction of quality pavements," Little said.

Here is a look at FPO's 2005 honored projects:

QUALITY AWARDS FOR ASPHALT PAVING

ODOT Pavements

Wood County, S.R. 18, from the Henry County Line to Hoytville South Corporation Limit

This ODOT District 2 project was the department's first cold-in-place recycling project using foamed asphalt. The project, with Gerken Paving as paving contractor, involved 92,500 square yards (SY) of cold-in-place recycling of the top 4 1/2 inches of the pavement. A PG58-28 binder was foamed into the recycled pavement and a two-course overlay of hot mix asphalt (HMA) followed the cold-in-place recycling. The mix was 5,200 tons of 448, 9.5-mm mix in a 3/4-inch intermediate course and 8,200 tons of 448, 9.5-mm mix in a 1 1/2-inch surface course.

Accepting the award was Jeff Giesler, area manager, Gerken Paving.



Fairfield County, U.S. Route 33, Phase 4 of the Lancaster bypass

This ODOT District 5 project consisted of the construction of 2.7 miles of a four-lane divided highway along new alignment. The project, with The Shelly Co. as paving contractor, included the construction of new ramps to tie the Lancaster bypass into existing U.S. 33 at its easternmost point. The project was the final phase of the 4 1/2 -year project. The pavement, which carries a seven-year warranty, was built with 10 inches, 50,000 tons of warranty asphalt pavement and 6 inches of crushed base.

Accepting the award were Joe Zubovich, ODOT project inspector, and Scott Cooperrider, paving foreman, The Shelly Co.



Wood County, S.R. 65, from the Rossford Corp. limit to Perrysburg

The ODOT District 2 project consisted of Gerken Paving milling 3 1/2 -inches of asphalt and replacing it with 1 3/4 -inches of 19-mm intermediate course and 1 1/2-inches of 9.5-mm surface course HMA. The project was the first to use the notched wedge joint specification in District 2. The notched wedge joint was staggered and binder was applied to the entire face of the joint prior to pulling up the adjacent lane in an attempt to provide a stronger centerline joint. A 40-foot ski was utilized to maximize pavement smoothness and work was completed ahead of schedule. Gerken used 5,560 tons of 448, 19 mm mix and 4,700 tons of 448, 9.5 mm mix.

Accepting the award was Jeff Giesler, area manager, Gerken Paving.



Fayette County, I-71, from the Greene County line to S.R. 41

The ODOT District 6 project was a full reconstruction of Interstate 71 involving the removal of the existing four lanes of rigid pavement and replacing it with six lanes of deep-strength warranty asphalt, which was completed by the John R. Jurgensen Co. The paving contractor used 424,322 tons of 302, big rock, bituminous aggregate base; 62,215 tons of Type 2 intermediate course; 52,700 tons of Type 1H surface course and intermediate and surface course mixes used polymer modified binder.

Accepting the award was Mike Davis, asphalt paving foreman, John R. Jurgensen Co.



2005 QUALITY AWARDS

Richland County, S.R. 39

The limits for this ODOT District 3 project, completed by the Kokosing Construction Co., are from Neff Road to Taylortown Road. The project called for a two-course overlay of S.R. 39. Kokosing used 5,849 tons of 448 Type 1 intermediate course and 12,431 tons of superpave, Type A, 9.5-mm surface course. Kokosing achieved the full 104-percent density bonus payment for all surface course material placed.

Accepting the award was Steve Malone, area manager, Kokosing Construction Co.



Logan County, U.S. 33

The limits of this ODOT District 7 project are from S.R. 117 to Barnes Road. The work, which was completed by The Shelly Co., consisted of pavement planing and resurfacing with a two-course overlay. Materials used included: 3/4-inch intermediate course using 9.5-mm mix and 1 1/2- to 1 3/4-inch surface course consisting of a 12.5-mm mix with PG70-22 and PG76-22 binders for use in medium- and high-stress locations. Total tons placed of all mixes used on the project was 40,028, and grade control was used in conjunction with a non-contact transfer machine to promote smoothness, uniform heat transfer and minimize end-of-load segregation.

Accepting the award were Lee Eilerman, project engineer, ODOT District 7, and Charles Searles, paving superintendent, The Shelly Co.



Little Miami Scenic River Bikeway, City of Lebanon

The ODOT District 8 project consisted of a new bikeway approximately nine miles long on new alignment coupled with portions of abandoned railroad bed. The project, which was completed by Barrett Paving Materials Midwest South Region, was environmentally sensitive since it crossed the Great Miami Valley Aquifer System. Trees and stumps were removed and the soil profile was established with drainage and connections to existing pipes and utilities. The pavement buildup included: 3 inches of 448, Type 1 intermediate and surface course; and 8 inches of crushed stone base on prepared subgrade. Barrett used 3,820 tons of Type 1 intermediate and 2,728 tons of Type 1 surface.

Accepting the award was Donald Cash of Barrett Paving Materials, Midwest South Region.



Jefferson County, S.R. 7, from milepost 4.77 to 10.82

The ODOT District 11 project consisted of milling the existing pavement to a depth of 3 1/4-inches and overlaying it with a multiple-course overlay. Shelly & Sands, Inc. used superpave mixes in the multiple-course overlay – the intermediate course thickness was varied between 3 1/4 to 3 1/2-inches and the top course was 1 1/2-inches thick. Shelly & Sands used 56,000 tons of overlay to complete the project. Field density attained placed the company in the bonus pay category.

Accepting the award were Pat Albarano, project engineer, ODOT District 11, and Chuck Taylor, superintendent, Shelly & Sands, Inc.



Local Road or Street

Hancock County, Township Road 242

This Marion Township job involved excavation for widening, then the mixing of existing pavement with the existing sub-base and spreading for a base. Atop of this, The Shelly Co. placed a crushed aggregate base and two courses of HMA. Item 301, bituminous aggregate base was used as a first course and a 448 Type 1 mix capped the base. The buildup included 1,093 tons of asphalt concrete base placed 3 inches thick and 1,215 tons of Type 1 mix placed 1 1/2-inches thick.

Accepting the award were Ken Fern, paving superintendent, The Shelly Co., and Bob Johnston, Marion Township trustee.

**Roadways of Village Hill Estates, Castalia**

This DSW Properties' residential area consisted of the construction of new subdivision streets, which were completed by Erie Blacktop. The buildup included: 3 inches of bituminous aggregate base; 1 3/4-inches of 448 Type 2, asphalt concrete intermediate course; and 1 1/4-inches of 448 Type 1, asphalt concrete surface course. Erie Blacktop used 1,096 tons of 301 bituminous aggregate base; 452 tons of 448 Type 1 and 592 tons of 448 Type 2.

Accepting the award were Eugene Windau, DSW Properties, and Randy Schaffer, paving foreman, Erie Blacktop.



2005 QUALITY AWARDS

Monroe Street, from Willis Boulevard to Crary Drive, Toledo

The Toledo project called for turn lane additions, curb replacement along the length of the entire project, drive apron installation, paving, widening and milling. The Shelly Co. used approximately 6,200 tons of HMA to complete the work. The buildup included: 8 inches of crushed aggregate base; 7 inches of Item 302, big rock asphalt concrete base; 1 1/2 - inches of 446 Type 2; 1 1/2 - inches of 446, 9.5-mm mix and performance grade binder PG76-22 was used in the surface and intermediate courses.

Accepting the award was Larry Clymer, paving superintendent, The Shelly Co.



Sunset Boulevard and Johnson Road Intersection, Steubenville

The upgrade of the Steubenville intersection included the addition of new curbs, sidewalks, drainage improvements and a complete HMA overlay as well as a turn lane to access medical and educational facilities on Johnson Road. Shelly & Sands, Inc. used 800 tons of 301; 775 tons of 448 Type 1 intermediate and 520 tons of 448 Type 1 surface course.

Accepting the award were Michael Dolak, city engineer, Steubenville, and Ed Leonard of Shelly & Sands, Inc.



North Defiance Street, from Lutz Road to the Norfolk Southern railroad tracks, Village of Archbold

The village project included full-depth asphalt paving following roadway reconstruction. The surface was stone mastic asphalt placed 1 1/2 - inches in thickness using a 76-22 performance grade binder and portions of the project were imprinted using the "street print" process. Gerken Paving used 6,400 tons of 302 asphalt concrete base; 2,100 tons of Type 2 material using PG70-22 binder and 1,400 tons of SMA surface.

Accepting the award were Steve Creager, project manager, Gerken Paving, and Robert Seaman, village engineer, Archbold.



Reconstruction of S.R. 43 in Steubenville

The Steubenville project consists of the removal of deteriorated concrete pavement and replacement with approximately 7,700 tons of HMA. Shelly & Sands, Inc. used 301 asphalt concrete base, Type 2 intermediate and 448 Type 1H. To ensure a smooth, long-lasting pavement, polymer asphalt was used in the surface course.

Accepting the award were Michael Dolak, city engineer, Steubenville, and Ed Leonard, of Shelly & Sands, Inc.



Reading Road, from North Street to Voorhees Street, City of Reading

The City of Reading project included complete reconstruction of the street with new curbs, side-walks, streetscape and grinding, plus repaving the existing pavement. Barrett Paving Materials, Midwest South Region, installed a two-course overlay and used 2,558 tons. The buildup included 1 inch of Item 403, leveling course and 1 inch of Item 404, surface course.

Accepting the award was Bryan Mount, Barrett Paving Materials, Midwest South Region.



Roadways for the Walton Avenue Bridge Economic Development Project

The Walton Avenue project in Mahoning County is a brownfield project to encourage economic development – it is located at the former site of a sheet and tube steel mill. The project, which was completed by Shelly & Sands, Inc., included the reconstruction of three sections of roadway to accommodate the new Walton Avenue Bridge. Pavement construction called for deep strength asphalt – Shelly & Sands used 2,000 tons of 301 asphalt concrete base, 700 tons of 448 Type 2 and 500 tons of Type 1 material.

Accepting the award were Paul Wilson, project manager, Shelly & Sands, Inc., Richard Marsico, Mahoning County engineer, and Randall Partika, Mahoning County bridge engineer.



2005 QUALITY AWARDS

Bettes Corners, intersection of Home and Tallmadge streets, City of Akron

Full-depth pavement replacement with HMA was used at Bettes Corners, which is one of Akron's busiest intersections. Shelly & Sands, Inc. used 8 3/4-inches of 301, 1 3/4-inches of 446 Type 2 and 1 1/2-inches of 446 Type 1. The project was a difficult job that involved three structures at one elevated intersection; paving areas were short runs and approach slabs to bridges were at extreme skews, creating a challenge to obtaining good smoothness; and the pavement profile also involved vertical curves.

Accepting the award was Paul Wilson, Shelly & Sands, Inc.



Commercial Parking Facility

Owens Community College, Findlay Area Campus, Campus Parking Facility

The Shelly Co. used 6,100 tons of asphalt to complete the Owens Community College project – a new school parking lot. The company used 448 type 1 and 2 mixes in a multiple-course overlay.

Accepting the award was Ken Fern, paving superintendent, The Shelly Co.



Youngstown Convocation Center Parking Facility and Roadways

Shelly & Sands, Inc. used both heavy- and standard-duty HMA thickness designs for the parking facility at the Youngstown Convocation Center, which was constructed on a former steel mill brownfield site. The company used 7,200 tons of HMA to complete the project, which constituted 29,500 SY of pavement.

Accepting the award were Paul Wilson, project manager for Shelly & Sands, Inc., and Richard Marsico, Mahoning County engineer for the City of Youngstown.



Kalahari Drive and Kalahari Resort Parking Facility

The Erie County and Kalahari Resorts project consisted of the construction of new roads and parking lots to service the facility, which is Ohio's largest indoor water park. Erie Blacktop used 1 1/2-inches of 448 Type 2 and 1 inch of 448 Type 1 for the parking lot and 3 1/2-inches, 301 bituminous aggregate base. For the roadway buildup 1 3/4-inches, 448 Type 2 with PG70-22 polymer modified binder and 1 inch, 448 Type 1H with PG70-22 polymer modified binder were used. The company used a total of 17,650 tons.

Accepting the award were Randy Wikel, paving foreman, Erie Blacktop, and Jack Farschman, Erie County engineer.



St. John Arena Parking Facility Reconstruction

Miller Pavement Maintenance used mixes 301, 402 (intermediate course) and 446 (density acceptance) to complete the project on The Ohio State University campus. The company used a total of 6,100 tons.

Accepting the award were Glen Harrison, paving foreman, Miller Pavement Maintenance, and Buzz Foresi, The Edge Group.



Sycamore Creek Country Club Parking Facility and Cart Staging Area

The Sycamore Creek Country Club project included the restoration of failed pavement and the paving of a new cart staging area and maintenance facility. Southern Ohio Paving used mixes 301, 402 and 404 to complete the work.

Accepting the award was Matt Arledge, estimator/project manager, Southern Ohio Paving.



2005 QUALITY AWARDS

Kelleys Island Ferry Service Parking Facility and Launch Ramp

Erie Blacktop used 4,900 tons of HMA to complete the project on the Kelleys Island Ferry Service Parking Facility, which is the only launching point for transportation to the island. The buildup included 1 1/2-inches of 448 Type 2 intermediate course; 1 1/2-inches of Type 1 surface course and 3 1/2-inches of asphalt concrete base, item 301.

Accepting the award were Dean Wikel, Erie Blacktop president, and Scott Stevenson of Kelleys Island Ferry Service.



Airport Pavement

Runway 7-25, Findlay Airport

The rehabilitation of runway 7-25, which was completed by The Shelly Co., brought the pavement of the previously privately owned facility up to federal specifications. The airport runway, now owned by the City of Findlay, is 6,000 feet long and 100 feet wide. The Shelly Co. used approximately 15,000 tons of P401 base, intermediate and surface course material to cover the pavement. Up to three leveling courses were placed to correct the grade – which in some locations called for 11 inches of HMA to make the correction in order to meet FAA criteria.

Accepting the award were Larry Norris, paving operations manager for The Shelly Co., and Tony Iriti, City of Findlay mayor.



Special Use Pavement

Larkins Hall Tennis Courts

Decker Construction placed the stone base, fabric and asphalt after the fence posts, hitting wall and concrete trench drains were installed around the perimeter of each court, creating difficulty with site access and grade control. Buildup on The Ohio State University tennis courts included: Mirafi 500X geotextile, Type D fabric; 6 inches of 304 aggregate base; prime coat; 1 1/2-inches of 402; tack coat; glassgrid 8501 and 1 1/2-inches of 404 using limestone aggregate. The company used 640 tons of 402 intermediate course and 640 tons of 404 surface course.

Accepting the award were Jonathan Apple, Decker Construction project manager, and Rick Prickett, Decker Construction foreman.



North Coast Inland Bike Path, Sandusky County

The Sandusky Park District project was the resurfacing of an existing bike path where Gerken Paving used Smoothseal Type A mix. The Smoothseal was placed 3/4-inch thick.

Accepting the award were Jeff Giesler, Gerken Paving area manager, and Deputy Sandusky County Engineer Mark Swartz.



Holmes County Trail

The Holmes County Trail, which is owned by the Holmes County Rails to Trails Coalition, is composed of two surface types since it is used for recreation as well as transportation for the local Amish community. The recreational side of the trail, is composed of two lifts of HMA. The horseback riding and buggy traffic side features an HMA base with chip seal surface providing an obvious physical delineation for various modes of travel. It took 11 miles of linear grading, 11 bridge modifications and tunneling a new box culvert under S.R. 83 to complete the project. Kokosing Construction Co. used 20,000 tons of aggregate base; 43,000 SY of chip seal and 14,000 tons of HMA.

Accepting the award were Joan Simcak, executive director of the Holmes County Rails to Trails Coalition; Brandon Wilson, Kokosing Construction Co. project engineer, and Bart Moody, Kokosing Construction Co. project manager.



Master Craftsman Award

While all of the other awards are for projects completed in the previous year, the Master Craftsman Award is given to a project highlighting the longevity provided by HMA. The minimum criteria to be considered for this award are: the pavement surface must have exhibited a minimum service life of 15 years; the pavement is still in service or has been resurfaced in 2005, and the level of service provided by the pavement is acceptable for its application. Normally only one award is given per year, but this year two projects received the honor.



Wood County, S.R. 199

The ODOT District 2 project was placed in 1987 by Millers Brothers Construction Co., providing for 18 years of uninterrupted service. The project is approximately 12 miles long and begins at milepost 6.24. The current traffic count is 2,900 vehicles per day.

Accepting the award for Millers Brothers Construction Co. were Kurt Clark and Bob White.



Runway 7-25, City of Findlay Airport

The City of Findlay project was originally resurfaced in 1987 by S.E. Johnson Companies – The Shelly Co. Findlay Division. At the time of the resurfacing, runway 18-36 was also rehabilitated and the combination of the two required the use of almost 13,000 tons of HMA.

Accepting the award were Larry Norris, The Shelly Co. paving operations manager; Tony Iriti, City of Findlay mayor; and Don Weber, The Shelly Co. vice president.

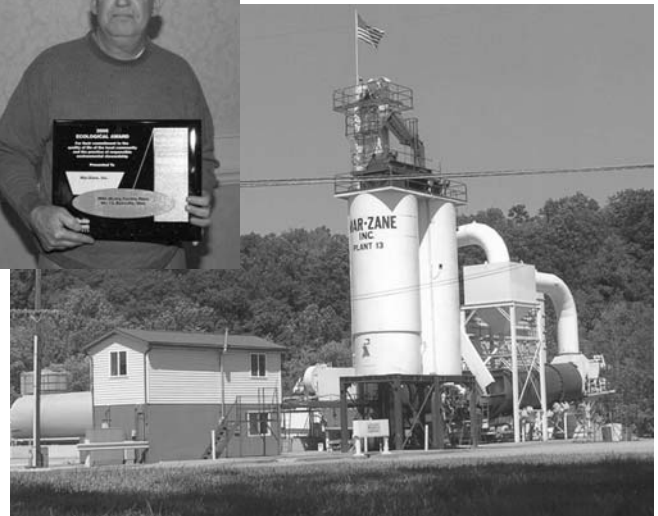


Ecological Award

This award is given for a company's commitment to quality of life of the local community and the practice of responsible environmental stewardship. Normally only one award is given per year, but this year there was a tie.

Mar-Zane Plant No. 13

From 1994 to 2004, Mar-Zane Plant 13, located in Byesville, was operated as a 7-foot Bituma Store parallel flow drum mixer. In order to eliminate emissions and at the same time increase production from a 180-ton per hour plant, Mar-Zane decided to upgrade the plant in 2004. The upgraded plant will produce more than 300 tons per hour with fewer emissions than the old plant. To accomplish this, the company added a 9-foot-by-36-foot Barber Greene counter flow dryer, a Stansteel rotary mixer and 30,000 gallon liquid storage tank. Automation at the facility was upgraded as well, as the baghouse and emulsion storage facilities were enhanced. New storm water prevention was also designed and installed, which included construction of tank containment. Trees, shrubs, grass and signage were also added to enhance aesthetics.



Accepting the award was Robert Hamilton, Mar-Zane, Inc. plant foreman.

Shelly Materials Plant No. 94

Shelly Materials Plant No. 94, which is located in Reynoldsburg, is an ASTEC double-barrel counter flow drum mix facility. The company had the plant installed with the latest burner technology and incorporated hardware to capture blue smoke and odor that potentially could emanate from the asphalt storage tanks. Frequent burner tuning and in-house stack testing keeps the plant at peak performance. The plant has an environmental reporting program that reports directly into the Shelly Materials' main office, allowing environmental management personnel to monitor the plant for compliance.



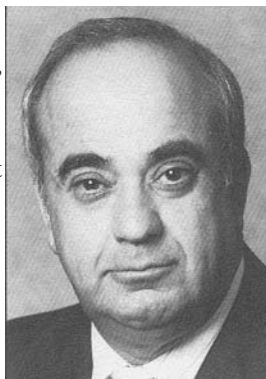
Accepting the award was Ed Vanek, Shelly Materials asphalt plant superintendent.

WILLIAM W. “BILL” BAKER AWARD

Pete Alex, The Shelly Co.

The recipient of the 2006 William W. “Bill” Baker Award is Pete Alex, whose leadership helped guide the asphalt industry in its response to the asphalt/concrete war of words at both the state and national levels.

Alex went to work for The Osterland Company – where his brother, Jim, was secretary at the time – in 1958, when he returned home from serving in the U.S. Army. Starting as a laborer, then working as a truck driver, operator and then into a supervisory position with the company, Alex ultimately became Osterland’s president. The Shelly Co. bought Osterland in 2003 and Alex worked for it until he retired earlier this year.



Pete Alex

Alex has been involved in FPO by serving on the Board of Directors from 1993 to 1999. He served on many committees and chaired the association’s Marketing Committee for most of that time. He served as treasurer in 1993, co-chairman in 1994 and chairman in 1995. After a year’s absence, Alex returned to the board in 2000 and served until 2005. During that time, he chaired the Education Committee.

Alex has been active on the national level as Ohio’s State Director to the National Asphalt Pavement Association (NAPA) from 1998 to 2003. He also served on the national associations Awards, Marketing, Facility Zoning and Permits, Legislative and Executive committees. Alex was a leader in forming the Asphalt Paving Alliance, whose goal was to preserve the industry’s market share in the face of a major marketing blitz by the Concrete Paving Industry. He was co-chairman of that organization from 2002 to 2004.

The William W. “Bill” Baker Award was established by FPO’s Board of Directors in memory of Bill Baker, who served as President/Executive Director of the association from 1976 until his untimely death in 1991.

The award is symbolized by the American eagle as it also stands for those traits of quality, dedication and respect for



William W. “Bill” Baker Award recipient Pete Alex was out of the state during the award ceremony but it was accepted by nephew Steve Alex from FPO President and Executive Director Fred Frecker.

which Baker was so well known. The Baker award is the highest honor the association can bestow – the recipient is to be a person, organization, project or roadway that has had a significant and positive impact.

Alex was out of the state during the awards ceremony, so the award was accepted on his behalf by his nephew Steve Alex.

INDUSTRY SERVICE AWARD

Ron Morrison, Shelly & Sands, Inc.

If you had a question regarding mix design, plants or hot mix asphalt (HMA) production, Ron Morrison is who you went to see. Morrison, vice president of Environmental Affairs at Shelly & Sands, Inc., is the recipient of the 2006 Industry Service Award

The Industry Service Award was instituted in 2003 to recognize an individual who goes above and beyond the duties of his or her job to provide service to the industry at large through their involvement in the activities of Flexible Pavements of Ohio (FPO).



Ron Morrison proudly displays the Industry Service Award he received from the association.

Morrison, a Muskingum College graduate, started at Shelly & Sands in 1979, where he started as a Quality Control Manager under Bill Hamm and later was responsible for all mix design and quality control for the company's asphalt plants. In this capacity, Morrison was responsible for all permitting and environmental issues for the plants.

Morrison, who retired this March, has been a mainstay of FPO's Technical Committee. He was a "go-to guy" if you had questions about mix design, plants or HMA production, as he taught the Level II – now Level III – Mix Design School for many years to help others become certified in performing mix designs for ODOT.

A key member of FPO's Environmental Committee, Morrison was always involved in the association's committees that were working on issues with regulatory agencies such as OEPA.

HMA MIXTURE PERFORMANCE COMPETITION AWARDS

Ohio Northern University – Naomi Schmidt, Jeremy Schroeder and faculty advisor Dr. Subhi Bazlamit.

The winner of the 2006 HMA Mixture Performance Competition is Ohio Northern University's team, comprised

of Naomi Schmidt, Jeremy Schroeder and faculty advisor Dr. Subhi Bazlamit.

In the FPO-sponsored competition, students design an asphalt mixture to resist rutting as determined by a loaded wheel-testing device. The teams are supplied the same aggregates and are allowed to use any gradation, binder or additive they wish in their design. Selection of the winning team is based on rut depth, a written report, which includes an economic analysis, and an oral presentation to a panel of industry experts.

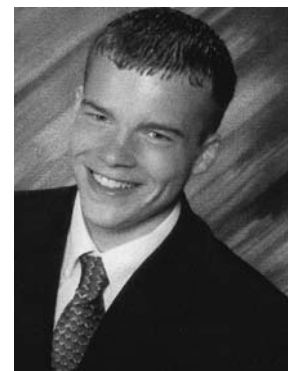
Open to Ohio's civil engineering colleges/universities, Sam Feltner of Martin Marietta Materials ships aggregate to all the university teams, and Dave Powers with ODOT, along with serving as a judge for the competition, runs the rut test on all the submitted samples. For those universities which do not have their own labs, the member producers provide laboratory facilities for the students to do their mix designs and testing.

Ohio Northern has participated in the competition every year since its inception in 1996. During that time, they have finished first three times, second five times and third twice. Since the university does not have an asphalt lab, this year they used the facilities at The Shelly Co. in Findlay.

The team will now move on to compete against Wisconsin and New York for the national title. Last year, Ohio University brought back the national title to Ohio.



Naomi Schmidt



Jeremy Schroeder



Warm Mix: The Wave of the Future?

BY DAVE NEWCOMB, P.E., PH.D.

Imagine if hot mix could be produced at 50 to 75 degrees Fahrenheit lower than is now done, then trucked to the site and paved and compacted with the needed density, smoothness, and rut resistance! Some of the advantages would include lower emissions and wear on the plant as well as lower energy consumption. Neighbors and employees might even notice the reduction in fumes, odors, and emissions. In the long run, the final product might experience less cracking because the binder did not age as much during construction.

You're thinking, "Right . . . when Captain Kirk opens a Hot Mix plant and hires Scotty to run the lab!" Well, the 21st Century is here and you can set your infrared gun to stun because warm mix is on the way.

The Europeans have already begun using technologies to lower mix temperatures, and the results so far have been very promising. Much of the incentive in Europe comes from the goals to reduce emissions in mastic and gussasphalt mixes (mastic and gussasphalt are high temperature mixes that are not used in the U.S.) and the reduction of greenhouse gases in response to European Union mandates. In the U.S., we are beginning to look at warm mix technologies with an eye to the future, and the hope that the promising benefits they bring can be realized.

Currently, at least four different processes are being actively marketed:

- A process that uses foamed asphalt
- One that relies on a mineral additive
- One that involves the use of an organic additive
- A chemically based method

Some of these proprietary approaches are being examined at the National Center for Asphalt Technology at Auburn University to see what impact they may have on the performance of asphalt mixtures in a U.S. setting. This research



will be important to the ultimate acceptance of warm mix technology by owner agencies.

The WAM (Warm Asphalt Mix) foam process was a joint development between Shell and Kolo Veidekke a.s. In this technique, aggregate is initially coated with a soft asphalt binder and mixed. Then, harder asphalt is foamed by injecting a small amount of cold water into the hot binder under controlled conditions. The resulting steam causes the hard asphalt to increase in volume.

The foamed asphalt is then added to the pre-coated aggregate and mixed. The foaming reduces the stiffness of the mix, which increases its workability, thus allowing the lower production temperature. This type of mix has been successfully produced in both batch and drum plants. Reductions in mix temperatures from 310 to 230 degrees Fahrenheit have been reported.

The process was first used in Norway in 1996 on a rural road. The WAM foam material was placed side-by-side with regular HMA. In this project, and at least three others, the WAM foam material has performed as well as, or better than, conventional HMA; all this with a 30-percent reduction in energy and CO₂ emissions, a 50- to 60-percent reduction in dust, and fumes that are below the detection limit – while the production rate is maintained. The only issue noted in the plant is the presence of some humidity in the batch plant stack.

Aspha-min, is a process marketed by Eurovia that uses a mineral additive called zeolite. Zeolite is a fine crystalline hydrated aluminum silicate that is added at a concentration of about 0.3 percent to the mix in the temperature range of 250 to 295 degrees Fahrenheit at the same time as the asphalt binder. The zeolite releases a small amount of water into the mix to create a mousse that reduces stiffness of the mix and increases the workability. Again, the result is the ability to reduce the mix temperature.

The Aspha-min process can be done in either a batch or drum plant, and the mineral can be fed in either bag form or from a mineral filler silo. No change is required in the mix design of the HMA. A reduction in energy consumption of about 30 percent was reported by Eurovia, with a commen-

surate reduction in CO₂ emissions and a reduction in fumes of about 90 percent. The mix handles the same as a conventional HMA, and the resulting field densities were about the same. It has been used in Europe and in two U.S. paving projects as well as a paving demonstration at the 2004 World of Asphalt.

Organic additives modify the behavior of the asphalt binder by lowering the viscosity at construction temperatures while maintaining the required stiffness at service temperatures. Currently, there are two organic additives that are used, including Fischer-Tropsch paraffin and low molecular weight ester compounds. These products were originally developed to enhance the compaction of HMA, but are now being used to lower the required temperature of the mix.

These materials must be used judiciously since too much additive will create an overly stiff mix at service temperature that might cause the HMA to be susceptible to cracking.

The organic additives can be blended with the hot binder prior to introduction to the mix. Experience thus far suggests that the material be delivered at 300 degrees Fahrenheit or lower, and that over-compaction needs to be avoided. Compaction of SMA can begin at about 250 degrees Fahrenheit. Static rollers are preferred and vibratory rollers should be used with care; pneumatic rollers are not recommended. One of these products, Sasobit, from the Sasol Company, has been used in Germany. After five years, the field performance of the material has remained good. It was recently used to pave the main runway at the Frankfurt Airport in Germany, so that the facility could be rapidly opened and turned over to heavy aircraft traffic.

The last product, Evotherm, relies on an emulsion-based chemically modified binder produced by MeadWestvaco. It can be used with or without a wide range of polymer modifiers. A Superpave Level I mix design approach can be used in determining proportions, and RAP can be included. In South African field trials no problems were noted in mixing and placing the material, and production and paving temperatures were on the order of 140 degrees Fahrenheit.

Compaction was started as soon as the placement was done,

and the road was returned to traffic immediately after compaction. A range of lift thicknesses was employed in these field trials, from about 0.35 to 2.5 inches.

In summary, while there are definite reductions in fumes, emissions, and energy consumption, questions still remain unanswered. Will success in Europe translate to success in the U.S.? How will we handle issues with binder grading when we are changing the way the mix behaves in construction? Although less

cracking might result from a binder that is aged less in construction, will rutting be more of a problem? Will we be able to turn pavements over to traffic as fast as we do now? How much will the new technologies cost and will the benefits justify additional spending?

None of the above issues are insurmountable. It is in our interest to look at these approaches to see if they can be implemented in the long term in the U.S. The study at NCAT will go a long way to provide a beginning in answering some of the questions that are raised. Further work involving the construction of demonstration projects is also planned for the future. Maybe next we can find a way to beam the mix from the plant to the paver!

Reprinted by permission of National Asphalt Pavement Association from their HMA magazine, July/August 2005.



Warm mix asphalt has been serving European travelers for a decade now and is being closely looked at by the American road industry for its lower emissions and wear on the plant as well as lower energy consumption.

OHIO TO TEST WARM MIX IN '06

Projects using warm mix asphalt haven't surfaced in Ohio ... yet. Officials in Ohio, however, say it is only a matter of time before those in the asphalt world start trying the new concept.

Larry Shively, vice president of quality control at The Shelly Company, first heard about warm mix asphalt a couple of years ago. "Actually it was at a World of Asphalt Conference and people were talking about it in some of the technical sessions. It's been used somewhat in Europe and is just now spreading in the United States. I think it has some possibilities – we've got a lot of questions to answer, one of those is durability. That's just going to take time to figure out. We need some experimental projects so that we really test the mix and look for the durability factor." Shively spoke on the Warm Mix Asphalt Trial, at the March 28 & 29 FPO Annual Meeting.

To gain some experience with Warm Mix Asphalt, The Shelly Company produced and placed some WMA using Asphamin, Zeolite, additive for a haul road at its Columbus Plant #91. Shively spoke on their Warm Mix Asphalt trial at the March 28 & 29 FPO Annual Meeting. Shively's presentation can be found on the FPO website.

While some states have experimented with warm mix asphalt, none are currently being used in Ohio. However, Shively said it won't be long until there are. "No projects started yet – Ohio is looking at a test project this year. Right now warm mix is expensive because it's at such a limited basis. We hope the price will go down on the additive. If the durability factor is in there and the price drops, I think it has a chance to be successful in the United States."



Larry Shively

Like most new ideas, advantages and disadvantages can come up. "We're concerned about production rates, which is a big disadvantage; if we have to lower our production rates – those are the things we'll have to learn," Shively said. "The advantages we do see are increase compaction capabilities, longer paving seasons and maybe longer hauls of materials to jobs."



— LAURA VAN HOUTEN

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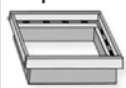
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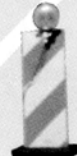
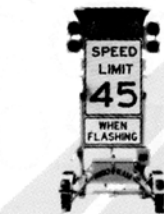


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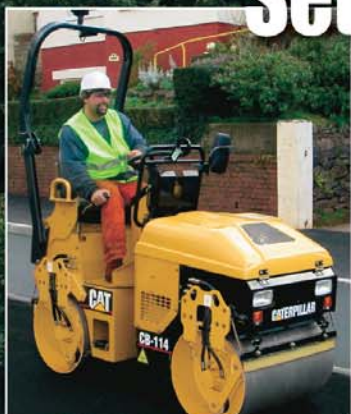
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