



SUBCOMMITTEE ON MATERIALS
100th Annual Meeting – Minneapolis, Minnesota
Tuesday, July 29, 2014
2:30 pm – 4:00 pm CDT

TECHNICAL SECTION 1a
SOIL AND UNBOUND RECYCLED MATERIALS TEST METHODS
MEETING MINUTES (in blue font)

I. Call to Order and Opening Remarks Meeting began at 2:30 p.m.; Bob Burnett, Chair, attending via phone; Andy Babish, Vice Chair, ran the meeting

II.

Roll Call Chair: Bob Burnett, New York Vice-Chair: Andy Babish, Virginia

Alabama – Buddy Cox	Oklahoma – Reynolds Toney
Alabama- Lyndi Blackburn (non-voting)	Ontario – Becca Lane (non-voting)
Colorado – Bill Scheibel	Oregon – Greg Stellmach
Delaware – Jennifer Pinkerton	Pennsylvania- Tim Ramirez
Florida - Dave Horhota	Rhode Island – Mark Felag
Georgia- Richard Douds	South Dakota – Joe Feller
Louisiana – Chris Abadie	Tennessee – Bill Trolinger
Maryland - Tim Smith	Vermont - William Ahearn
Massachusetts - Clement Fung	FHWA – Azmat Hussain
Mississippi - James Williams	AMRL – Tracy Barnhart (non-voting)
Nevada – Reid Kaiser	AMRL – Ron Holsinger (non-voting)
New Jersey - Eileen Sheehy	AMRL- Maria Knake (non-voting)
North Carolina – Jack Cowsert	AMRL – Chris Breth (non-voting)
North Dakota - Ron Horner	AMRL- Greg Uherek (non-voting)

III. Approval of Technical Section Minutes

From the mid-year meeting of March 26, 2014 (attached).

Action: Meeting minutes approved. – MS motion, second AL

IV. Old Business

A. Previous Year SOM Ballot Items- all resolved at mid-year meeting.

B. Previous Year TS letter ballots

1. Ballot # SOM_TS1A-14-01: 2014 TS1a Reconfirmation of Standards to reconfirm eight standards, but T 311 got left off: M 318, M 319, R 27, R 52, T 208, T 233, T 296, T 311. All seven balloted standards passed with 20 Affirmatives and 3 Not Voting. T 311 will be balloted with the next round of reconfirmations to correct the oversight.

Some comments were received along with Affirmative votes and are listed here for consideration by the Technical Section:

On M 318, “Glass Cullet Use for Soil-Aggregate Base Course”, comment from PA:
“Suggest the TS-1a consider the following comment for potential future revision:-
Glass Cullet is also used to manufacture glass beads used in traffic paint (See M247) but has recently been required to meet stringent analytical testing for heavy metals in MAP 21 legislation related to funding of highway projects. Should this standard also address heavy metals in glass cullet in a similar fashion?”

Recommended action: This glass is intended to be recycled beverage container glass. It should not need to be tested for heavy metals. PA not in attendance to clarify; was an affirmative vote with comment. We don’t need to take any action with it, so we can throw it back to PA to see if they want to look into it further to clarify their comment. For now, standard stays published as is but will consider revised wording through TS ballot if PA would like to clarify.

On M 319, “Reclaimed Concrete Aggregate for Unbound Soil-Aggregate Base Course”, comment from PA:

“Suggest the TS-1a consider adding the following or similar language either directly to Section X2.1 (perhaps after 3rd sentence), or as a Note directly below Section X2.1:
“When reclaimed concrete aggregate is in contact with or has been combined with fine-grained glassy blast furnace slag aggregates and the reclaimed concrete aggregate releases concentrated calcium hydroxide minerals into solution, this may result in an activator type reaction that potentially may cement together the glassy blast furnace slag aggregate particles leading to detrimental overall performance of the two aggregates within contact or in combination with each other.”

Recommended action: If the Technical Section feels that this is a worthwhile warning, it could be added by ballot. The Chair did not know if this was a common issue.

Andy (VA) does not have a lot of experience with what PA is referring to. MS can’t think of a situation where you would have slag material in combination with a crushed concrete base. Typically, crushed concrete base would be placed, and then asphalt placed on top of it. Bob (NY) doesn’t think we need to add a warning. No other comments from attendees. We will leave as is for now unless we get more discussion from PA.

On R 52, “Compost for Erosion/Sediment Control (Compost Blankets)”, comment from PA:

“Suggest the TS-1a consider the following comment for potential revision to this standard:-In R 52, Table 1, the row for Particle Size and the columns for Vegetated (column 3) and Unvegetated (column 4) include a “Max. particle length of 6 in. (152 mm)” requirement, while also including in the same Particle Size row the requirement for “3 in. (75 mm), 100% passing”. Could the maximum particle length requirement [6 in. (152 mm)] be eliminated? We assume that the 100% passing 3 in. size will prevent any particle having a maximum particle length of 6 in.(?). We have had questions as to what governs, the 3 in. or the 6 in. especially for elongated particles which may meet the 3 in. requirement in width/thickness dimensions and allow the particles to “pass” but actually be greater than 3 in. in a particular direction.

Recommended action: The maximum length is included to preclude large particles with aspect ratios greater than 2:1. The Chair feels that this should be clear enough. The intent with the 6 inch vs. 3 inch is to limit the aspect ratio to 2:1. MS said this is similar to what we would do with aggregates where we have a gradation/sieve size but also have a length to width ratio. The intent is to keep out particles that might pass through 3 inch slot (like a long stick). There was no other discussion. We will leave for now and ask PA for more information.

On T 208, “Unconfined Compressive Strength of Cohesive Soil”, Mississippi comments:

“Section 6.1 Currently States - "Take a minimum of three height measurements (120 degrees apart) and at least three diameter measurements at the quarter points of the height (1/4 height, 1/2 height, 3/4 height) for a total of nine diameter measurements." T 208 is not consistent T 296 Section 6.2 in regard to measurement of the sample. In the case of T 208, nine diameter measurements seems to be excessive. Because of this, it is recommended that Section 6.1 be revised to be consistent with T 296 and read as follows: Recommended Wording: Section 6.1. "A minimum of three height measurements (120 degrees apart) and at least three diameter measurements at the quarter points of the height (1/4 height, 1/2 height, and 3/4 height) shall be made to determine the average height and diameter of the specimen." This would be consistent with AASHTO T 296 Section 6.2. and nine diameter measurements is excessive.

Recommended action: Ballot to make the suggested change. MS was in attendance at meeting. Sample prep for T 208 and T 296 is very similar. AL tends to agree with 9 measurements being excessive. MS made motion to align T 208 with T 296 since T 296 was just revised; second by ND. Concurrent ballot item #1

2. Ballot # SOM_TS1A-14-02: Revise T 298. However, T 298 belongs to TS1b, so this ballot was withdrawn and TS1b balloted the changes instead, which is as it should be. [TS 1b have addressed this.](#)

3. Ballot # SOM_TS1A-14-03: T 265 Proposed Change, with a proposal from WAQTC to tighten up the definition of the end point of the moisture content test. Ballot passed with 18 Affirmative, 2 Negative, and 3 Not Voting. Comments were centered around not making mandatory the rechecking of mass loss after an overnight drying. ([for every sample](#))

Alabama comment: “ALDOT agrees with the steward in favor of the definition but not the requirement of every sample be checked for constant mass. When testing large number of samples checking constant mass on each sample would require excessive amounts of time to complete testing. For the majority of samples, overnight drying is sufficient. Materials of heavy clay may require additional time and should be left to the judgment of the trained technician testing the sample.”

RIDOT comment: “Most other standards that require drying just say 'to constant mass'. I am not aware of this being an issue. This standard should be consistent with the others. I vote negative to leave as it was before the edits. Also, trying to be too specific (1 h, less than 0.1 percent loss) could lead to other questions....why 1 h and not 30 min, or 15? 0.1 percent loss of what - the original sample mass or from the previous mass?”

Mississippi DOT comment: “Section 6 Procedure - Check with AASHTO Staff regarding the numbering of this section. The procedure is contained in the Section 6 description and 6.1 only contains the notes. I agree with Note 1 that it is impractical to check every sample to assure that the material is dried to a constant mass. Because the Note is non-mandatory, should this be added to the body of the procedure so that it is clear that the intent is to not do this for every sample, but rather when it is questionable whether or not the sample is completely dry? If the practice is to dry the material overnight, it may not be necessary to check to make sure that the sample is at constant mass. If the lab is performing a quick moisture determination, it may be desirable to check the mass at 1-hour intervals to meet this requirement.”

South Dakota comment: “Suggest clarification to the change proposed for Note 1. How many samples should be checked? Or is just drying the sample overnight (15 or 16 hours) good enough by itself, i.e. after 16 hours drying time, no check for additional moisture loss will be needed?”

Recommended action: Suggest that the definition of constant mass (“less than 0.1 percent change to the sample mass after 1 hr of further drying) be added to Note 1 as a clarification, without making it mandatory that every sample receive this treatment.

CO is carrying the torch for WAQTC to make sure we define constant mass in a lot of locations (not just in this standard). Since the notes are considered as guidance, there is a way to wordsmith it in Section 6: “dry to constant mass, in most cases, typically drying overnight is sufficient.” It is important to have it as part of the procedure but it isn’t now mandatory. They would like to add the Note language into the mandatory language. Chair agreed with handling it this way and should address the negative comments.

RI mentioned this affects a lot of standards – if we change it here it needs to be changed elsewhere. WAQTC is going to follow-through on the other standards. It was stated that the two statements may be contradictory. In order to assure that one hour of drying time resulted in 0.1% or less mass loss; could add if you aren’t drying overnight, you can check for constant mass; proposal is to first say to dry overnight and, if not drying overnight, dry to constant mass (and define what constant mass is); constant mass criteria = temperature, time, and change; T 255 mentions constant mass; would set different criteria for agg vs. soil; constant mass may vary by the standard; might be a good idea to have a standard that is devoted to definitions only; it is important to define the term; we could go back to Western Alliance states and re-ballot the standard but there would probably be comments to address going forward again. RI suggested putting in ballot as non-mandatory; RI can work with CO, and ID, on wording; this will be a potential rewrite of the standard; CO and RI will work together to make concurrent ballot item in early September; motion to have concurrent ballot item to revise T 265 – MS, CO second. **Concurrent ballot item #2**

C. Task Force Reports

1. T 90 issue, assigned to MS and NC at mid-year meeting: An observation from Arkansas: The entire section of T90 is now referring to AASHTO T265 moisture content of soil, which is good. But in test T265 the minimum moisture size for -40 materials is 10 grams. In the T90 test method it calls for removing an 8 gram ball to roll and take a moisture sample. In the future maybe we could suggest changing the weight of the ball in T90 to at least 10 grams to match minimum sample size for T265. **Action?** This would be a technical change; MS recommends that we be consistent and make the change to 10 grams; motion by MS, DE second to go to **concurrent ballot #3**.
2. T 100 issue from Mississippi, assigned to NC and MA: The standard calls for the use of distilled water. Carbon Filtered and/or Deionized water have been used for some time by many labs instead of distilled water. The cost effectiveness of installing filtration equipment to produce large volumes of purified water for testing purposes would not meet the specification which calls for "distilled" water. It is recommended that the Technical Section consider the technical merits of adding clarification on this matter. And from Arkansas: Section 5.5, the new listing of 4 different thermometers, is just a little overkill in this test method. It should read as it is without the ASTM E 1 reference: Thermometer-Capable of measuring the temperature range within which the tests are being performed, graduated in a 0.5 degree C (1.0 degree F) division

scale and accurate to 0.5 degree C (1.0 degree F). This allows for various thermometers to be used, as long as the range and accuracy are in. Thus, not including every possible scenario with a page full of different thermometers. Suggestion for wording came from AMRL; Maria Knacke from AMRL – need to be very careful about specifying thermometers; thermometers with uncertainties of 2 degrees probably shouldn't be used for this test; Ron Horner, ND – standard gets lengthy with all the thermometer information, maybe a separate standard about thermometers could be developed (like M 231 for balances) and reference it in the test methods; AMRL agrees that this would be a good idea; another advantage is that as technology changes, all the information would be in one standard; AMRL envisions a standard where we classify thermometers (like M 231); MS will withdraw the thermometer comment but likes the idea of creating a new thermometer classification standard; Maria Knacke of AMRL will develop standard for thermometers by mid-year meeting. Discussion concerning what Tech Section the proposed standard belongs too, potentially Tech Section 5C.

Task Force members had an email discussion, all of which is not included here. Most agreed that filtered and de-ionized water was adequate; one pointed out that merely carbon-filtered water was probably not good enough. Some thought we should engage AMRL in the discussion. Most agreed that the suggested language describing temperature measuring devices was fine, one thought that the existing multiple descriptions was good.

Action? MS hasn't seen any issues with using filtered water – they use it on proficiency samples with no problems; states are spending a lot of money on distilled water that may or may not have an impact on test results; we don't really define what "distilled" water is in the standard; AMRL has definitions on their website – deionized is not the same as distilled but deionized would probably be fine for specific gravity; this is an issue in other standards – again, we could create a standard for definitions; 20-7 research proposal suggested by Georgene, define the right type of water in each SOM standard; there is a huge expense in maintaining the correct type of water in laboratories; go forward as ballot item to change requirement in standard and possibly comb the standards and determine what type of water is appropriate for testing. Motion to revise T 100 to allow deionized and distilled water –MS, RI second; MS will revise his motion to just say "deionized" and not "carbon-filtered" water. **Concurrent ballot #4**

Suggestion by GA to consider a 20-7 proposal to investigate this issue but proposal would need development. 20-7 potential project was not discussed at the Research Liaison meeting on Friday, Aug 1. Work would need to be done to develop 20-7 proposal.

3. T 146 does not produce a test result and should therefore not be a test, but a practice. This is what we did with T 92 previously. Would the stewards Nevada, FHWA, and Pennsylvania care to develop a rewritten standard? Or can we get the AASHTO DAMS Fund to pay for work on it?

Action? NV volunteered to rewrite the standard from test method to a practice; will be a future TS ballot.

V. New Business

A. Research Proposals:

1. A statement was received from the chair of the TRB Committee on Geosynthetics (AFS 70) Barry Christopher, titled "Unbound Aggregate Layer Contamination Determination." It was endorsed by TS1a and the Subcommittee and moved forward to NCHRP. SCOR decided that it was not worthy of funding, after NCHRP staffers stated that a current project will cover this topic.
Re-endorse? Georgene (GA) – suggested making revisions recommended by SCOR instead of just resubmitting it. TS 1a did not re-endorse this RNS.
2. We received six new Research Needs Statements (RNS) from TRB that are looking for endorsement for next year's NCHRP program. Some are to the fringes of TS1a's charter, but one ("Improving Processes for Characterizing Corrosion Potential of Soils and Fill Materials") is aimed directly at standard T 288, "Determining Minimum Laboratory Soil Resistivity." The entire RNS was attached to the mid-year agenda, so we could review it at our leisure and decide at the annual meeting in Minnesota.
Endorse? MS comment, TS 1b endorsed; motion that TS 1a also endorses it – MS, AL second. TS 1a endorsed this RNS for consideration to full SOM. Full SOM endorsed, however, research liason for Tech Section 1b (NV), will approach author of RNS to reduce/consolidate RNS to 2 pages.
3. A RNS from the TRB committee on Mineral Aggregates is to study unbound granular material rutting to improve the MEPDG. This statement, "Improved Rutting Prediction of Unbound Granular Materials for Mechanistic-Empirical Pavement Design," is also attached for consideration of endorsement at the annual meeting.
Endorse? Better suited going through joint technical committee on pavements but this wasn't a top priority for JTCOP. Amir Hanna (NCHRP) said this is a duplication of a NCHRP project that will be started very shortly. TS 1a did not endorse this RNS for SOM consideration.

B. AMRL/CCRL Issues: None reported. Any coming? **Moving towards having all comments by AMRL ready for mid-year meetings so that they can be included in ballots, if approved by tech section.**

C. NCHRP Issues: None. No statements accepted last year. **Amir Hanna (NCHRP) stressed importance to be clear and specific, and include how product will be used.**

D. Correspondence, calls, meetings/ Presentation by Industry: None.

E. Proposed New Standards or Revisions:

1. T 307 improvements: Pooled Fund Study TPF-5(177), "Improving Resilient Modulus Test Procedures for Unbound Materials" has been underway for over four years now. Alabama, Florida, Mississippi, and seven other states plus FHWA are involved. Chris Wagner at FHWA is the new project manager, and he replied to my email inquiry as noted below. I did not take him up on his offer to discuss T 307 at our meeting, as we are more interested in the results than the research process, to be able to update the standard. **Chair (NY) touched base with Chris Wagner; Pooled Fund Study is hopefully back underway and moving forward again.**

Bob,

The study is just getting back underway. The ruggedness and precision plan is complete and states are being contacted about their willingness to participate. We are getting a good response from those contacted. I do not have an opinion as to how to improve T307, our contractors will be studying this as we progress through the round robin testing. Rick Boudreau has the details on this. I would be happy to coordinate a conference call with our contractors (Rick and Harold Von Quintus) to go over the plan and status. If you would like to hold a Q&A at AASHTO SOM with our contractors I can make that happen also. Give me a call to discuss.

THanks,

Chris

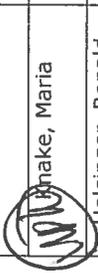
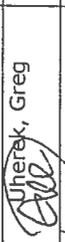
cell: 404-993-8405

- F. Proposed New Task Forces - [None](#).
- G. Standards Requiring Reconfirmation: T 311 (due in 2014), R 58 (due in 2015), and PP 59-09 which requires extension by full subcommittee ballot in 2015. [We missed T 311 on previous ballot. Can AMRL look at T 311 and propose some revisions before it goes to ballot? They would like to tighten it up a bit. AMRL will review T311 and make suggested improvements. Reconfirmation ballot of standard first \(as written\) and then TS ballot in the spring after AMRL proposes suggested improvements.](#)
- H. SOM Ballot Items (including any ASTM changes): M 319, T 208, T 265, T 90, T 100?
- VI. **Open Discussion** [WAQTC item – Are AASHTO “C” methods in danger of going away? “C” methods reference ASTM methods. ASTM portions are not in the book now and haven’t been for 3 years. WAQTC referred to Cecil Jones of Diversified Engineering whom had been contracted to revise the “category C” standards. T 215 was recently rewritten by AMRL. T 297 is nearly identical to ASTM version.](#)
- VII. **Adjourn** [“We miss you Bob. Mark REALLY misses you.” Andy thanked the tech section for their work. Meeting adjourned at 4:00 p.m.](#)

**2014 SOM ANNUAL MEETING
TS 1a**

**Soil and Unbound Recycled materials Test Methods
Tuesday, July 29, 2014 (2:30pm-4:00pm)**

Attendance Sheet

Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
Burnett, Robert A.	New York State Department of Transportation	bburnett@dot.state.ny.us		<input type="checkbox"/>	<input type="checkbox"/>
Babish, Charles A.	Virginia Department of Transportation	andy.babish@vdot.virginia.gov		<input type="checkbox"/>	<input type="checkbox"/>
Rothblatt, Evan	American Association of State Highway and Transportation Officials	erothblatt@aaashto.org		<input type="checkbox"/>	<input type="checkbox"/>
Barnhart, Tracy	AASHTO Material Reference Laboratory	tbarnhart@amrl.net		<input type="checkbox"/>	<input type="checkbox"/>
 Mknake, Maria	AASHTO Material Reference Laboratory	mknake@amrl.net	240-436-4804	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Holsinger, Ronald Edward	AASHTO Material Reference Laboratory	rholinger@amrl.net		<input type="checkbox"/>	<input type="checkbox"/>
Breth, Christopher	AASHTO Material Reference Laboratory	cbreth@amrl.net		<input type="checkbox"/>	<input type="checkbox"/>
 Guherek, Greg	AASHTO Material Reference Laboratory	guherek@amrl.net	240-436-4840	<input checked="" type="checkbox"/>	<input type="checkbox"/>
 Blackburn, Lyndi D	Alabama Department of Transportation	blackburn@dot.state.al.us	334 206 2203	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Cox, Bernard	Alabama Department of Transportation	coxb@dot.state.al.us		<input type="checkbox"/>	<input type="checkbox"/>
Davis, Kaye C	Alabama Department of Transportation	chancellor@dot.state.al.us		<input type="checkbox"/>	<input type="checkbox"/>
R, Schiebel Bill	Colorado Department of Transportation	bill.schiebel@state.co.us	303.398.6501	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pinkerton, Jennifer M.	Delaware Department of Transportation	Jennifer.Pinkerton@state.de.us		<input type="checkbox"/>	<input type="checkbox"/>
Hussain, Azmat	Federal Highway Administration	azmat.hussain@dot.gov		<input type="checkbox"/>	<input type="checkbox"/>
Horhota, David J	Florida Department of Transportation	david.horhota@dot.state.fl.us		<input type="checkbox"/>	<input type="checkbox"/>



**Subcommittee on Materials 2014
Renaissance Depot Hotel
Minneapolis, Minnesota**



2014 SOM ANNUAL MEETING
TS 1a

Soil and Unbound Recycled materials Test Methods
Tuesday, July 29, 2014 (2:30pm-4:00pm)

Douds, Richard	Georgia Department of Transportation	rdouds@dot.ga.gov		<input type="checkbox"/>	<input type="checkbox"/>
Smith, Timothy E. <i>KS</i>	Maryland Department of Transportation	tsmith2@sha.state.md.us	413-572-5037	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fung, Clement W.	Massachusetts Department of Transportation	clement.fung@mhd.state.ma.us		<input type="checkbox"/>	<input type="checkbox"/>
Williams, III, James A. <i>SM</i>	Mississippi Department of Transportation	jwilliams@mdot.state.ms.us		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Kaiser, Reid <i>RK</i>	Nevada Department of Transportation	rkaiser@dot.state.nv.us	775-866-7520	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sheehy, Eileen	New Jersey Department of Transportation	eileen.sheehy@dot.state.nj.us		<input type="checkbox"/>	<input type="checkbox"/>
Cowsert, Jack E.	North Carolina Department of Transportation	jcowsert@ncdot.gov		<input type="checkbox"/>	<input type="checkbox"/>
Horner, Ron <i>RH</i>	North Dakota Department of Transportation	rhorner@nd.gov	701-328-6904	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Toney, Reynolds H.	Oklahoma Department of Transportation	rtoney@odot.org		<input type="checkbox"/>	<input type="checkbox"/>
Mullis, Cole F. <i>CFM</i>	Oregon Department of Transportation	cole.f.mullis@odot.state.or.us		<input type="checkbox"/>	<input type="checkbox"/>
Ramirez, Timothy <i>TR</i>	Pennsylvania Department of Transportation	tramirez@pa.gov	717-783-6602	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Felag, Mark E.	Rhode Island Department of Transportation	mark.felag@dot.ri.gov	401-641-8279	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Feller, Joe J.	South Dakota Department of Transportation	joe.feller@state.sd.us		<input type="checkbox"/>	<input type="checkbox"/>
Trolinger, Bill	Tennessee Department of Transportation	bill.trolinger@tn.gov		<input type="checkbox"/>	<input type="checkbox"/>
Heinen, Caroline	Texas Department of Transportation	caroline.heinen@txdot.gov		<input type="checkbox"/>	<input type="checkbox"/>
Ahearn, William	Vermont Agency of Transportation	bill.ahearn@state.vt.us		<input type="checkbox"/>	<input type="checkbox"/>
Lane, Becca	Ontario Ministry Of Transportation	Becca.Lane@ontario.ca	416-235-3512	<input type="checkbox"/>	<input type="checkbox"/>
Lanker, Steven E. <i>SL</i>	AASHTO Material Reference Laboratory	slenker@amri.net		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Haleh Azari <i>HA</i>	AASHTO	hazari@aarpl.org		<input type="checkbox"/>	<input checked="" type="checkbox"/>
SEJAL BAROT <i>SB</i>	May 192nd DOT	sb9800@shy.state.md.us	443-572-5269	<input type="checkbox"/>	<input type="checkbox"/>

Subcommittee on Materials 2014
Renaissance Depot Hotel
Minneapolis, Minnesota



2014 SOM ANNUAL MEETING

TS 1a

Soil and Unbound Recycled materials Test Methods

Tuesday, July 29, 2014 (2:30pm-4:00pm)

Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
HENRY LACINA	AASHTO	hlacina.k@aaashb.org	(225) 752-2877	<input type="checkbox"/>	<input type="checkbox"/>
BRIND MEITZKE	FLWA/WFLND	BRAND.MEITZKE@DOT.GOV	360-619-1725	<input type="checkbox"/>	<input type="checkbox"/>
Michael Voith	FWHA - CECHD	michael.voith@dot.gov	720-963-3505	<input type="checkbox"/>	<input type="checkbox"/>
Mike Santi	Idaho Transportation Dept.	mike.santi@itd.idaho.gov	(208) 334-8450	<input type="checkbox"/>	<input type="checkbox"/>
Scott Andrus	UDOT	scott.andrus@utah.gov	801-965-4859	<input type="checkbox"/>	<input type="checkbox"/>
Todd Arnold	Pure Test Equipment, LLC	tarnold@puretest.com	724-458-6573	<input type="checkbox"/>	<input type="checkbox"/>
Ron Holsinger	AASHTO	rholsinger@amrl.net	240-436-4830	<input type="checkbox"/>	<input type="checkbox"/>
KEVIN SQUETTERMUD	FWHA-MN	KEVIN.SQUETTERMUD@DOT.GOV	657-291-7423	<input type="checkbox"/>	<input type="checkbox"/>
Jim Bibler	Gilson Company Inc.	jbibler@gilsonco.com	740-548-7258	<input type="checkbox"/>	<input type="checkbox"/>
ROBIN GRAVES	VULCAN MATERIALS	gravesr@vmcmail.com	205-298-3134	<input type="checkbox"/>	<input type="checkbox"/>
Tim Aschonski	FWHA	timothy.aschonski@dot.gov	726-963-3247	<input type="checkbox"/>	<input type="checkbox"/>
Emelia Eckenroth	FWHA	maemack.eckenroth@dot.gov	651-291-6108	<input type="checkbox"/>	<input type="checkbox"/>
RICHELLE CHARLES-PIER	LOUISIANA DOTD	richie.charles@papea.gov		<input type="checkbox"/>	<input type="checkbox"/>
Randy C. West	National Center for Asphalt Technology	westran@auburn.edu	334 844 6444	<input type="checkbox"/>	<input type="checkbox"/>
Gerry Huber	Heritage Research	gerald.huber@hrqlab.com	317 394 6000	<input type="checkbox"/>	<input type="checkbox"/>
Brian Johnson	AASHTO	bjohnson@amrl.net	240-436-4170	<input type="checkbox"/>	<input type="checkbox"/>
ROBERT SHUGART	ALABAMA DOT	shugart@dot.state.al.us	334 256 2309	<input type="checkbox"/>	<input type="checkbox"/>
Amir Hanna	TRB/NC HRP	ahanna@nas.edu	202/334-1432	<input type="checkbox"/>	<input type="checkbox"/>
Steven Krebs	Wisconsin DOT	steven.krebs@dot.wis.gov	608 246-7930	<input type="checkbox"/>	<input type="checkbox"/>

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