Materials Information Tracking System / Producer Lab Analysis and Information Detail (MITS/PLAID)

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MITS/PLAID

• What is MITS/PLAID?

• Purpose

• Requirements

• Contacts

• Future
What is MITS/PLAID

MITS & PLAID is...
- A centralized online database where Hot Mix Asphalt (HMA) & Central Mix Aggregate (CMA) job mixes and sample results are submitted and approved and
- Can be viewed by the Department and the Producer.

MITS: Materials Information Tracking System
  - Department Side

PLAID: Producer Lab Analysis and Information Detail
  - Producer Side
"doveryai no proveryai"  Reagan to Gorbachev

“You repeat that at every meeting”  Gorbachev to Reagan
Purpose

“Trust but verify”
Meet Federal Regulations - Sec. 637.207 Sampling and testing program.

(ii) Quality control sampling and testing results may be used as part of the acceptance decision provided that:

(A) The sampling and testing has been performed by qualified laboratories and qualified sampling and testing personnel. – Materials Cert Schools

(B) The quality of the material has been validated by the verification testing and sampling. The verification sampling shall be performed on samples that are taken independently of the quality control samples. – MITS/PLAID

(c) The quality control sampling and testing is evaluated by an Independent Assurance (IA) program. - VDOT
Purpose

- Ability to monitor acceptance testing results and the quality assurance results, both for the Producer and Department.
- Saves time as all the information is in one place
- The Contractor can see VDOT QA test results
- Action can be taken immediately if a discrepancy is found between VDOT test results and Producer test results – close to real time monitoring
MITS

Allows VDOT personnel to:

- Approve job mixes
- Enter QA testing data
- Enter project information
- See contractors submitted data
- Close out lots & projects
- Run lot adjustments
- Run comparison reports
# MITS – VDOT’s View

![MITS Interface](image)

## Materials Information Tracking System

### Home
- CMA Program
- HMA Program
- Administration
- Help

### Notification
- Filter existing records by:
  - Include Hidden Notifications
- Notification Type: All

### Notification Search Results (1709 found)

<table>
<thead>
<tr>
<th>Sent</th>
<th>Type</th>
<th>From</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/19/2013 4:43 PM</td>
<td>Security</td>
<td>Automated</td>
<td>New Producer User has been Submitted for Approval, Producer = 97, User ID = <a href="mailto:tanmum59@yahoo.com">tanmum59@yahoo.com</a>.</td>
</tr>
<tr>
<td>4/17/2013 1:58 PM</td>
<td>Lot</td>
<td>Automated</td>
<td>Lot has been Completed. Producer: HMA Paving-Virginia, Inc. Plant: Richmond JobMx: 4044-12-10</td>
</tr>
<tr>
<td>4/17/2013 10:57 AM</td>
<td>TL50</td>
<td>Automated</td>
<td>TL50 has been Certified. Producer: HMA Paving-Virginia, Inc. Plant: Richmond JobMx: 4044-17-12</td>
</tr>
</tbody>
</table>

Link | Hidden | Delete |
--- | --- | --- |
Recall | | |
Recall | | |
Recall | | |
Recall | | |

**First ... 11 12 13 14 15 16 17 18 19 20 ... Last**

**Excel Report**

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PLAID

Allows producers to:

• Submit job mixes
• Submit sample data, test results & tonnages
• See VDOT testing results
• Run a report of all their submitted data
PLAID – Notifications the Producer gets

<table>
<thead>
<tr>
<th>Sent</th>
<th>Type</th>
<th>From</th>
<th>Message</th>
<th>Link</th>
<th>Hidden</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/30/2012 2:53 PM</td>
<td>TL127 HMA</td>
<td>Automated</td>
<td>TL127 has been Approved for Production Year: 2012 Part Part A. Producer: Fake Producer Plant: Location Info: 201201</td>
<td>Recall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/21/2012 1:16 PM</td>
<td>TL50</td>
<td>Automated</td>
<td>TL50 has been Released. Producer: Fake Producer Plant: Location Info: 201102</td>
<td>Recall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/17/2012 8:45 AM</td>
<td>TL52</td>
<td>Automated</td>
<td>TL52 has been Released. Producer: Fake Producer Plant: Location Info: 201101</td>
<td>Recall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/17/2012 6:21 AM</td>
<td>Lot</td>
<td>Automated</td>
<td>Lot has been Closed Out. Producer: Fake Producer Plant: Location Info: 201101</td>
<td>Recall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/17/2012 9:20 AM</td>
<td>TL50</td>
<td>Automated</td>
<td>TL50 has been Released. Producer: Fake Producer Plant: Location Info: 201101</td>
<td>Recall</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Job Mix Form

**Materials Information Tracking System**

**Job Mix Formula**

**TL 127 Job-Mix Formula**

Submit to the District Administrator, Virginia Department of Transportation. Approval must be received by the contractor from the Materials Division before work is begun. This job-mix design is approved for all projects of the Department for the type of mix and the calendar year shown below.

### Details
- **District**: RICHMOND
- **Design Lab**: Select
- **Plant Name**: Richmond
- **Job Mix Number**: 511
- **Design Type**: Superpave
- **Default Tests per Lot**: 8
- **Producer Name**: HMA Paving - Virginia, Inc.
- **TSR Test Number**:
- **Plant Phone**:
- **Contractor Design Mix Number**:
- **Type Mix**: SM-12.5A

### Job-Mix Formula Materials

<table>
<thead>
<tr>
<th>Edit</th>
<th>Materials</th>
<th>Type</th>
<th>Size</th>
<th>Producer</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>Aggregate</td>
<td>0%</td>
<td>0%</td>
<td>Unassigned</td>
<td>Martinsville</td>
</tr>
<tr>
<td>500</td>
<td>Aggregate</td>
<td>45%</td>
<td>45%</td>
<td>Granite TS</td>
<td>Martinsville</td>
</tr>
<tr>
<td>520</td>
<td>Aggregate</td>
<td>17%</td>
<td>17%</td>
<td>Sand</td>
<td>Sand</td>
</tr>
<tr>
<td>500</td>
<td>Aggregate</td>
<td>35%</td>
<td>35%</td>
<td>Screenings</td>
<td>Martin Marletta</td>
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| Aggregate | PG 64-22 (SGRP) |

**Job-Mix Formula Quality Control**

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<thead>
<tr>
<th>English</th>
<th>Metric</th>
<th>Lab JMF A</th>
<th>Production JMF B</th>
<th>Tolerance (+ or -)</th>
<th>MIN A</th>
<th>MAX A</th>
<th>MIN B</th>
<th>MAX B</th>
<th>MIN</th>
<th>MAX</th>
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<tbody>
<tr>
<td>3.41in</td>
<td>86mm</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.29in</td>
<td>32.9mm</td>
<td>97%</td>
<td>97%</td>
<td>0.5%</td>
<td>99.8%</td>
<td>99.8%</td>
<td>99.8%</td>
<td>99.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.5mm</td>
<td>24.0mm</td>
<td>99%</td>
<td>99%</td>
<td>0.5%</td>
<td>96.2%</td>
<td>96.2%</td>
<td>96.2%</td>
<td>96.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.5mm</td>
<td>24.0mm</td>
<td>99%</td>
<td>99%</td>
<td>0.5%</td>
<td>96.2%</td>
<td>96.2%</td>
<td>96.2%</td>
<td>96.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.5mm</td>
<td>24.0mm</td>
<td>99%</td>
<td>99%</td>
<td>0.5%</td>
<td>96.2%</td>
<td>96.2%</td>
<td>96.2%</td>
<td>96.2%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Values Displayed from 'Tolerance' to 'Design/Spec Range' are based on current reference tables.**
**TL-50 Volumetrics**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>4895.5</td>
<td>2835.8</td>
<td>5260.5</td>
<td>3244.8</td>
<td>5253.6</td>
<td></td>
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<tr>
<td>2</td>
<td>4869.3</td>
<td>2830.0</td>
<td>5260.8</td>
<td>3231.3</td>
<td>5253.1</td>
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<tr>
<td>3</td>
<td>4896.1</td>
<td>2824.2</td>
<td>5248.5</td>
<td>3243.8</td>
<td>5252.4</td>
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</table>

**Volumetric Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>JMF</th>
<th>Producer</th>
<th>VDOT</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC (%)</td>
<td></td>
<td>5.26 %</td>
<td>5.60 %</td>
<td></td>
</tr>
<tr>
<td>Rice (Gmm)</td>
<td></td>
<td>2.436</td>
<td>2.715</td>
<td></td>
</tr>
<tr>
<td>Binder Gravity (Gb)</td>
<td></td>
<td>1.03</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td>%Air Void (VTM)</td>
<td></td>
<td>3.0 %</td>
<td>3.6 %</td>
<td>2.0 %</td>
</tr>
<tr>
<td>%VMA</td>
<td></td>
<td>14.9 %</td>
<td>17.7 %</td>
<td>13.0 %</td>
</tr>
<tr>
<td>%VFA</td>
<td></td>
<td>80 %</td>
<td>80 %</td>
<td>64.0 %</td>
</tr>
<tr>
<td>VCAmax</td>
<td></td>
<td>0.94</td>
<td>2.71</td>
<td>0.60</td>
</tr>
<tr>
<td>FA Ratio</td>
<td></td>
<td>2.364</td>
<td>2.617</td>
<td></td>
</tr>
<tr>
<td>BULK (Gmb)</td>
<td></td>
<td>2.364</td>
<td>2.617</td>
<td></td>
</tr>
<tr>
<td>Effective (Gse)</td>
<td></td>
<td>2.637</td>
<td>3.007</td>
<td></td>
</tr>
<tr>
<td>Aggregate (Gsb)</td>
<td></td>
<td>2.632</td>
<td>3.002</td>
<td></td>
</tr>
<tr>
<td>%Blinder Absorbed (Pba)</td>
<td></td>
<td>0.07 %</td>
<td>0.06 %</td>
<td></td>
</tr>
<tr>
<td>Effective %Blinder (Pbe)</td>
<td></td>
<td>5.21 %</td>
<td>5.54 %</td>
<td></td>
</tr>
<tr>
<td>%Density @ Nmax</td>
<td></td>
<td>91.0 %</td>
<td>86.3 %</td>
<td></td>
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</table>

Field CF: 0.005
Requirements

Hot Mix Asphalt (HMA)

- The Contractor shall submit a job-mix formula for each mixture for approval through PLAID. Paper copies of the job mix formula along with supporting documentation shall also be submitted to the Department.
- The Contractor shall input such test results **within 24 hours of sampling** to the Department through PLAID, unless otherwise approved by the Materials Engineer.

Central Mix Aggregate (CMA):

- The Contractor shall submit, or shall have the source of supply submit a job-mix formula for each mixture for approval through PLAID prior to starting work.
- The Contractor shall provide test results determining grading, moisture and Atterberg limits **within 48 hours of sampling** to the Department through PLAID.
Requirements

Why is there a difference:

• Different Programs
  • Different Specifications

• Different test methods/properties being reported.
  • Testing being done for asphalt should be completed within 24 hours
  • Aggregate testing can take up to 48 hours
Issues

• General Contractor Access to Information
  - Producer provides access
  - Producer provides specific Job Mix Data

• Merging companies

• Enforcement across districts
Future

• Add more report capabilities
  • Randomness histogram report

• Control Charts
  • Requirement nonetheless

• Monitor performance of job mix formula via a scorecard

• Generate notifications if report results are adverse

• Streamline processes for all districts to follow
## District Contacts

<table>
<thead>
<tr>
<th>District</th>
<th>HMA</th>
<th>CMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bristol</td>
<td>Brian Truelove</td>
<td>Ralph Davis</td>
</tr>
<tr>
<td>Salem</td>
<td>Clyde Landreth</td>
<td>Clyde Landreth</td>
</tr>
<tr>
<td>Lynchburg</td>
<td>Tim Karnes</td>
<td>John Dearling</td>
</tr>
<tr>
<td>Richmond</td>
<td>Doug Chappell</td>
<td>Anthony Sanchez</td>
</tr>
<tr>
<td>Hampton Roads</td>
<td>Jamie Collins</td>
<td>Bill Jenkins</td>
</tr>
<tr>
<td>Fredericksburg</td>
<td>Ron Jackson</td>
<td>Michael Whanger</td>
</tr>
<tr>
<td>Culpeper</td>
<td>David Routt</td>
<td>David Routt</td>
</tr>
<tr>
<td>Staunton</td>
<td>Pat Hydrick</td>
<td>Pat Hydrick</td>
</tr>
<tr>
<td>Northern Virginia</td>
<td>Ronnie Seale</td>
<td>Ronnie Seale</td>
</tr>
</tbody>
</table>
Help

- Online Manual
- Printable Manual (in PDF format)
- Contact: MITSandPLAIDHelp@VDOT.Virginia.Gov
- HMA – Angela Beyke
- CMA – Wansoo Kim
- Franklin Stead
  Developer
Summary

Via web portal the MITS enables:

- producer’s tests for acceptance
- submitting/approving of Job Mix Formula
- sharing of data and reports

VDOT users
- QA tech
- Sr Lab tech/ Lab tech
- DME (DME designee)
- Administrator

Producer users
- Sr lab tech/ Lab tech
- Administrator
Questions?