# Asphalt Emulsion Receiving Guide 

March 2012

North Carolina Department of Transportation Materials and Tests Unit

## 1. Scope

1.1 The purpose of the NCDOT Asphalt Emulsion Receiving Guide is to aid field personnel on what to look for with shipments of Asphalt Emulsion.

## 2. Asphalt Emulsion QC/QA Program Background

2.1 The NC DOT Materials and Tests Unit is required to maintain the Departments Asphalt Emulsion QC/QA Program.
2.1 The Asphalt Emulsion Quality Control Quality Assurance Program is a comprehensive program designed to verify, assess, and track the quality of asphalt emulsions delivered to North Carolina Department of Transportation projects and maintenance operations. It is also used as a means for qualifying Producers/Suppliers to provide asphalt emulsions in this capacity.
2.2 The Producers are required to submit Quality Control (QC) plans to the Chemical Testing Engineer for review, submit monthly QC reports, and Excel spreadsheets capturing all the on-site and off-site testing done by the Producer to the Chemical Testing Engineer, and participate in Independent Assurance (IA) activities. Once these criteria have been met, the producer will then have all laboratories and technicians certified.
2.3 All laboratories, Producers' on-site, off-site, or independent, must meet a minimum set of criteria. The laboratories must either be AMRL accredited or NCDOT certified. The NCDOT certification process involves the qualification of all laboratory equipment, protocols, and testing procedures used. The qualification will be under the direction of the Chemical Testing Engineer and his staff.
2.4 In addition, each facility will have a minimum number of NCDOT certified technicians to perform sampling, testing, and record keeping duties during production of material that are used on NCDOT and Federal Aid projects.
2.5 The Materials and Tests Unit is tasked with performing Quality Assurance (QA) verification sampling, testing and record keeping confirming the operation of the Producer's quality control system and IA assessments and correlations of tests.
2.6 It is the intent of this program that acceptance or rejection of material be based on the total program. Therefore, a comparison of the QC and QA verification and other recent sample data may be used by the NCDOT for acceptance or rejection of a lot of material.
2.7 Participation in this program does not relieve the Producer of the responsibility of complying with all requirements of the NCDOT Standard Specifications for Roads and Structures.
2.8 The latest copy of the program can be found at :
http://www.ncdot.gov/doh/operations/materials/pdf/qc_qa_emulsion_ncdot_2008rev1.pdf

## 3. What to do When Receiving Asphalt Emulsion

3.1 The following is what should be done at a minimum when receiving a sample of asphalt emulsion on the project:
3.1.1 Verify the source of the emulsion. The source of the emulsion must be clearly recorded on the Bill of Lading (BOL). Be careful not to look at the main office address which may also be recorded. The material must come from a terminal on the Departments approved list. Examples of typical BOL's are shown in Appendix A.
3.1.2 Per the Asphalt emulsion QC/QA program all BOL's must have the NCDOT assigned batch number recorded. The batch number starts with the approved terminal number. This Batch number will have to be entered into HiCAMS when receiving tack on projects.
3.1.3 The BOL must have the supplier and transporters certifications recorded. The certification state that the material meets the NCDOT requirements and the transport tank was clean and free from contamination.
3.1.4 The net gallons must be recorded and match what is required for the project. For example the contractor may order 5000 gallons and only use 1000 gallons on a particular project. In this case 1000 gallons will need to be entered into HiCAMS for the quantity received.
3.1.5 The approved grade of the material must be recorded on the BOL. An example of the approved list of grades per facility can be found in Appendix $\mathrm{B}^{* * *}$.
*** Note this list changes periodically. The most up to date list can be found at http://www.ncdot.gov/doh/operations/materials/pdf/aspprodnc.pdf
3.2 If the BOL is lacking any of this information the product should not be received on the project.

## Appendix A

## Example Bill of Lading

# ASPHALT EMULSION, INC. 

RICHMOND, VA $\square$ DUNN, NC $\square$ K MANASSAS, va

## TERMINAL ID

BILL OF LADING OR DELIVERY TICKET NOT A BILL OF LADING WHEN MOVED IN VEHICLES OPERATED BY SHIPPER OR OWNER OF PRODUCT, BUT MERELY A RECEIPT FOR PRODUCT.

BOL NUMBER
Subject to the tariffs or contract in effect on the date of the issue of this Bill of Lading, the property described below in apparent good order, is received by the carrier shown herein, which carrier agrees to transport to the consignee and destination shown herein subject to the terms and conditions of the special contract between the carrier and the consignor or consignee in effect on the date of the issue of this Bill of Lading. In the absence of a special contract transportation will be subject to all the terms and conditions of the carrier's tariffs legally on file. It is further agreed by the carrier that the transportation of this shipment will be performed in compliance with all applicable Rules, Regulations and Laws.

This is to certify that the described materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation. It is further agreed by the carrier that the transportation of this shipment will be performed in compliance with all applicable rules, regulation and laws.
Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

Signature of Consignor


THE DESCRIBED MATERIAL RECEIVED IN GOOD CONDITION AS NOTED
Consignee
By

| PRODUCT HAZARDOUS CLASS | TEMP | GRAV. | GALLONS |
| :---: | :---: | :---: | :---: | :---: |
| C.R.3.-2 | 172 E | 1.01 | 4,474 |
|  |  |  |  |

We certify that all material being shipped on this invoice/bill of lading has been tested and approved under the Virginia Asphalt Acceptance Program and that the material has been loaded into carriers that are suitable for shipment such that no contamination has taken place.

## TANK NUMBER BATCH NUMBER

B/L NO:


PROJ. NO:
Union

| CARRIER | Purvear |
| :--- | :--- |
| DRIVER | Barbour |
| TRACTOR | 208 |
| SIGNATURE | TRAILER 137 |



SAMPLE BOL - ASPHALT EMULSIONS - NEWPORT NEWS, VA - AT 56


SAMPLE BOL - ASPHALT EMULSIONS - RICHMOND, VA - AT 52




 and Laws.
This is to certify that the described materials are properly classified, described, packaged, marked, and labeled, and aye in proper condition for fansyputation, according to the


Subiciect so Section 7 of Condions of applicable bill of lading. it this shipment is te be defivertod to the consignee without recourse on




Trucker certifies that the cargo tank supplied for this shipment is a proper container for the transportation of this commodity and that proper placards Whitehurat Transport, Inc: have been applied.

TRANSPORTERS C
Harris, Tyrone


THE DESCRIBED MATERIAL RECEDED IN GOOD CONDTOON AS NOTED
Contrast $\qquad$ - 时 NET GALLONS $\longrightarrow$


We certify that all material being shipped on this invoice/bill of lading


SAMPLE BOL - HAMMAKER EAST - RICHMOND, VA - AT 42


The Material Referenced above is certified to meet NC D.O.T \& VA D.O.T. Specifications for performance grade asphalt emulsions, AASHTQ Materials Part II 14th Edition. We certify that all material being shipped on this invoicebill of lading has been loaded under the supervision of our Gpratgrative int? carriers that are suitable for shipment of this material.


NC Dept of Transportation Supplier's \& Transporters Certification / Loading Affidavit - Richmond, VA Terminal VA Dept of Transportation Supplier's \& Transporters Certification / Loading Affidavit . Richmond, VA Terminal

signed:


SUPPLIER CERTIFICATION


> Current Load: CRS-2

Prev. Load: CRS-21
arty that my baler is free of moisture
I certify that my waler is in good mechanical condition
 I certify that my waler is tree of resined residue of authorized A id Hond Terminal.



TANK
NUMBER


| Note: | **TAKE TIRE FOR EMPTY** | Trailer Brought Back: | $257$ |
| :---: | :---: | :---: | :---: |
| Directions: | 5508 US70 WEST, DURHAM, NC 27705. 919-383-1156. 1-85 NORTH TO EXIT 170 (DUKE UNIVERSITY HWY 751) US70 EAST UNTIL YOU SEE LIOUOR STORE ON RIGHT GO 100 YARDS ON LEFT |  |  |
| Paid By: |  |  |  | WEIGHMASTER



## SAMPLE BOL - BCI MATERIALS - CHARLOTTE, NC - AT 65



SAMPLE BOL - HAMMAKER EAST - GREENSBORO, NC - AT 08


SHIPPING DATE \& TIME


## Appendix B

## Example Approved List of Grades per Facility



| AT14 | Wilmington, NG (\#14-EXPIRED) | Central | Emulsion | - | - | - | - | - | - | - | - | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AT15 | Wilmington, NC (\#15) | NuStar Asphalt Binder | Binder | PG 52-28 |  | $\begin{gathered} \text { PG 64- } \\ 22 \end{gathered}$ | $\begin{gathered} \mathrm{PG} \\ 64-28 \end{gathered}$ |  | PG 70-22 |  |  |  |  |
| AT16 | Chesapeake, VA (\#16) | NuStar Asphalt Binder | Binder | PG 52-28 |  | $\begin{gathered} \text { PG 64- } \\ 22 \\ \hline \end{gathered}$ | $\begin{gathered} \mathrm{PG} \\ 64-28 \end{gathered}$ |  | PG 70-22 |  |  |  |  |
| AT17 | Black <br> Mountain,NC(\#17) | Hammaker East | Binder | - | - | $\begin{gathered} \hline \text { PG 64- } \\ 22 \\ \hline \end{gathered}$ | - | - | - | - | - | - | - |
| AT18 | Charleston, SC (\#18) | NuStar AsphaltBindor | Binder | PG 58-28 | - | $\begin{gathered} \text { PG } 64 \\ 22 \end{gathered}$ | - | - | - |  |  |  |  |
| AT19 | Greer, SC (\#19) | Blacklidge Emulsions | Emulsion | CRS-1 | GRS-1H | CRS-2 |  | CRS- $2 \mathrm{~L}$ | CMS-PX | EPR-1 | NFSS1HM |  |  |
| AT20 | Greenville, SC (\#20- EXPIRED) | Patriot Asphalt | Binder | PG 58-28 |  | $\begin{gathered} \text { PG } 64- \\ 22 \end{gathered}$ | - | - | PG 70-22 | - | - | - | - |
| AT21 | Winston-Salem, NC (\#21) | Marathon Petroleum Binder | Binder |  |  | $\begin{gathered} \text { PG 64- } \\ 22 \end{gathered}$ |  |  |  |  |  |  |  |
| AT25 | $\begin{aligned} & \text { Gainesville, GA } \\ & (\# 25) \end{aligned}$ | Associated Asphalt | Binder |  |  | $\begin{gathered} \text { PG } 64- \\ 22 \end{gathered}$ |  |  |  |  |  |  |  |
| AT26 | Columbia, SC (\#26) | S.E.A. Co. Emulsions | Emulsion | CRS-1 | CRS-1H | CRS-2 | $\frac{\text { CRS- }}{2 \mathrm{H}}$ | $\begin{gathered} \text { CRS- } \\ 2 \mathrm{~L} \\ \hline \end{gathered}$ | EAP | $\begin{aligned} & \text { CRS- } \\ & 2 P \end{aligned}$ | HFMS-1 | RS-1 |  |
| AT27 | Chattanooga, TN (\#27) | ConocoPhillips Binder | Binder |  |  | $\begin{gathered} \text { PG 64- } \\ 22 \end{gathered}$ |  |  |  |  | PG 76-22 |  |  |
| AT28 | Bristol, VA (\#28) | Associated Asphalt | Binder |  |  | $\begin{gathered} \text { PG 64- } \\ 22 \end{gathered}$ |  |  | PG 70-22 | $\begin{gathered} P G \\ 70-28 \end{gathered}$ | PG 76-22 |  |  |
| AT29 | Knoxville, TN (\#29) | ConocoPhillips Binder | Binder |  |  | $\begin{gathered} \text { PG } 64- \\ 22 \end{gathered}$ |  |  | PG 70-22 |  | PG 76-22 |  |  |
| AT30 | Chesapeake, VA (\#30) | SemMaterials, L.P. | Binder | - | - | $\begin{gathered} \text { PG } 64 \\ 22 \end{gathered}$ | - |  |  |  |  |  |  |
| AT31 | Wilmington, NC (\#31) | NuStar Asphalt Binder | Binder |  |  | $\begin{gathered} \text { PG } 64- \\ 22 \end{gathered}$ |  |  | PG 70-22 |  |  |  |  |
| AT32 | $\begin{aligned} & \text { Greensboro, NC } \\ & (\# 32) \end{aligned}$ | Associated Asphalt | Binder | PG 58-28 |  | $\begin{gathered} \text { PG 64- } \\ 22 \\ \hline \end{gathered}$ |  |  | PG 70-22 |  | PG 76-22 |  |  |
| AT33 | Hopewell, VA (\#33) | NuStar Asphalt Binder | Binder | PG 58-28 |  | $\begin{gathered} \text { PG 64- } \\ 22 \\ \hline \end{gathered}$ |  |  | PG 70-22 |  |  |  |  |
| AT34 | Charlotte, NC (\#34) | JT Russell \& Sons-Binder | Binder | - | - | $\begin{gathered} \text { PG } 64 \\ 22 \end{gathered}$ | - | - | - | - | - | - | - |
| AT35 | Apex, NC (\#35EXPIRED | Patriot Asphalt | Binder | - | - | $\begin{gathered} \text { PG 64- } \\ 22 \end{gathered}$ | - | - | - | - | - | - | - |


| AT39 | Knoxville, TN (\#39) | Marathon Petroleum Binder | Binder | PG 52-28 | $58-22$ | $\begin{gathered} \text { PG } 64- \\ 22 \\ \hline \end{gathered}$ |  |  | PG 70-22 |  | PG 76-22 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AT40 | Newport News, VA (\#40) | NuStar Asphalt Binder | Binder |  |  | $\begin{gathered} \text { PG 64- } \\ 22 \\ \hline \end{gathered}$ |  |  | PG 70-22 | $\begin{gathered} \mathrm{PG} \\ 70-28 \end{gathered}$ | PG 76-22 |  |  |
| AT42 | Richmond, VA (\#42) | Hammaker East | Emulsion | CRS-1 | CRS-1H | CRS-2 |  | $\begin{gathered} \text { CRS- } \\ 2 \mathrm{~L} \end{gathered}$ | CMS-PX |  |  |  |  |
| AT43 | Roanoke, VA (\#43) | Associated Asphalt | Binder |  |  | $\begin{gathered} \text { PG 64- } \\ 22 \end{gathered}$ |  |  | PG 70-22 |  | PG 76-22 |  |  |
| AT44 | $\begin{aligned} & \text { Garden City, GA } \\ & (\# 44) \end{aligned}$ | Ergon Asphalt | Binder |  |  |  |  | - | PG70-22 | $\begin{gathered} P G \\ 70-28 \\ \hline \end{gathered}$ | $\text { PG } 76-22$ | $\begin{gathered} \text { PG } 82 \\ 22 \end{gathered}$ |  |
| AT45 | Wilmington, NC (\#45) | Oldcastle Materials - Binder | Binder |  |  | $\begin{gathered} \text { PG 64- } \\ 22 \\ \hline \end{gathered}$ |  |  |  |  |  |  |  |
| AT46 | Arden, NC (\#46) | Emery Asphalt Emulsions | Emulsion | CRS-1 |  | CRS-2 |  |  | CRS-2L | $\begin{gathered} \text { CRS- } \\ 2 \mathrm{P} \end{gathered}$ |  |  |  |
| AT47 | York, PA (\#47PRIMEONLY) | SemMaterials, L.P. | Emulsion | GSS-1RP | - | - | - | - | - | - | - | - | - |
| AT48 | Wilson, NC (\#48) | Valero | Emulsion |  |  | $\begin{gathered} \text { PG 64- } \\ 22 \\ \hline \end{gathered}$ |  |  |  |  |  |  |  |
| AT49 | $\begin{aligned} & \text { Catlettsburg, KY } \\ & (\# 49) \end{aligned}$ | Marathon Petroleum Binder | Binder |  |  | $\begin{gathered} \text { PG 64- } \\ \hline 22 \\ \hline \end{gathered}$ |  |  |  |  |  |  |  |
| AT50 | Gatlettsburg, KY (\#50-EXPIRED) | Marathon Petroleum Binder | Binder | - | - | - | - | - | PG 70-22 | - | PG 76-22 | - | - |
| AT51 | Chattanooga, TN $(\# 51)$ | Marathon Petroleum Binder | Binder | - | - | $\begin{gathered} \text { PG } 64- \\ 22 \\ \hline \end{gathered}$ | - |  |  | - | PG 76-22 | ${ }^{-}$ | - |
| AT52 | Richmond, VA (\#52) | Asphalt Emulsion Inc. | Emulsion | eRS-1 |  | CRS-2 |  | $\begin{gathered} \hline \text { CRS- } \\ 2 \mathrm{~L} \\ \hline \end{gathered}$ | CRS-2P | $\begin{aligned} & \text { CQS- } \\ & \text { 1HLM } \end{aligned}$ | CQS-1H | $\begin{gathered} \text { TTCQ } \\ \mathrm{S}-1 \mathrm{H} \end{gathered}$ | NovaBond |
| AT53 | Roanoke, VA (\#53) | Associated Asphalt | Emulsion | CRS-1 |  | CRS-2 |  | $\frac{\mathrm{CRS}}{2 \mathrm{~L}}$ |  |  |  |  |  |
| AT54 | Healing <br> Springs,NC(\#54) | JT Russell \& Sons - Binder | Binder |  | $58-28$ | $\begin{gathered} \text { PG } 64- \\ 22 \\ \hline \end{gathered}$ |  |  | PG 70-22 |  | PG 76-22 |  |  |
| AT55 | Garden City, GA | Ergon Asphalt | Emulsion | eRS-1 | CRS-1H | CRS-2 |  | $\begin{gathered} \text { CRS } \\ 2 \mathrm{~L} \end{gathered}$ | $\begin{aligned} & \text { CQS- } \\ & 1 \mathrm{HLM} \end{aligned}$ | $\begin{gathered} \text { CRS } \\ 2 \mathrm{P} \\ \hline \end{gathered}$ |  |  |  |
| AT56 | $\begin{aligned} & \text { Newport News, VA } \\ & (\# 56) \end{aligned}$ | Asphalt Emulsion Inc. | Emulsion | CRS-1 |  | CRS-2 | $\begin{gathered} \text { CQS } \\ \frac{1 H}{} \end{gathered}$ | $\begin{gathered} \text { CRS- } \\ 2 \mathrm{~L} \end{gathered}$ | $\begin{gathered} \hline \text { CSS } \\ \text { IRP } \\ \hline \end{gathered}$ | $\begin{gathered} \mathrm{CRS} \\ 2 \mathrm{P} \end{gathered}$ | NovaBond | RoadA rmor | $\begin{aligned} & \text { CQS } \\ & \text { HHLM } \end{aligned}$ |



