

Regional M&T aggregate testing

After Materials are activated in PSMR, Regional M&T will continue to perform quality testing as they currently are. The biggest difference is they will no longer receive “Monthly Shortage Notice” for all sized aggregates paid by the ton. Instead they will now run report RR052- *Aggregate Supplied to Contracts by Supplier* monthly for each of their plants to verify all materials being shipped are approved and have had testing performed as required by our SOP. Below is an example of the report:

Print Date: 08/29/2014
JJ01563

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
Aggregate Supplied to Contracts by Supplier Report



Parameters: Aggregate Supplier: Harrison Construction - Hayesville NC Aggregate
Date Range From: 8/29/2010
Date Range To: 8/29/2014

Producer/Supplier: Harrison Construction - Hayesville NC Aggregate

Material Code: 709.09.004		Material Name: Machined Riprap (Class A-1)		Material Unit: TON
Contract	Project	Item Code - Line Item Number	Item Description	Quantity Supplied
CNF121	94840-3231-04	709-05.06 - 1000	MACHINED RIP-RAP (CLASS A-1)	21.00
Total				21.00

Material Code: 903.22.147		Material Name: Coarse Aggregate (#7)		Material Unit: TON
Contract	Project	Item Code - Line Item Number	Item Description	Quantity Supplied
CNA251	13001-3227-84	402-02 - 0290	AGGREGATE FOR COVER MATERIAL (PC)	3.00
CNA251	13001-3227-84	402-02 - 9538	AGGREGATE FOR COVER MATERIAL (PC)	1.00
Total				4.00

Material Code: 903.22.148		Material Name: Coarse Aggregate (#78)		Material Unit: TON
Contract	Project	Item Code - Line Item Number	Item Description	Quantity Supplied
CNA251	13001-3227-84	402-02 - 0290	AGGREGATE FOR COVER MATERIAL (PC)	2.00
Total				2.00

Aggregate items paid by square yard or cubic yard will not be listed on this report, so you may still receive a monthly shortage notice listing those items/quantities. Contract numbers listed on report RR052 & monthly shortage notice will need to be documented on the “Other” tab of current samples tested at the quarry for the sizes listed on the reports.

NOTE: Regional M&T inspectors will create sample w/ Sample type *Quality*, Acceptance Method *Acceptance* for coarse, fine and screening quality samples coming to HQ labs. All gradation and moisture content samples tested at P/S or Regional M&T lab must be entered into SiteManager. These will be Sample type *Verification*, Acceptance Method *Verification*. This will help us to track performance over time if needed.

Gradation and Moisture testing by Regional M&T inspectors at the plant or in Regional lab:

Quarry: Quality tests will be performed by Regional M&T inspectors and use appropriate 903.01 (fine agg/sand) or 903.22 (coarse/sized) material code. These material codes are listed at the end of this document.

Ready mix plant: Use the appropriate 903.01.003 thru 903.03.062 material code listed at the end of this document for sand, stone, slag or gravel. For lightweight aggregate also use appropriate 903.03 code for size, lightweight sand will be 903.19.133. **P/S for these samples will always be the Ready mix plant. In the “Mnfctr” field toward the middle of the sample info window, select the quarry the material came from.** If a specific aggregate material needs to be removed from the supplier, they should have their

Regional M&T Supervisor email TDOT.SiteManagerMaterials@tn.gov and request the material be made inactive.

Quality samples coming into the HQ lab:

Coarse Aggregate: Since a quality sample could represent multiple detailed aggregate material codes, we will use generic 903.01.000 code for quarry coarse aggregate samples. If the tests results do not meet requirements of specific detailed codes, the Regional M&T inspector assigned the plant should check with your Regional M&T Supervisor to see if those materials need to be made inactive. Below are some screen captures of a sample and portions of the BOE Quality report:

Please list location sampled from (or river mile dredged from) in Town field and sizes represented in the Intd Use field.

The screenshot shows a software window titled "Basic Sample Data" with several tabs: "Basic Sample Data", "Addtl Sample Data", "Contract", "Other", and "Tests". The "Basic Sample Data" tab is active. The form contains the following fields and values:

- Smpl ID: ij04926151T140727
- Status: Pending Authorization
- Revised By: [Empty]
- Revising: [Empty]
- Sample Date: 01/29/15
- Link To: [Empty]
- Link From: [Empty]
- Log Date: 01/29/15
- Smpl Type: Quality
- Acpt Meth: Spaces
- Material: 903.01.000 (Generic Aggregate Code)
- Sampler: ij01344 (Bell, Reginald)
- P/S: Standard Construction - Collierville Aggregate (47900041)
- Type: Producer/Supplier
- City: Cordova
- Prod Nm: [Empty]
- Mnfctr: [Empty]
- Town: North wall 25' down
- Geog Area: Region 4 - Shelby
- Intd Use: 7's, 57's & 67's
- Repr Qty: .000 Ton
- Lab Control Number: CNij04926151T140727
- Auth By: [Empty]
- Auth Date: 00/00/00
- Lab Reference Number: 15PA12
- Lock Type: [Empty]
- Locked By: ij04926
- Lock Date: 1/29/2015 14:10:21
- HQ:

NOTE: If you add info to the remarks bubble at the top of the window (Click 1 time to open, enter data, click again to close), it will add that data to the BOE quality report (RR049). If the sample represents several sizes of aggregate (57's/67's/ gr.D) it can be listed here along with the location in the quarry where the material was pulled from if the location cannot fit in the "Smpl Origin" field found on the "Addtl Sample Data" tab

The screenshot shows the same software window as above, but with a "Remarks (General Remarks)" dialog box open. The dialog box contains the text: "1st ledge down, North corner of quarry". A red circle highlights the "Remarks" icon in the toolbar, and a red arrow points from it to the dialog box. The background form shows the "Basic Sample Data" tab with the following visible fields:

- Smpl ID: ij01344
- Revised By: [Empty]
- Link To: [Empty]
- Smpl Type: Qu
- Material: 90
- Sampler: ij01
- P/S: Vu
- Type: Pro
- Prod Nm: [Empty]
- Mnfctr: [Empty]
- Town: [Empty]
- Geog Area: Region 3 - Montgomery

Maintain Sample Information

Basic Sample Data **Addl Sample Data** Contract

Smpl ID: j0156315A6084146 Buy American: Sp

Reqst By: _____

Smpl Size: _____ Spaces

Dist from Grade: _____ Spaces

Station: _____ Offset: _____

Smpld From: _____

Smpl Origin: 1st ledge, N. wall

Contnr Type: Spaces Cntrl Number: _____

Design Type: Spaces Mix ID: _____

Plant ID: _____

Report RR049:

Producer: Vulcan Materials - Clarksville
 Producer Location: Nashville, TN
 Exact Location in quarry where sample obtained:

Smpl Origin: 1st ledge, N. wall

TOTAL	21772.0	100.0	
Specific Gravity:	2.61		
Bulk Specific Gravity:	2.64		
Wear Loss by Abrasion:	0%		
Unit Weight:	0 lbs/ft ³		
Absorption:	1.12%		

This material meets the requirements of the specification for 903.01.000.

Remarks: Southwest corner of quarry, 5th ledge, 45' depth of ledge

You can add a row to note the pit number on the "Other" tab if needed.

Basic Sample Data Addl Sample Data Contract **Other** Tests

Sample j013491587105043

Type	ID	Description
Destination Lab	TDOT619000	DEST - TDOT Headquarters/Receiving Dock
Pit Number	524	

Fine Aggregate: Use the appropriate code below based on material and planned usage.

Material Code	Material Full Name
903.01.001	Fine Aggregate (Natural Sand)
903.01.002	Fine Aggregate (Manufactured Sand)
903.01.003	Manufactured Sand (Ready Mix Plants)
903.01.004	Natural Sand (Ready Mix Plants)

#10 Screenings: 903.22.152- Coarse Aggregate (#10) will be used for all #10 screening samples.

NOTE: If the screenings are to be tested for use as a "Surface Aggregate" and are coming from the same location in the quarry as sized stone, see the note below regarding surface aggregates. If the material is

not being tested for approval as a surface aggregate, the inspector will send the screenings to the aggregate lab for soundness testing using the 903.22.152 code.

Base material: The code below will be the one used most often for base samples. If it is a different type or grade use the correct 903.05 code. This material is tested in the HQ soil lab.

Surface Aggregates:

1. **Non-limestone surface aggregates:** For initial quality/acceptance we need a sample (split into two bags) to go to the chemical lab and the physical lab using the correct material code below.

Material Code	Material Full Name
903.11.097	Agg Asph (Slag)
903.11.098	Agg Asph (Gravel)
903.11.099	Agg Asph (Granite)
903.11.100	Agg Asph (Quartzite)
903.11.101	Agg Asph (Gneiss)

After P/S is approved for a non-limestone surface aggregate, only general quality testing is required using code 903.01.000. This sample would only go to HQ physical lab. This sample would also cover quality tests for all sized aggregate coming out of the quarry/pit.

2. **Limestone Surface Aggregates:** We need 1 SiteManager sample consisting of two large bags of #78's to go to the chemical lab and the physical lab using the correct material code below. This will need to be done each time a quality test is due for the limestone surface aggregates. This sample would also cover quality tests for all sized aggregate coming out of the quarry/pit.

Material Code	Material Full Name
903.11.102	Agg Surf 903_11 Type 1 (Limestone)
903.11.103	Agg Surf 903_11 Type 2 (Limestone)
903.11.104	Agg Surf 903_11 Type 3 (Limestone)
903.11.105	Agg Surf 903_11 Type 4 (Limestone)

NOTE: The chemical properties will be tested from the portion of the sample going thru the Chemical lab no need for an additional #10 screening sample unless that material is coming from a different location in the quarry.

Quality samples from jobsite: The material code 203.02.002- Borrow Unclassified will be used on soil samples. The material code 903.01.000- Generic Aggregate will be used on aggregate samples. The sample type and acceptance method will be Quality and Acceptance. If material meets quality requirements Regional M&T will submit a "New P/S request" form. HQ M&T Admin. will create contract number P/S when material is approved. This will make it possible to track samples created and quantities tested/paid of material from jobsite. Samples of aggregate will need to be sent in to HQ lab every 6 months for quality testing as long as material is being used.

Codes for gradations ran on quarry samples:

903.22.135	Coarse Aggregate (#1)
903.22.136	Coarse Aggregate (#2)
903.22.137	Coarse Aggregate (#24)
903.22.138	Coarse Aggregate (#3)
903.22.139	Coarse Aggregate (#357)
903.22.140	Coarse Aggregate (#4)
903.22.141	Coarse Aggregate (#467)
903.22.142	Coarse Aggregate (#56)
903.22.143	Coarse Aggregate (#57)
903.22.144	Coarse Aggregate (#6)
903.22.145	Coarse Aggregate (#67)
903.22.146	Coarse Aggregate (#68)
903.22.147	Coarse Aggregate (#7)
903.22.148	Coarse Aggregate (#78)
903.22.149	Coarse Aggregate (#8)
903.22.150	Coarse Aggregate (#89)
903.22.151	Coarse Aggregate (#9)
903.22.152	Coarse Aggregate (#10)
903.22.153	Coarse Aggregate (#5)

Codes for Aggregate tested from Ready-mix plants:

903.01.003	Manufactured Sand (Ready Mix Plants)
903.01.004	Natural Sand (Ready Mix Plants)
903.03.006	Coarse Agg Concrete Crush Stone (#1)
903.03.007	Coarse Agg Concrete Crush Stone (#2)
903.03.008	Coarse Agg Concrete Crush Stone (#24)
903.03.009	Coarse Agg Concrete Crush Stone (#3)
903.03.010	Coarse Agg Concrete Crush Stone (#357)
903.03.011	Coarse Agg Concrete Crush Stone (#4)
903.03.012	Coarse Agg Concrete Crush Stone (#467)
903.03.013	Coarse Agg Concrete Crush Stone (#5)
903.03.014	Coarse Agg Concrete Crush Stone (#56)
903.03.015	Coarse Agg Concrete Crush Stone (#57)
903.03.016	Coarse Agg Concrete Crush Stone (#6)
903.03.017	Coarse Agg Concrete Crush Stone (#67)
903.03.018	Coarse Agg Concrete Crush Stone (#68)
903.03.019	Coarse Agg Concrete Crush Stone (#7)
903.03.020	Coarse Agg Concrete Crush Stone (#78)
903.03.021	Coarse Agg Concrete Crush Stone (#8)
903.03.022	Coarse Agg Concrete Crush Stone (#89)
903.03.023	Coarse Agg Concrete Crush Stone (#9)
903.03.024	Coarse Agg Concrete Crush Stone (#10)
903.03.025	Coarse Agg Concrete Crush Slag (#1)
903.03.026	Coarse Agg Concrete Crush Slag (#2)
903.03.027	Coarse Agg Concrete Crush Slag (#24)
903.03.028	Coarse Agg Concrete Crush Slag (#3)
903.03.029	Coarse Agg Concrete Crush Slag (#357)

903.03.030	Coarse Agg Concrete Crush Slag (#4)
903.03.031	Coarse Agg Concrete Crush Slag (#457)
903.03.032	Coarse Agg Concrete Crush Slag (#5)
903.03.033	Coarse Agg Concrete Crush Slag (#56)
903.03.034	Coarse Agg Concrete Crush Slag (#57)
903.03.035	Coarse Agg Concrete Crush Slag (#6)
903.03.036	Coarse Agg Concrete Crush Slag (#67)
903.03.037	Coarse Agg Concrete Crush Slag (#68)
903.03.038	Coarse Agg Concrete Crush Slag (#7)
903.03.039	Coarse Agg Concrete Crush Slag (#78)
903.03.040	Coarse Agg Concrete Crush Slag (#8)
903.03.041	Coarse Agg Concrete Crush Slag (#89)
903.03.042	Coarse Agg Concrete Crush Slag (#9)
903.03.043	Coarse Agg Concrete Crush Slag (#10)
903.03.044	Coarse Agg Concrete Gravel (#1)
903.03.045	Coarse Agg Concrete Gravel (#2)
903.03.046	Coarse Agg Concrete Gravel (#24)
903.03.047	Coarse Agg Concrete Gravel (#3)
903.03.048	Coarse Agg Concrete Gravel (#357)
903.03.049	Coarse Agg Concrete Gravel (#4)
903.03.050	Coarse Agg Concrete Gravel (#467)
903.03.051	Coarse Agg Concrete Gravel (#5)
903.03.052	Coarse Agg Concrete Gravel (#56)
903.03.053	Coarse Agg Concrete Gravel (#57)
903.03.054	Coarse Agg Concrete Gravel (#6)
903.03.055	Coarse Agg Concrete Gravel (#67)
903.03.056	Coarse Agg Concrete Gravel (#68)
903.03.057	Coarse Agg Concrete Gravel (#7)
903.03.058	Coarse Agg Concrete Gravel (#78)
903.03.059	Coarse Agg Concrete Gravel (#8)
903.03.060	Coarse Agg Concrete Gravel (#89)
903.03.061	Coarse Agg Concrete Gravel (#9)
903.03.062	Coarse Agg Concrete Gravel (#10)