Daily Diary Report by Bid Item

Contract No.: **04-0120F4**
Diary #: **124** **Const Calendar Day:** 351 **Date:** **25-Aug-2010** **Wednesday**
Inspector Name: **Bruce, Matt** **Title:** **Transportation Engineer**
Inspection Type: Continuous
Shift Hours: 06:30 am 05:30 pm **Break:** 00:30 **Over Time:** 02:30
Federal ID:
Location:
Reviewer: **Mathur, Lalit** **Approved Date:** 24-Jan-11 **Status:** Approved

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** 70 - 80 **12 PM** 80 - 90 **4PM** 70 - 80
Precipitation 0.00" **Condition** Sunny

Working Day ☑ If no, explain:

Diary:

Dispute ☐

Work description.

//** The following is the comments pertaining to the placement of W2W precast retaining wall cover slab concrete done by Conco:

1.) Placement of conventional concrete mix design number 1441508 started at 7:35am and was completed at 10:15am.
2.) A total of 37 Cubic Meters (CM) was placed in the forms as approximately 4CM was not used from the last truck (number 6).
3.) Fresh concrete was taken from the first truck at 7:35am. Two sets of cylinders were made for compressive strength of this concrete for 28, and 56 days. The ambient temperature was 61F at the start of the concrete placement and rose to 67F at the end of the placing operation. The initial temperature of the concrete was 77F and the slump was measured at 7 inches.
4.) Overall the placement of the concrete went well as the mix looked consistent and was properly vibrated at the forms. Water was added to a couple of loads towards the end of the pour.
5.) After the at the completion of the concrete placement Conco laborers were instructed to broom finish the surface of the concrete prior to placing cure spray and curing mats.

//** The following is the comments pertaining to the placement of grout for the mock up of the West Deviation Saddle grout pad:

1.) Cemex concrete trucks arrived to the jobsite at 1:45pm with a drum volume of 6.88CM. The drums were visually inspected for excess concrete, slurry, etc. The first truck had some slurry debris which appeared to be discharged prior to placing water in the truck drum.

- Temp of the cementitious grout in the superbags (bags placed in the shade) prior to placing in the concrete truck drum = 63F
- Ambient Temp at the initial time of mixing = 77F
- Water Temperature prior to mixing the grout = 65F

The temperature of the grout and water was measured prior to mixing is because the manufacturer recommends that the bagged material and water be close to the same temperature. Also after the grout and water are mixed the temperature should be close to 70F. There have been problems in past grouting operations due to the imbalance in temperature of the cementitious grout and water.

2.) At 1:52pm water was added to the first truck and 2 minutes later the cementitious grout from the superbag was added slowly in the drum of the truck.
3.) The first superbag was emptied into the drum at 1:57pm and the second bag was placed at 2:01pm

4.) The second bag was emptied into the drum of the first truck at 2:03pm
5.) Mixing the first batch of grout was done at 2:08pm.

The initial test done at 2:16pm where the fluid/mixed grout was taken from the chute of the concrete truck:
- Efflux = 35+ seconds, thick grout stopped in flow cone
- Temp Grout = 85F

6.) At 2:18pm 30 more gallons were added to the first truck due to the failed efflux test.

The second test of the first truck after the initial test failed Efflux done at 2:26pm from the same source:
- Efflux = 19 seconds
- Temp Grout = 80F

The third test taken from the end of the concrete pump hose at 2:56pm, also grout cubes were made at this time:
- Specific Gravity = 2.20 (137pcf), BASF Manufacture of Masterflow 928 recommends 131pcf
- Temp Grout = 75F

The fourth test taken at 3:16pm taken from the end of the concrete pump hose for grout from truck either 2 or 3 in the operation:
- Efflux = 20 seconds
- Temp of the mock-up forms = 77F

7.) Leaks were noticed in the forms between the top of Panels 1 and 2 at 3:25pm.

The final test taken at 3:40pm taken from the end of the concrete pump hose for grout from either truck 3 or 4 in the operation:
- Efflux = 16 seconds
- Specific Gravity = 2.26 (141pcf)

8.) The grouting operation ended at 4:25pm as the mockup forms were not completely filled with grout approximately 2 to 3 grout tubes from the top of Panel 3.

Overall the grout properties appeared to be good, the only issues with the mixed grout were clumps of cementitious grout observed at times when sampling and air bubbles seen while making grout cubes. the first issue can be solved by using a sieve at the hopper of the concrete pump. There was only one other Efflux test that I am aware of that I didn't observe where the source of grout was from the chute of a truck. I believe the time was 20seconds? See Alex Schmidt and Lalit Mathurs diaries for more details regarding the grout wasted and blowouts/leaks in the forms. Myself and John Beede were predominately responsible for monitoring the grout tests/properties. Also ABF engineer Laura Furtado sent an email for the exact quantities used in the operation.

//** See Lalit's diary for ABF and Concos labor, equipment and other operations at the W2 cap beam.
A.) Laborers continued to re-wrap the W2W Deviation Saddle anchor rods.
B.) Conco carpenters continued to form EB continuity tendon blockouts located on the west end of the W2 cap beam. Instead of ABF laborers the Conco carpenters gave me verbal notice that the they were removing the residual foam from the blockout dowels and the grease on the grout caps which need to be cleaned prior to placing forms/concrete.

Attachment

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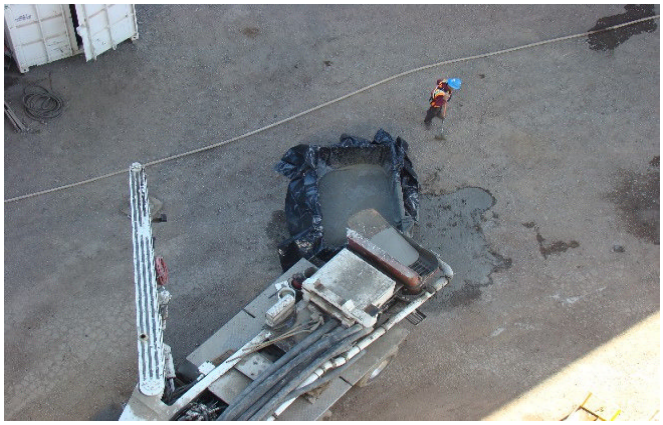
Job Name: 04-0120F4 **Inspector Name:** Bruce, Matt **Diary #:** 124 **Date:** 25-Aug-2010 Wednesday

ABF laborers cleaning up the grout that leaked out of the forms.

Placing a Masterflow 928 superbag into the drum of a Cemex concrete truck after a predetermined amount of water was placed in the drum.

Water meter used to discharge water into the concrete truck drums.



Grout which flowed out of the concrete pump hopper as soon as the grouting operation was stopped to fix leaks in the forms.

West Deviation Saddle grout pad mock up forms shown as there were multiple leaks observed during the grouting operation.

Conco carpenters and laborers working on the W2W precast retaining wall cover slabs.