



Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 138 Const Calendar Day: 687 Date: 27-Jul-2011 Wednesday

Inspector Name: Wright, Doug Title: Transportation Engineer

Inspection Type: Continuous

Shift Hours: 07:00 AM 06:30 PM Break: 00:30 Over Time: 03:00

Federal ID:

Location:

Reviewer: Soheilifard, Saman Approved Date: 05-Aug-11 Status: Approved

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

Weather

| | | | |
|---------------|------|-------|-----------|
| Temperature | 7 AM | 12 PM | 4PM |
| Precipitation | | | Condition |

Working Day If no, explain:

Diary:

Dispute

Tower Activities

Electroslag welding (ESW):

The 19th ESW weld was done today. It was on the skewed T joint that connects shear plate a1S to the East shaft. The following is a list of activities for this operation:

The consumable guide and insulators were installed yesterday. To ensure that they were free of rust and condensation, the following was checked prior to the start of welding:

- I checked the wire barrels (they were covered with tarps overnight) to make sure that the wire is still dry and clean.
- I visually inspected both sides of the weld joint to make sure there was no rust or condensation on the guide or insulators.
- The initial charge of flux that was in the starting sump was removed.
- All of the flux in the flux feeder was discarded, and new flux was taken out of the drying oven.
- At the bottom 150mm of both sides of the joint, they used a torch to dry out the area to remove any possible condensation (see attached photo). - Note: the areas above the sump will be dried out from the rising heat of the weld pool during welding.

After the above was done, they were ready to start welding.

- At 07:40, the weld was started.
- It took about 2 minutes, 50 seconds for the weld parameters to stabilize.
- At 08:00, the DC1000 weld machines lost power, and the welding was stopped abruptly. The cause of the power loss was from a tripped breaker in the breaker box.
- The location of the stop of the weld was 690mm above the base plate.
- At 08:30, I spoke with ABF Engineer Dan Hester and Superintendent Dan Iracie, and mentioned that a mock-up of the restart should be done prior to restarting the production weld. They said that they planned to proceed at their own risk, and go ahead and restart the weld today.
- I spoke with mark Woods regarding these events, and he said to fully document all of the prep work and restart.

The following work was done to prep the weld prior to restart:

- The cooling shoes and the consumable guide were removed.
- The top of the weld was carbon arc gouged to remove the weld near the abrupt stop. On the outside of the weld joint, 70mm of weld was removed. On the inside of the weld joint, 130mm of weld was removed. The prepped top of the weld was ground clean, and sloped toward the inside of the joint at about an angle of 45 degrees.
- In the area of the weld joint where the weld was removed, the root gap varied from 24mm to 28mm. See attached photo.

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- On the inside of the joint at the bottom of the sloped weld, a steel starting sump block was attached. This sump block had a small area ground into it to act as the sump. The size of this sump was about 10mm deep, 25mm wide, and 30mm long. See attached photo.
- A new consumable guide was brought out, and was trimmed to have a 45 degree angle at the bottom.
- At 12:15, the new consumable guide was installed.
- From 12:15 until 13:30, the insulators, volt pick-ups, and cooling shoes were installed. The shoe on the inside of the joint was tight against the top of the sump block sump block.

Prior to the restart of the welding, I spoke with Dan Danks of Portland State (also part of the team who developed the narrow gap ESW process). He said that he was satisfied with the restart configuration.

After the above prep work was done, they were ready to restart the weld.

- At 13:49, the weld was restarted with one wire (the inside wire at the lower side of the sloped weld).
- It ran for 50 seconds with only 1 wire until the 2nd wire was started.
- It took about 2 minutes, 20 seconds for the weld parameters to stabilize.
- At 14:10, the outer wire stopped running. They had to pull the wire from the guide, and re-feed it back into the guide. The weld was running on 1 wire for about 5 minutes.
- At 14:43, the outer wire again stopped running. They had to pull the wire from the guide, and re-feed it back into the guide. The weld was running on 1 wire for about 4 minutes.
- At 16:35, the outer again wire stopped running. They had to pull the wire from the guide, and re-feed it back into the guide. The weld was running on 1 wire for about 2 minutes.
- In the areas of the weld where it was running with 1 wire, there was noticeable underfill, especially on the outside of the weld joint.
- At 18:07, the weld was ended in the run-off tab.

04-0120F4 Bid Item: 053 T-L01-SPD.053 Tower Lift 01 Shear Plates and Diaphragms

AMERICAN BRIDGE/FLUOR, A JV

Labor

| Trade | Class | Name | RT Hrs | OT Hrs | DT Hrs | Total | Remarks | Dispute |
|--|-------|----------------|--------|--------|--------|-------|---------|--------------------------|
| Contractor: AMERICAN BRIDGE/FLUOR, A JV | | | | | | | | |
| Ironworker | APP | JEFFERY STONE | 0.00 | 0.00 | 0.00 | 0.00 | | <input type="checkbox"/> |
| Ironworker | APP | Alex Blanco | 8.00 | 3.00 | 0.00 | 11.00 | | <input type="checkbox"/> |
| Ironworker | APP | DEVAN MURPHY | 8.00 | 3.00 | 0.00 | 11.00 | | <input type="checkbox"/> |
| Ironworker | APP | JEREMY DOLMAN | 8.00 | 3.00 | 0.00 | 11.00 | | <input type="checkbox"/> |
| Ironworker | APP | JEFFERY SOUZA | 8.00 | 3.00 | 0.00 | 11.00 | | <input type="checkbox"/> |
| Ironworker | FOR | RORY HOGAN | 8.00 | 3.00 | 0.00 | 11.00 | | <input type="checkbox"/> |
| Ironworker | JNM | RICHARD GARCIA | 8.00 | 3.00 | 0.00 | 11.00 | | <input type="checkbox"/> |

Attachment



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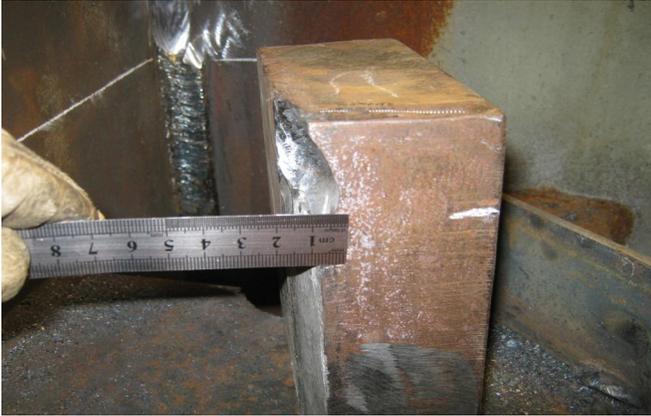
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Restart sump block



Completed weld just above the restart sump block



Heating the start area with a torch to remove possible condensation



Root gap of prepped restart area



Restart area with guide installed and sump block attached on opposite side of the joint.



Looking down at the sump block attached to the inside of the joint