

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1x.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012627**Date Inspected:** 12-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Tom Pasqualone**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Sections**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above. This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and to monitor various welding operations.

The following observations were made:

- 1) Quality Control personnel Tom Pasqualone and Steve McConnell were in the process of performing Ultrasonic Testing (UT) on welds E1/E2-A3 and A4.
- 2) Quality Control personnel Jesus Cayabyab performed a visual and Magnetic Particle Testing (MT) on weld E1/E2-A2.
- 3) Repair welding was performed on weld E1/E2-A3, Repair Area # 1.

This QA Inspector randomly observed QC Inspector Jesus Cayabyab monitoring the excavation of Repair # 1 on weld E1/E2-A3. This QA Inspector observed welding personnel Mitch Sittinger # 0315 grinding the excavation area. The QA Inspector observed as grinding was performed and QC Inspector Jesus Cayabyab performed various visual and MT inspection to verify the defect had been removed. The area being repaired was previously rejected by QC personnel after performing a UT inspection of the weld. QC Inspector Jesus Cayabyab informed the QA Inspector the defect had been removed. This QA Inspector performed a random visual verification and observed the MT inspection of the excavation prior to welding. The defect appeared to have been removed the only indication observed was the backing bar at the bottom of the weld. Prior to welding the QA Inspector observed QC Inspector Jesus Cayabyab verify the Shielded Metal Arc Welding (SMAW) welding parameters (130 amperes using a 1/8-inch/3.2 mm diameter electrode). The QA Inspector randomly observed the excavation and adjacent

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base material was preheated to a temperature greater than 150 degrees F and verified by QC Inspector Jesus Cayabyab by using a temperature indicating marker. The QA Inspector randomly observed welding personnel Mitch Sittinger perform the SMAW welding using preheated E7018-H4R, 3.2 mm diameter electrodes to fill the 70 mm long, 45 mm side and 22 mm deep excavation. Please see attached photos of the excavation to show location and depth of excavation.

This QA Inspector randomly observed QC personnel Tom Pasqualone and Steve McConnell performing UT on weld E1/E2-A-3 and A-4. The entire length of weld A-4 and the last 220 mm of weld A-3 were being inspected. The majority of weld A-3 was previously UT inspected. The QA Inspector observed the following:

- 1) A lamination scan using a straight beam transducer was performed on the base material prior to the start of the shear wave examination.
- 2) The welds attaching the closed ribs on the bottom of the deck were laid out and marked to assist with the interpretation of the UT signals.
- 3) The edges of the weld joint bevels and center line of the weld were marked using low stress punch marks made prior to welding.

The QA Inspector observed QC personnel Tom Pasqualone and Steve McConnell using 70 degree shear wave transducers to perform the inspection. At the end of this QA Inspectors' shift the UT inspection was still in progress. The work observed appeared to comply with the contract requirements.

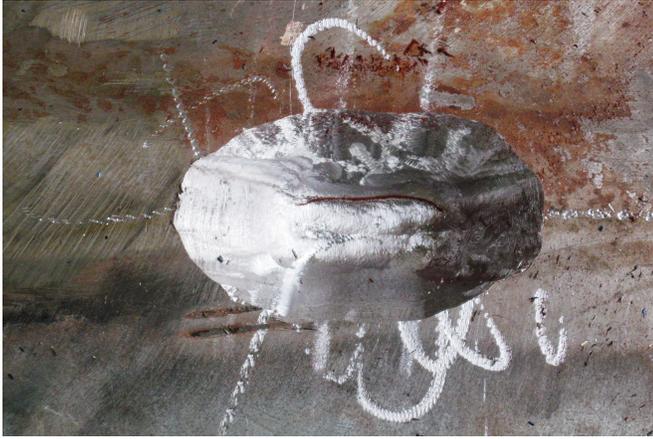
This QA Inspector randomly observed QC Inspector Jesus Cayabyab perform a visual and MT inspection on weld E1/E2-A-2. QC Inspector Jesus Cayabyab informed this QA Inspector he had visually rejected a section of the weld due to excessive grinding which resulted in the weld being slightly greater than 1 mm below being flush with the surface. The QA Inspector observed the area was adjacent to an existing intersecting weld seam and marked for additional welding. QC Inspector Jesus Cayabyab stated the MT inspection was accepted except for the area marked for additional welding which would receive MT after welding.

This QA Inspector randomly observed QC Inspector Jim Cunningham performing UT on the vertical stiffener splices located at E1/E2-D-1 and D-2. QC Inspector Jim Cunningham stated multiple splices had been inspected the previous day but that the inspections had been voided by Smith Emery QC Supervisor Leonard Cross because the inspections had been performed through paint. The QA Inspector observed the paint had been removed from the base material in which sound was being transmitted through for the UT inspections being performed this date. At the time of this observation only 3 stiffener plates had been inspected and QC Jim Cunningham informed the QA Inspector all 3 had been accepted.

In general the welding and NDT observed this date appeared to comply with the contract requirements.

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Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By: Hager,Craig

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer