

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 #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012729**Date Inspected:** 18-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2130**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** T. Pasqualone/J. Cunningham**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:** Orthotropic Box Girders**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the E1/E2 and E2/E3 field splices:

- A). Welding of the Field Splice E2 to E3.
- B). Backgouging of the Field Splice E1 to E2

The QAI observed the Submerged Arc Welding (SAW) process of the deck plate field splice identified as Weld Number(WN): 2E-3E-A, Weld Segments A1-A5. The welding was performed by the AB/F welding personnel Mitch Sittinger ID-0315, segments A4-A5 and Jordan Hazelaar ID-2135, segments A1-A3 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1 Rev. 0. The WPS was also used by the AB/F Quality Control (QC) Inspector's Tom Pasqualone and James Cunningham to perform QC verification of the Direct Current Electrode Positive (DCEP) welding parameters during the Complete Joint Penetration (CJP) groove welding of the deck plate field splice. Later in the shift the QAI observed the QC inspector's verifying the welding parameters of each welder and were noted as follows: 560 amps, 32.5 volts and a travel speed measured at 381 mm/minute. The QC inspector's also monitored the surface temperatures during the field welding and the following was observed and noted by the QAI: the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. The SAW was completed during this scheduled shift. Later in the shift, the QAI observed AB/F personnel utilizing 9" grinders to machine the CJP and the adjacent base metal to accommodate the QC ultrasonic testing and QAI verification.

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Later in the shift the QAI inspector observed the backgouging of the bottom deck splice identified as 1E-2E-D, Segments D1 and D2. The backgouging was performed by AB/F personnel Salvador Sandoval utilizing the plasma arc cutting process.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the SAW welding of the E2/E3 field splice utilizing the WPS's as noted above which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector's and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The 3.2 mm diameter consumables identified as ESAB Spoolarc 81 was utilized during the welding of the V-groove and appeared to be in compliance with the AWS Specification A5.17 and the AWS Classification EM12K-H8. The QC inspection and welding performed on this shift was not completed, except as noted above, appeared to be in general compliance with the contract documents. The QAI randomly verified the QC inspection, the welding parameters and surface temperatures utilizing various inspection equipment and gages, a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs below illustrates the work observed during this scheduled shift.



Summary of Conversations:

There were no pertinent conversations discussed in regards to the project except 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: Reyes, Danny

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer