

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-012798**Date Inspected:** 26-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:** Bernie Docena**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 E1 to E2.
- B). Back Gouge of the Field Splice E2 to E3

A) Field Splice E1/E2, WN: 1E-2E-D

The QAI observed the automated FCAW-G welding process during the CJP welding of the bottom plate field splice performed by Rory Hogan ID-3186 and Jeremy Dolman ID-5042. The welders utilized the FCAW-G welding process as per the WPS ABF-WPS-D15-3040A-4 Rev. 0 which was also used as a reference by the QC inspector Bernie Docena to verify the welding parameters and the surface temperatures. The DCEP welding parameters were verified and noted by the QC inspector and were noted as follows: 255 amps, 23 volts and a travel speed measured at 192 mm/minute. The minimum preheat temperature of 65 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius were maintained. The previous porosity issue has appeared to be corrected and no porosity has been observed in subsequent weld passes during this shift. The welding was terminated at approximately 1700 and the contractor, AB/F, has elected to leave the heating bands on the weld joint continuously which was verified by the QAI, at the time the welding was terminated. The welding will resume on the next scheduled shift, 03/27/10.

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The QAI also observed the grinding of the back gouged surface of the side plate field splice identified as WN: 1E-2E-C.

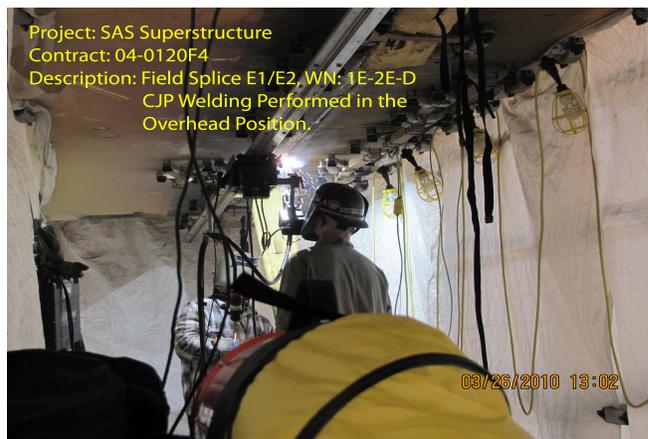
B) Field Splice E2/E3, WN: 2E-3E-D

The QAI also observed the back gouged surface and the various areas that were marked and noted during the Magnetic Particle Testing (MPT) performed by the QC technicians. The indications noted by QC will require the removal of the indications to be followed by grinding. No welding was performed during shift.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the E1/E2 and E2/E3 field splices utilizing the WPS 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 1.4 mm diameter consumables identified as ESAB Dual Shield 70 Ultra Plus was utilized during the FCAW-G welding of the CJP groove welds and appeared to be in compliance with the AWS Specification A5.20 and the AWS Classification E71T-1M. The QC inspection, testing 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, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages, a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs below illustrate 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.

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Inspected By: Reyes,Danny

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer