

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 #: 19.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012243**Date Inspected:** 22-Feb-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:** See Report Below**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 (AB/F) personnel at the E1/E2 and E2/E3 field splices:

- A). Assembly fit-up and welding of E1 to E2 field splice.
- B). Initial bolting of E2 to E3 field splice.
- C). UT verification

The QAI observed the installation and fillet welding of the assembly gear fitting aids to align the side plates of Orthotropic Box Girders E1 to E2 field splice. The fillet welding was performed by American Bridge/Fluor personnel Joel Quist, ID 9704. The QAI observed the Quality Control (QC) inspector Tom Pasqualone verifying the Direct Current Electrode Positive (DCEP) welding parameters and preheat temperatures which were noted as 130 DC amps and a minimum temperature of 20 degrees Celsius.

The QAI also observed the correcting of the excessive root opening of approximately 20 Millimeters (mm) utilizing the Welding Procedure Specification ABF-WPS-D15-F3200-2. The welding was performed by AB/F personnel Mitch Sittinger, ID-0315, Jordan Hazelaar, 2135 and Al McDaniel, ID-2690. The QAI observed QC inspectors Steve McConnell and Jesse Cayabyab verify the Direct Current (DC) welding parameters and were noted as follows; 235 amps, 21.6 volts and the travel speed which was measured at 425 mm per minute. The QC inspectors also verified the minimum preheat temperature of 100 degrees Celsius and maximum interpass

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temperature of 230 degrees Celsius.

Later in the shift the QAI also observed the AB/F personnel performing the initial installation of the temporary bolts of the floor beams, the longitudinal structural tee stiffeners and U-Ribs located at the E2 to E3 field splice side plate panels and deck plate. It appeared the connections were brought into alignment by driving drift pins through the various plies of splice plates to bring the bolt holes in their proper alignment. The QAI also observed the Quality Control (QC) inspector Mike Johnson performing a visual observance regarding the alignment of the bolt holes at these connections.

The QA inspector also performed a random ultrasonic verification test of the Complete Joint Penetration (CJP) groove welds on the 12mm x 38mm backing bar to be utilized on the deck plate field splice identified as E3 to E4. A total area of approximately 10% was ultrasonically tested to verify the welds and testing by QC meet the requirements of the contract documents. The QAI performed UT verification on weld splice # 2 and #3 with the examination performed in the first and second leg. An ultrasonic test report, TL6027, was generated for this date.

QA Observation Summary

The QA inspector observed the Shielded Metal Arc Welding (SMAW) process of the field assembly gear fitting aids and the welding to correct the root opening dimensions of the E1 to E2 bottom plate splice. The welding was performed utilizing the Welding Procedure Specification's (WPS's) ABF-WPS-D15-F1200A-1 and ABF-WPS-D15-F3200-2 which was also used by the AB/F Quality Control (QC) inspector's Jesse Cabbyabyab Steve McConnell and Tom Pasqualone during the monitoring of the welding parameters. The welding parameters and preheat temperatures were verified and noted utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for preheat and interpass temperatures. The Lincoln and ESAB 3.2 mm for the SMAW process and 1.4mm for the FCAW-G process consumables was also verified by the QC inspectors and appeared to comply with the AWS Electrode Classification E7018 and E71T-1M. The QC inspector's appeared to perform the visual examinations and monitoring of the welding as per the contract documents. The welding and inspection on this shift was not completed except as noted and appeared to be in general compliance with the contract documents.

See digital photographs below in regards to the work observed during this shift.



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Summary of Conversations:

There were no pertinent conversations were discussed in regards to the project.

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
