

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF 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-000804**Date Inspected:** 08-Nov-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Benicia, Ca.

CWI Name:	William Norris		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No	
Rod Oven in Use:	Yes	No	N/A
Weld Procedures Followed:	Yes	No	N/A
Verified Joint Fit-up:	Yes	No	N/A
Approved WPS:	Yes	No	N/A
Delayed / Cancelled:	Yes	No	N/A

Bridge No: 34-0006**Component:** PQR test**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector arrived at the Ironworkers Apprenticeship Training Facility and witnessed welding of a Procedure Qualification (PQR) test plate designated ABF-PQR-015-1, using gas shielded flux cored arc welding (FCAW-G) using Esab Dualshield 70 Ultraplus, class E71T-1 electrode, 0.062 in. diameter with 80% Argon/20% CO₂ shielding gas. The welding was performed by the American Bridge welding personnel Mr. Daniel Gordon and Mr. Eric Rayburn. The welding was conducted with the support of a track guided "Bug O" system in the 4G (overhead) position. The welding was performed per the AWS D1.5, 2002 Section 5.12 requirements for maximum heat input. The Smith Emery QC inspector, Mr. William Norris recorded the preheat and interpass temperatures, the average amperage, voltage, shielding gas flow and the travel speed for all weld passes. The root pass was identified as zone 1 and the remainder of the weld was identified as zone 2. The QA inspector observed that the welding personnel Mr. Rayburn excavated an area approximately 30mm long on the sixth pass and rewelded the repair area and an area approximately 25mm long on the seventh pass and rewelded the repair area of due to issues with the track guided "Bug O" system and or the filler metal. The welder Mr. Daniel Gordon performed the repair excavations using a manual air-carbon arc system. After the air-carbon arc cutting was complete, the excavation was ground to resemble a U-groove. The welding of this plate was completed on this date. The QA inspector noted that the welding appeared to meet the minimum requirements of AWS D1.5-2002 and the contract documents.

After completion of the Procedure Qualification (PQR) test plate designated ABF-PQR-015-1, the Procedure Qualification (PQR) test plate designated ABF-PQR-015-2 was started. The welding was performed using gas shielded flux cored arc welding (FCAW-G) using Esab Dualshield 70 Ultraplus, class E71T-1 electrode, 0.062 in. diameter with 80% Argon/20% CO₂ shielding gas. The welding was performed by the American Bridge welding personnel Mr. Daniel Gordon and Mr. Eric Rayburn. The welding was conducted with the support of a track

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guided “Bug O” system in the 4G (overhead) position. The welding was performed per the AWS D1.5, 2002 Section 5.12 requirements for minimum heat input. The Smith Emery QC inspector, Mr. William Norris recorded the preheat and interpass temperatures, the average amperage, voltage, shielding gas flow and the travel speed for all weld passes. The test plate was not completed on this date.

Summary of Conversations:

The QA inspector observed that several test plate welds appeared to have been ground flush without Caltrans being notified that work was being performed. The QC inspector, Mr. Norris reported that American Bridge welding personnel removed the weld reinforcement by grinding and he performed the final visual inspection and found the following tests to be visually acceptable.

- a) ABF-PQR-025-2-D.
- b) ABF-PQR-027-2-A.
- c) ABF-PQR-012-1.
- d) ABF-PQR-012-2.
- e) ABF-PQR-003-1-C.
- f) ABF-PQR-003-2-A.

The QC inspector, Mr. Norris reported that he performed the final visual inspection on ABF-PQR-027-1-A and found it to be visually unacceptable due to excessive reinforcement.

At the start of welding the QC inspector reported that the two Procedure Qualification tests were to be performed in accordance with AWS D1.5-2002 section 5.12 heat input WPS. At the completion of the welding the QC inspector Mr. Morris reported that the test plate visual inspection would be performed at a later date.

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Lanz,Joe	Quality Assurance Inspector
Reviewed By:	Mertz,Robert	QA Reviewer
