

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022770**Date Inspected:** 20-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**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 Enterprises (AB/F) personnel at the locations noted below:

- A). Lifting Lug Holes
- B). Utility Service Platform
- C). QC Inspection Request
- D). Issue

The QA Inspector observed the onsite inspection performed by the contractor's QC Inspection personnel. The inspection was performed on various field fit-up of weld joints and the Complete Joint Penetration (CJP) groove welds of the East and West Orthotropic Box Girders (OBG's). The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specifications (WPS's).

A). Lifting Lug Holes

The QAI observed the CJP welding of the lifting lug holes identified as WN: 7W-PP56-W3-W2 and W4 and 7E-PP56-E3-W1. The welding was performed by Darcel Jackson ID and Jason Collins utilizing the WPS identified as ABF-WPS-D15-1050A-CU, Rev.0 and 1110A-CU. The field inspection was performed by John Pagliero and Fred Von Hoff appeared to comply with the contract specifications. The CJP welding was not completed during this shift.

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B). Utility Service Platform

The QAI observed the removal of the bolted connection plate located at the north and south ends of the Crossbeam number 12. At the conclusion of this work these areas were ground flush and a Magnetic Particle Test (MPT) was performed by the QC inspector Fred Von Hoff and no indications were noted by the QC inspector. Later in the shift the new connection plates were installed and the welding was performed by Rick Clayborn ID-2773. This work was performed in reference to RFI No.:ABF-RFI-002417R00. For additional information see Summary of Conversations.

C). QC Inspection Request

At the request of the QC Lead Inspector, Bonifacio Daquinag, Jr., this QAI performed visual verification of the following Complete Joint Penetration (CJP) groove welds identified as WN: 9E-10E-C1/C2, D1/D2 and E1/E2 and WN: 7W-8W-A-LS1, LS2, LS3 and WN: 7E-PP55-E4-W1 through W4. The random verification was performed to verify the weld and the inspection performed by QC meet the requirements of the contract documents.

This QA Inspector also performed a daily review and update of the field document control tracking records regarding the Orthotropic Box Girders, Longitudinal and Transverse "A" Deck Stiffeners and Deck Access Holes.

D). Issue

At the Tower splice plates located at the 83 Meter elevation of the West Shaft, the contractor has elected not to maintain the minimum preheat for three hours. See Summary of Conversations for additional information.

QA Summary

The welding was performed in various positions utilizing the E7018-H4R low hydrogen electrodes. The 3.2 mm and 4.0 mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The WPS's were also utilized by the QC inspector's, John Pagliero and Fred Von Hoff as a reference to monitor the welding operation, verify the welding parameters and verify the minimum preheat and the interpass temperatures. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

The digital photographs on page 3 of this report illustrate some of the work observed during this scheduled shift.

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Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of American Bridge/Fluor welding, inspection and N.D.E. testing personnel scheduled for this shift.

In conversation with the Lead inspector Mr. Daquinag and this QAI that the RFI referenced has been submitted but has not been approved. Mr. Daquinag informed this QAI that he will contact William Norris, QC Document Control Personnel, regarding the status of the RFI approval.

This QAI also discussed the issue of maintaining the minimum preheat temperature with the QC inspector Steve Jensen. Mr. Jensen informed this QAI that ABF has elected to reduce the temperature in increments in lieu of maintaining the temperature for three (3) hours after the end of the shift. The QC inspector also informed this QAI that the Quality Control Department will generate a Non-Conformance Report (NCR) regarding this issue.

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 Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
