

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-023181**Date Inspected:** 29-Apr-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**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). Field Splice 10E/11E
- C). OBG W5 Diverter Bar

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) and the Flux Cored Arc Welding (FCAW) 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:7E-PP55-E3-W1 & W3 and 8W-PP64-W3-W1. The welding was performed by Jason Collins and Darcel Jackson ID-9967 utilizing the WPS's identified as ABF-WPS-D15-1050A-CU, Rev.0 and 1110A, Rev 1. The field inspection performed by Steve McConnell and Fred Von Hoff appeared to comply with the contract specifications. The in process CJP welding appeared to comply with contract specifications.

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B). Field Splice 10E/11E

The QAI observed the Flux Cored Arc Welding (FCAW-G) and the Shielded Metal Arc Welding (SMAW) of the side plate field splices identified as WN: (WN) 10E-11E-C and E. The Complete Joint Penetration (CJP) groove welding was performed by Wai Kitlai ID-2953 and Jorge Lopez ID-6149 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1 Rev. 0 and 1040A, Rev. 1. The field inspection performed by Fred Von Hoff appeared to comply with the contract specifications. The in process CJP welding appeared to be in compliance with contract specifications.

C). Diverter Bar Field Splice

The QAI observed the CJP and fillet welding of the diverter bar field splice located at grid line W1 at the "A" deck field splice identified as WN: 9W-10W-A1. The welding was performed by Fred Kaddu ID-2188 utilizing the WPS's identified as ABF-WPS-D15-1080, Rev. 1 and ABF-WPS-D15-F1200A, Rev. 2. The inspection was performed by QC personnel John Pagliero. The welding was completed during this shift and the visual inspection performed by QC appeared to comply with contract specifications.

The QAI also performed a visual and magnetic particle test verification of the diverter bar welding located along the grid line W2 of the OBG field splice identified as 10W-11W-A1. At the conclusion of the QA Verification the welding appeared to comply with 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.

QA Summary

The welding was performed in the flat (1G), vertical (3G) and overhead (4G) positions utilizing the E7018-H4R low hydrogen electrodes and the 1.6 mm E71T-1M. The 3.2 mm electrode was 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 inspectors as a reference to monitor the welding operation, verify the welding parameters and the minimum preheat and 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 related work activities 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.

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
