

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-023629**Date Inspected:** 14-May-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 work and the onsite inspection performed by American Bridge/Fluor Enterprises (AB/F) 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) processes as per the Welding Procedure Specifications (WPS's).

A). Tower

The QAI observed the multi-pass fillet welding of the splice plates located at 50 meter elevation of the north, south and west tower shafts. The welding was performed by Morgan Winters ID-3305, Salvador Sandoval ID-2202 and Rick Clayborn ID-2773 utilizing the FCAW process as per the Welding Procedure Specifications ABF-WPS-D15-2200-2 Rev. 0, ABF-WPS-D15-2200-3 Rev. 0 and ABF-WPS-D15-F1200A, Rev. 2. The WPS's were also used by the QC inspector Steve Jensen to verify the parameters during the welding. The in process welding and the inspection performed during this shift appeared to comply with the contract documents.

B). Lifting Lug Holes

The QAI observed the CJP welding of the lifting lug holes identified as WN:8E-PP64-E4-W1 & W4 and WN:8W-PP68-W3-W1-W4. The welding was performed by Jason Collins ID-8128 and Mike Jiminez ID-4671 utilizing the WPS's identified as ABF-WPS-D15-1110A, Rev. 1 and ABF-WPS-D15-1001-Repair. The WPS's

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

were also used by the QC inspector John Pagliero to verify the parameters during the welding. The QAI also observed the QC inspector perform a visual inspection and a Magnetic Particle Test (MPT) of the back gouging. The welding and the inspection performed by the QC inspector appeared to comply with the contract specifications.

C). QA Verification

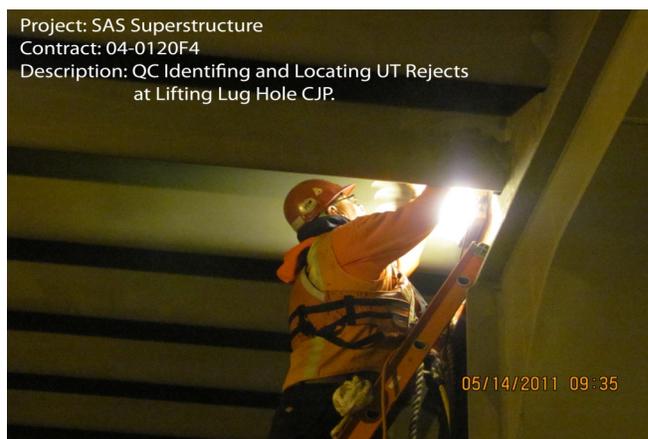
This QA verified the bottom plate CJP identified as WN: 7W-8W-D1 and D2 utilizing the VT and UT method of inspection and testing. A total area of approximately 10% was ultrasonically tested to verify the weld and testing by QC meet the requirements of the contract documents. For additional information see the TL-6027 generated on this date.

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 vertical and overhead positions utilizing the E7018-H4R low hydrogen and the E71T-8 electrodes. The 3.2 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 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 below illustrate some of the related work activities observed during this scheduled shift.



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 welding, inspection and N.D.E. testing personnel scheduled for this shift.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

This QAI inquired of the base metal repair documentation regarding the tower plate stiffener located at 83 meter elevation of the west tower shaft. This QAI was informed by Structures Representative, Doug Wright, that the contractor will generate the appropriate documentation and will be submitted for approval.

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
