

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-023940**Date Inspected:** 21-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 & Tower**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 inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed on the 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) and the Tower. 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). Lifting Lug Holes

The QAI observed the CJP welding of the lifting lug holes identified as WN: 9W-PP80-W3-W2 & W4. The welding was performed by Darcel Jackson ID-9967 utilizing the WPS identified as ABF-WPS-D15-1110A, Rev. 1. The QAI also observed the QC inspector perform the visual inspection and verify the welding parameters during the production welding. The inspection performed by John Pagliero appeared to comply with the contract specifications.

B). Counterweight Plates and Drip Rail

The QAI observed the CJP welding of the of the upper and lower counterweight connection plates and the fillet welding of the drip rail located at the OBG field splice W8/W9 along the W1 and W2 grid lines. The welding was performed by Gilbert Peralta ID-9453 utilizing the WPS identified as ABF-WPS-D15-F1200A, Rev. 2 and 1070A, Rev. 1. The WPS's were also used by the QC inspector Fred Von Hoff to monitor the welding and verify the

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welding parameters. Later in the shift the QC inspector performed a Visual Inspection (VT) and Magnetic Particle Test (MPT) at the conclusion of the welding. No rejectable indications were noted by the QC inspector and at the request of Mr. Von Hoff, the QAI performed an inspection and MPT to verify the weld, inspection and testing meet the requirements of the contract specifications. No issues were noted and the QAI concurs with QC assessment. A total area of approximately 10% was tested by the QAI.

C). Tower Splice Plates

The QAI observed the fillet welding of the north corner closure splice plate located at the 50 meter elevation of the North Tower Shaft. The welding was performed by Salvador Sandoval ID-2202 utilizing the FCAW as per the WPS identified as ABF-WPS-D15-F2200-2 and F2200-3. The inspection was performed by William Sherwood utilizing the WPS to monitor and verify the welding parameters. The in process welding appeared to comply with the contract specifications.

At the request of the QC inspector this QAI performed a visual weld inspection of the multi-pass fillet welding of the splice plates located at the 50 meter elevation. The weld joints were identified as 161 at the north east corner of the North Tower Shaft and the weld joints identified as 161 & 162 at the west corner of the West Tower Shaft. The visual inspection was performed to verify the weld and the inspection performed by QC meet the requirements of the contract specifications. No issues were noted by this QAI at the time of the inspection.

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

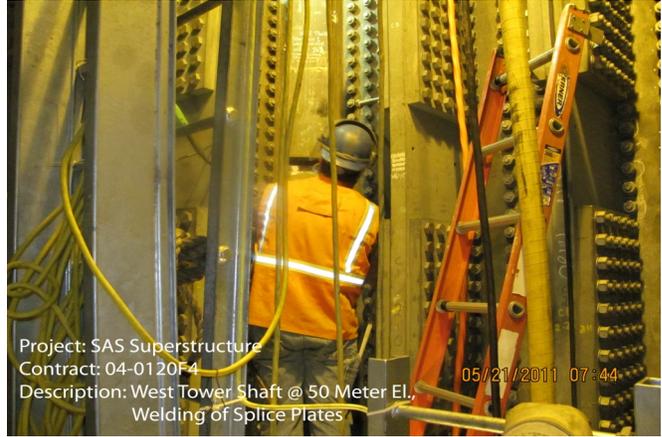
The welding was performed in the flat, vertical and overhead positions utilizing the E7018-H4R low hydrogen and the E71T-1M consumables. The 3.2 mm and 4.0 mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits 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 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 related work observed during this shift.

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Project: SAS Superstructure
Contract: 04-0120F4
Description: QC Performing VT of Lifting Lug Hole.



Project: SAS Superstructure
Contract: 04-0120F4
Description: West Tower Shaft @ 50 Meter EL.,
Welding of Splice Plates

Summary of Conversations:

There were general conversations with field inspector, John Pagliero, at the start of the shift regarding the location of 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