

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-024923**Date Inspected:** 29-Jun-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 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 Girder & 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. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW).

A). Tower Shear Plates

The QAI observed the continued preliminary Ultrasonic Testing (UT) of the tower shear plates identified as WN: E-042 and N-042. The testing was performed by the QC technician Jesse Cayabyab utilizing a G.E./Krautkramer USM 35X. The examination of the ESW square groove joint was conducted utilizing UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 which has not been approved as of this date. The QC technicians performed the required the examination for base metal soundness and the shear wave technique for the examination of weld soundness which was performed utilizing a 16mm x 19mm rectangular transducer. The ultrasonic testing was not completed on this date.

The QAI also observed the QC inspectors monitoring the welding and preheat temperatures during the welding of the temporary access ladder attachments to the shear plate located approximately at the weld joints identified as WN: E-043 and N-042. The welding was performed by Richard Garcia ID-5892 utilizing the WPS identified as ABF-WPS-D15-F1200A, Rev. 2. There were no issues at the time of the QA observations.

B). Lifting Lug Holes

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The QAI observed the CJP welding of the lifting lug holes located on the east orthotropic box girders identified as WN: 9W-PP79-W4-W2. The welding was performed by Fred Kaddu ID-2188 utilizing the WPS identified as ABF-WPS-D15-1050A-CU, Rev. 0.

The QAI observed the CJP welding of the lifting lug holes located on the west orthotropic box girders identified as WN: 9E-PP77-E4-W1 through W4. The welding was performed by Mike Jiminez ID-4671 utilizing the WPS identified as ABF-WPS-D15-1050A-CU, Rev. 0.

The QAI also observed the QC inspector's perform the visual inspection and verify the welding parameters during the production welding. The inspections performed by Fred Von Hoff and Pat Swain appeared to comply with the contract specifications. The welding of these weld joints was not completed during this scheduled shift.

C). Pipe Supports

The QAI observed the installation and fit-up of the pipe support identified as a PS-5 and located between PP72 and PP73 along the grid line W5 at OBG. The tack and field welding was performed by David Garcia ID-8789 utilizing a 3.2 mm electrode as per the Welding Procedure Specification (WPS) identified as Fillet Murex. The QC inspection was performed by Steve Jensen utilizing the WPS to monitor the welding and to verify the amperage. The welding and inspection of the pipe support was not completed during this shift.

D). QA Verification

This QAI performed a ultrasonic verification test on various Complete Joint Penetration (CJP) groove welds. A total area of approximately 10% was randomly tested to verify the weld and testing by QC meet the requirements of the contract documents. For additional information and locations see the ultrasonic test report 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 flat and overhead positions utilizing the E7018-H4R low hydrogen. 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 welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure 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. and FW Spencer Supervisor, Tom Colombo, 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
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Reviewed By:	Levell,Bill	QA Reviewer
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