

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-022412**Date Inspected:** 05-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). Longitudinal "A" Deck Stiffeners
- B). Diverter Plate
- C). QAI Verification

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 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). Longitudinal "A" Deck Stiffeners

The QA Inspector observed the CJP welding of the longitudinal stiffeners located at the field splices W7/W8 and W8/W9 identified as WN: 7W-8W-A-LS3 and WN: 8W-9W-A-LS1. The welding was performed by the welders Xiao Jian Wan ID-9677 and Jin Pei Wang ID-7299, accordingly. The CJP welding of was not completed during this shift.

The QAI also observed the repair welding of the longitudinal stiffener located at the field splice W5/W6 and identified as WN: 5W-6W-A-LS1, R2. The welding of performed by the Xiao Jian Wan ID-9677 and was completed during this shift.

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B). Diverter Plate

The QAI observed the fillet welding of the diverter plate located on the "A" deck of the OBG E4 along the grid line E5 between Panel Points 24 and 25.5. The welding was performed by Morgan Winters ID-3305. The welding was completed during this shift and at the conclusion of the welding the QC inspector, Steve McConnell, performed a visual weld inspection and at the conclusion of the inspection performed a Magnetic Particle Test of approximately 10% of the total length of the fillet weld. At the time of the inspection and testing, no indications were noted by the QC inspector. The welding and testing performed appeared to comply with the contract specifications.

C). QAI Verification

At the request of the QC Lead Inspector, Bonifacio Daquinag, Jr., the QAI performed a random VT Verification of the pipe support welds located at the OBG W10 and W11. Approximately 10% was inspected to verify the weld and the inspection by QC meet the requirements of the contract documents. Later in the shift the QAI verified the overhead welding of the Lifting Lug Holes (LLH) located at OBG W7 and identified as WN: 7W-PP55-W3, Weld No. 2 and 4. The welding appeared to comply with the contract drawings.

The QAI also performed a random ultrasonic verification test of the Complete Joint Penetration (CJP) groove weld identified as WN: 10E-11E-A1 through A5. A total area of approximately 10% was ultrasonically tested to verify the weld and testing by QC meet the requirements of the contract documents. An ultrasonic test report TL-6027, was generated on this date.

QA Summary

The welding was performed in the flat (1G), vertical (3G) and horizontal (2F) positions utilizing low hydrogen electrodes. The welding parameters were verified and recorded by the QC inspector and observed by the QAI appeared to comply with the WPS identified as ABF-WPS-D15-1012-3, Rev. 0 and ABF-WPS-F1200A, Rev. 2. The welders utilized a slag hammer and a wire wheel attached to a 4" high cycle grinder to remove slag after the deposit of each weld pass. 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 identified as E 7018-H4R and E9018-H4R 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, Gary Ehram and Steve McConnell as a reference to monitor the welding operation, to 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.

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