

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-021814**Date Inspected:** 16-Mar-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 Items Observed**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 Stiffener Splices
- B). Pipe Welding
- C). QA Verification

A). Longitudinal Stiffener Splices

The QAI observed the welders, Wai Kitlai ID-2953, Xiao Jin Wan ID-9677 and Jin Pei Wang ID-7299, perform the Complete Joint Penetration (CJP) groove welding of the longitudinal stiffeners located at the field splices W5/W6 and W6/W7 identified as WN: 5W-6W-A-LS 1, LS4 and WN: 6W-7W-A-LS1, accordingly. The welders performed the welding utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) identified as ABF-WPS-D15-1012-3, Rev. 0. The welding was performed in the vertical (3G) position with the work placed in an approximate vertical plane and the groove approximately vertical. The average welding parameters were verified and recorded by the QC inspector as 124 amps. The welders utilized a slag hammer and a wire wheel attached to a 4" high cycle grinder to remove slag after deposit each fill pass. The electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers and the exposure limits of the electrodes identified as E9018-H4R and the minimum storage oven temperature of 120 degrees Celsius appeared to be in compliance with the contract documents. The WPS was also utilized by the QC inspector, Gary Ehrson, as a reference to monitor the welding operation, verify the welding

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parameters and verify the minimum preheat temperature of 100 degrees Celsius and the interpass temperature of 230 degrees Celsius. The welding parameters and surface temperatures were verified by the QC inspector utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

B). Pipe Welding

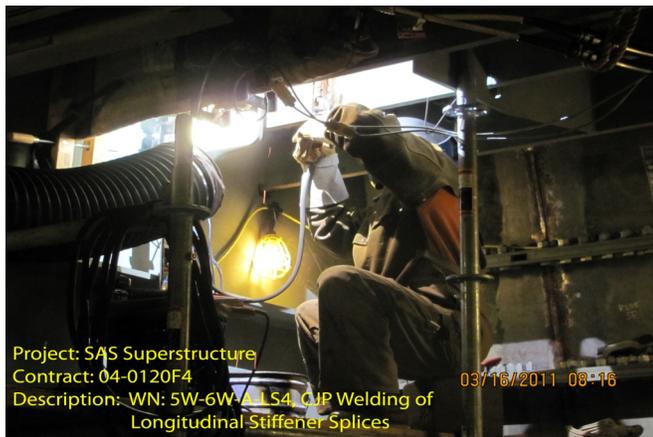
The QAI observed the welder, Rick Kiikvee-ID-5319, perform the CHP welding of the field welds identified as 16-2.5-W2-E, 17-2.5-W2-E and 18-2.5-W2-E. The welding was performed utilizing the Weld Procedure Specification (WPS) identified as 1-12-1 which was also utilized by the QC inspector, Steve Jensen, to monitor the welding and to verify the welding parameters.

Later in the shift the QAI observed the QC inspector perform a visual weld inspection of the above mentioned welds and no issues were noted by the QC inspector. The QAI concurs with the QC inspector's assessment.

C). QA UT Verification

The QAI performed an Ultrasonic Test (UT) on the CJP welds identified as WN: 4W-PP27-W4-Weld No's. 1, 3, 4 and WN: 9E-10E-A4 and A5 . The areas were tested 10% to verify that the welds and testing by QC meet the requirements of the contract documents. The examination was performed as per the contract documents and a ultrasonic test report, TL-6027 was generated on this date.

The digital photographs below illustrate some of the work observed during this scheduled shift.



Summary of Conversations:

There were general conversations with Senior Quality Control 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.

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Inspected By:	Reyes,Danny	Quality Assurance Inspector
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Reviewed By:	Levell,Bill	QA Reviewer
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