

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 #: 19.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012278**Date Inspected:** 26-Feb-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2130**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** B. Docena**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 (AB/F) personnel at the E1/E2 and E3 to E4 field splices:

A). Field Splice E1 to E2.

B). Field Splice E3 to E4.

The QAI observed the continued Complete Joint Penetration (CJP) groove welding of the bottom plate splice identified as Weld Number (WN) "D1" and "D2", segments D5, D6 and D14. The welding was performed by AB/F personnel Jordan Hazelaar, ID-2135 and Jeremy Dolman, ID-5042. The QAI also observed Quality Control (QC) inspector Bernie Docena verify the Direct Current (DC) welding parameters and the surface temperatures during the welding process and the average readings were noted as follows: 263 amps, 23.5 volts with a travel speed measured between 371 mm and 418 mm per minute. The surface temperatures were also noted by the QC inspector as follows: minimum preheat temperature of 100 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. At the conclusion of the welding of the segments the QAI observed the QC inspector, Mr. Docena perform the Visual Inspection (VT) of the Weld Segments identified as D5, D6 and D14. The QC inspector noted one area required additional minor profile grinding at the D14 Weld Segment. At the conclusion of the profile grinding, the QC inspector performed a follow up VT and there were no rejectable discontinuities noted. QAI concurs with the QC inspector's interpretation. The welding of the segments concluded at approximately 1545. At this time AB/F personnel commence the three (3) hours preheat hold time as required by the Project Special Provisions. The surface temperature of 100 degrees Celsius was measured and

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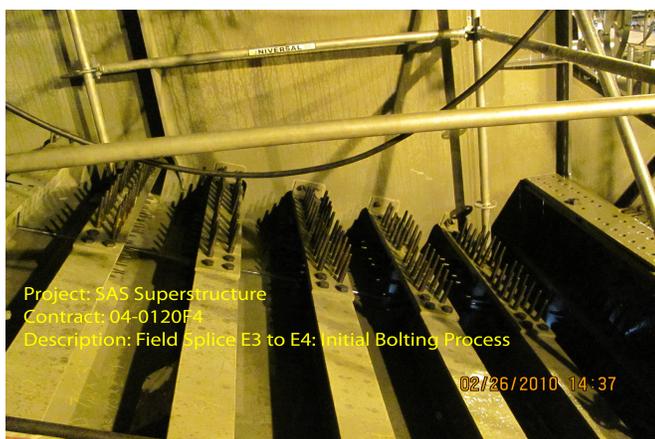
noted by the QC inspector.

Later in the shift the QAI also observed the continuation of the initial installation of the temporary bolts as per the American Bridge/Fluor Submittal ABF-SUB-001135R000: Erection Plan-Box Girder Bolting and Welding Plan For Lifts 1-6. It appeared the connections were brought into alignment by driving drift pins through the various plies of splice plates to bring the bolt holes in their proper alignment. The bolting installation appeared to be in progress at the U-Ribs located at the deck plate field splice, six (6) tee stiffeners located at side plates, two (2) tee stiffeners located at the bottom plate and the floor beams. This work was not completed during this shift and appeared to comply with the contract documents.

QA Observation and Verification Summary

The QA inspector observed Flux Cored Arc Welding (FCAW-G) process of the bottom plate field splice E1 to E2 identified as WN 1E-2E-D1 and D2. The welding was performed utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-3040-1 Rev. 0 and utilizing the welding parameters noted on the WPS as per AWS D1. 5-02/Section 5.12, which is noted on the WPS. The WPS was also used by the AB/F Quality Control (QC) inspector Bernie Docena during the monitoring of the welding. The welding parameters and preheat temperatures were verified and noted utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The consumables utilized during the welding appeared to be an ESAB manufactured product identified as ESAB Dual Shield 70 Ultra Plus with an electrode size of 1.4mm. The consumable appeared to comply with the AWS Electrode Specification AWS A5.20 and the AWS Classification E71T-1M. The QC inspector appeared to perform the visual examinations and monitoring of the welding as per the contract documents. The welding and QC inspection performed on this shift was not completed except as noted above and appeared to be in general compliance with the contract documents.

See digital photographs below in regards to the work observed during this shift.



Summary of Conversations:

There were no pertinent conversations discussed in regards to the project.

Comments

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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 Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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