

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-012279**Date Inspected:** 27-Feb-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** J. Cayabyab**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 field splice:

A). Field Splice E1 to E2.

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 D3, D4 and D15. 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 Jesse Cayabyab 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, 23.8 volts with a travel speed measured between 343mm and 385mm per minute. The surface temperatures were 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. Cayabyab perform the Visual Inspection (VT) of the Weld Segments identified as D3, D4 and D15. At the conclusion of the welding and minor profile grinding, the QC inspector performed a VT weld inspection and no rejectable discontinuities were noted. QAI concurs with the QC inspector's interpretation. The welding was completed on the D15 segment at approximately 1345 and the surface temperature was noted as 107 degrees Celsius and D3 and D4 segments were completed at approximately 1530 and the surface temperature was noted 115 degrees Celsius. At this time AB/F personnel commence the three (3) hours preheat hold time as required by the Project Special Provisions. The preheat hold time on the segments was not completed prior to the departure of the QAI.

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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-D15-3040A-1 Rev. 0 utilizing the welding parameters noted on the WPS as per AWS D1. 5-02/Section 5.12. The WPS was also used by the AB/F Quality Control (QC) inspector Jesse Cayabyab 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. The QAI randomly verified the welding parameters and surface temperatures utilizing a Fluke 337 Clamp Meter and a Tempilstik Temperature indicator.

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

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
