

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012312**Date Inspected:** 01-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1500**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Bernie 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:** 1E-2E and D1-D2**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 (ABF) personnel at the 1E/2E field splice:

- A). Field Splice E1 to E2.
- B). Field Splice D1 to D2.

A). The QA Inspector observed the Flux Cored Arc Welding (FCAW-G) of the weld joint identified as Weld Number WN 1E-2E-A2 and A4. The welding was performed by ABF personnel Mitch Sittinger, (0315) and Songtao Huang, (3794). The QA Inspector also observed the ABF (QC) Inspector's James Cunningham and Mike Johnson perform the Magnetic Particle (MT) testing on the weld's WN 1E-2E-A1 thru A5, with No Recordable Indications Observed. The ABF (QC) inspector's verified the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. The welding performed during this shift was not completed.

B). The QA Inspector also observed the continued CJP groove welding of the bottom plate splice identified as WN 1E-2E-D1 and D2, segments D16 and D17. The welding was performed by ABF personnel Jordan Hazelaar, (2135) and Rick Clayborn, (2773). The QA Inspector also observed Quality Control (QC) inspector Bernie Docena verify the FCAW 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 340mm and 320mm per minute. The surface temperature was noted by the QC Inspector and was noted as follows. The minimum preheat temperature of 100* degrees Celsius and the maximum interpass temperature of 230* degrees Celsius. The welding was completed on the noted segments during the shift. A (VT) visual inspection was performed on the completed segments by ABF (QC) Inspector Bernie Docena.

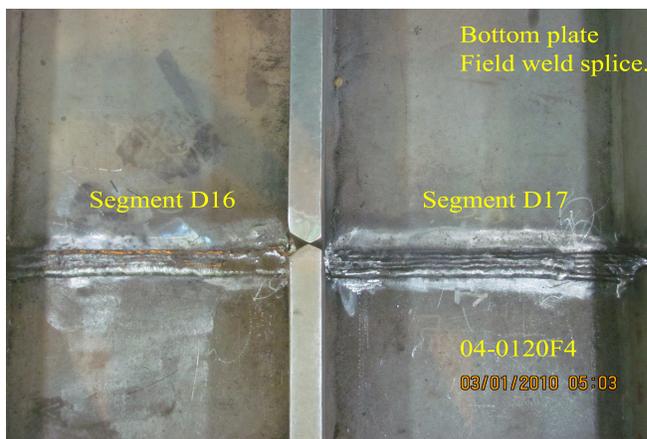
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QA Observation's during welding on 1E-2E and D1-D2, segments D16 and D17.

The QA inspector observed Flux Cored Arc Welding (FCAW-G) process of the deck plate and bottom plate field splice E1 to E2 identified as WN 1E-2E-A4/A5. The welding was performed utilizing the Welding Procedure Specification's (WPS's) ABF-WPS-D15-F3200-2 and 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's was also used by the ABF Quality Control (QC) Inspector's James Cunningham and Bernie Docena during the monitoring and verification 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 which appeared to comply with the AWS Electrode Specification AWS A5.20 and the AWS Classification E71T-1M. The QC inspector's appeared to perform the visual examinations, monitoring and verification of the welding as per the contract documents. The welding and QC inspection performed on this shift was not completed and appeared to be in general compliance with the contract documents. The QA Inspector randomly verified the welding parameters and surface temperatures utilizing a Fluke 337 Clamp Meter.



Summary of Conversations:

No relevant conversations noted at this time.

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 Mohammed Fatemi (916)-227-5298, who represents the Office of Structural Materials for your project.

Inspected By: Richmond, Gary

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer
