DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-012634
Date Inspected: 15-Mar-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1300
OSM Departure Time: 2130
Location: Job Site

CWI Name:	See 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 E1/E2 and E2/E3 field splices:

A). Welding of the Field Splice E2 to E3.

B). UT/MT, QAI Verification, E1 to E2.

The QAI observed the Flux Cored Arc Welding (FCAW-G) process on the deck plate field splice identified as Weld Number (WN): 1E-2E-A, Weld Segments A1-A5. The horizontal welding (2F) was performed by the AB/F welding personnel Mitch Sittinger ID-0315, segments A4-A5, Songtao Huang ID-3794, segments A3-A4 and Chun Fai Tsui ID-3426, segments A1-A2 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-F3200-2 Rev. 0. The WPS was also used by the AB/F Quality Control (QC) Inspector Mike Johnson to perform QC verification of the Direct Current Electrode Positive (DCEP) welding parameters during the welding of the 12mm x 38mm backing bar to the E3 deck plate. Later in the shift the QAI observed the QC inspector verifying the welding parameters of each welder and were noted as follows: for the welder Mitch Sittinger 242 amps, 23.7 volts and a travel speed measured at 310 mm/minute, for the welder Songtao Huang 245 amps, 23.4 volts and a travel speed measured at 307 mm/minute and Chun Fai Tsui 239 amps, 23.1 volts with a travel speed measured at 313 mm/minute. The QC inspector also monitored the surface temperatures during the field welding and the following was observed and noted by the QAI: the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius.

QA Observation and Verification Summary

The QA inspector observed the QC activities and FCAW-G welding of the E2/E3 field splice and the utilizing the WPS's as noted above which appeared to be posted at the appropriate weld station. The welding parameters and surface temperatures were verified by the QC inspector's and 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 consumable identified as ESAB Dual Sheild 70 Ultra Plus was utilized during this scheduled shift appeared to be in compliance with the AWS Specification A5.20 and the AWS Classification E71T-1M. The QC inspection and welding performed on this shift was not completed and appeared to be in general compliance with the contract documents. The QAI randomly verified the QC inspection, the welding parameters and surface temperatures utilizing various inspection equipment and gages, a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The QAI also performed a random ultrasonic verification test of the Complete Joint Penetration (CJP)groove weld identified as WN: 1E-2E-D-S6 and D-S12. Eighteen (18) stiffeners were tested by QC and a total of two (2), which equals approximately 10%, was ultrasonically tested to verify the weld and testing performed by QC meet the requirements of the contract documents. The QAI utilized the first and second leg during the perfomance of the QAI verification. An ultrasonic test report, TL6027, was generated for this date.

The QAI also performed a random Magnetic Particle Testing (MPT) verification test of the Complete Joint Penetration (CJP)groove weld identified as WN: 1E-2E-D-S4 and D-S15. Eighteen (18) stiffeners were tested by QC and a total of two (2), which equals approximately 10%, was ultrasonically tested to verify the weld and testing performed by QC meet the requirements of the contract documents. The QAI utilized the first and second leg during the perfomance of the QAI verification. An ultrasonic test report, TL6027, was generated for this date.

The digital photographs below illustrates the work observed during this shift.

Summary of Conversations:

There were no pertinent conversations discussed in regards to the project except as noted above.

Comments

WELDING INSPECTION REPORT

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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