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-015833
Date Inspected: 23-Jul-2010

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

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: See Below

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ 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). Field Splice W1/W2
B). Field Splice W4/W5
C). Field Splice W5/W6

A). Field Splice W1/W2

The QAI observed the excavation of the R1 UT reject discovered during the Ultrasonic Testing (UT) performed by the QC Technician, Tom Pasqualone. The excavation was performed by ABF personnel utilizing a high cycle grinder to remove the defect. At the conclusion of the excavation the QC inspector, Mr. Pasqualone, performed a visual inspection and a Magnetic Particle Test (MPT) of the excavated area. At the conclusion of the testing, the QC technician noted one (1) rejectable indication and additional grinding was performed until the indication was removed and verified by the QC inspector. The QC technician performed a second MPT and no rejectable indications were noted. At this time the welder Fred Kaddu ID-2188 commence the repair welding utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) identified as ABF-WPS-D15-1000-Repair Rev. 2. The QC inspector verified the DCEP welding parameters as 128 amps and the minimum preheat of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. Later in the shift the QAI observed, at random intervals, the QC inspector monitoring and verifying the welding parameters. The repair welding and QC inspection was completed during this shift

B). Field Splice W4/W5

The QAI observed the machining of the weld profile surface on the "B" face of the edge plate field splice identified as WN: 4W-5W-F1. The machining was performed utilizing high cycle grinders to bring the weld surface into general compliance with the contract documents.

C). Field Splice W5/W6

The QAI observed the Flux Cored Arc Welding (FCAW-G) of the edge plate field splice identified as Weld Number (WN): 5W-6W-F1. The Complete Joint Penetration (CJP) groove welding was performed by welding personnel Xiao Jian Wan ID-9677 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-3040B-3 Rev. 0. The WPS was also used by the AB/F Quality Control (QC) Inspector William Sherwood as a reference during the monitoring of the in process field welding and when performing the QC verification of the Direct Current Electrode Positive (DCEP) welding parameters. The groove joint appeared to comply with the AWS joint designation identified as B-U2a-GF. The QAI also observed the QC inspector verify the DCEP welding parameters and were observed as follows: 230 amps, 21.5 volts and a travel speed measured at 180mm/minute. The minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius was also verified by the QC inspector. The welding was performed on the "A" face side of the weld joint and was completed during this joint.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector 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 ESAB consumables utilized for the SMAW and the FCAW-G processes appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs on page 3 of this report illustrate the work observed during this scheduled shift.

WELDING INSPECTION REPORT

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Summary of Conversations:

There were general conversations with Quality Control Inspector's Mike Johnson and Tom Pasqualone at the start of the shift regarding the location of American Bridge/Flour welding personnel and inspection/ N.D.E. testing 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 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