

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-015957**Date Inspected:** 29-Jul-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1630**Contractor:** American Bridge/Fluor Enterprises, a JV**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 locations noted below:

A). Field Splice W1/W2

B). Field Splice W2/W3

A). Field Splice W1/W2

The QAI observed the continued excavation of the unacceptable discontinuities discovered during the Ultrasonic Testing (UT) of bottom plate field splice identified as 1W-2W-D2. The excavations were performed by welding personnel Fred Kaddu ID-2188 utilizing a high cycle grinder to excavate and remove the defects. At the conclusion of the excavations the QC technician Tom Pasqualone performed a Magnetic Particle Test (MPT) of the excavated areas and no rejectable indications were noted. The application and evaluation of the MPT appeared to comply with the MPT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The repair welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process and the 3.2mm electrode as per the Welding Procedure Specification (WPS) identified as ABF-WPS-1000 Repair Rev. 2. The WPS was also used by the QC inspector, Mr. Pasqualone, as a reference to monitor and verify the Direct Current welding parameters which were noted as 136 amps. The welding was performed in the flat (1G) position with the work approximately in the horizontal plane and the weld metal deposited from the upper side. The minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius was monitored and maintained by the QC inspector during the repair welding.

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The QAI also observed the repair welding of the field splice identified as 1W-2W-F1. The welding was performed by James Zhen ID-6001 utilizing the Shielded Metal Arc Welding (SMAW) as per the WPS identified as ABF-WPS-D15-1000-Repair Rev. 2. The WPS was also used by the QC inspector John Pagliero to perform QC verification of the welding parameters and monitoring of the in process repair welding. The QAI verified the DCEP welding parameters as 128 amps and the minimum preheat 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 welding was performed in the vertical (3G) position with the weld joint placed in approximately in the vertical plane and the groove approximately vertical.

B). Field Splice W2/W3

At approximately 1130, Steve McConnell informed the QAI that the field splice identified as 2W-3W-B1 was complete regarding the QC inspection and testing and was inquiring a request for QAI verification. At approximately 1145, the contacted QC Supervisor, Leonard Cross via cell phone, to confirm this request. Mr. Cross confirmed the QC request in regards to QAI verification.

At approximately 1245, the QAI randomly verified the Complete Joint Penetration (CJP) welding of the field splice identified as WN: 2W-3W-B1 to verify that the welding and visual inspection performed by QC meet the requirements of the contract documents. At the conclusion of the QAI verification it appears that the weld and the QC inspection is in compliance.

At the conclusion of the visual verification, the QAI performed an Ultrasonic Test (UT) and a Magnetic Particle Test (MPT) on the Complete Joint Penetration (CJP) field weld splice identified as WN: 2W-3W-B1. An area of 10% was tested to verify that the weld and testing by QC meet the requirements of the contract documents. The examination was performed as per the contract documents and a ultrasonic test report, TL-6027 and a TL-6028 was generated on this date.

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.

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Summary of Conversations:

There were general conversations with Quality Control Inspector Mike Johnson at the start of the shift regarding the location of American Bridge/Fluor 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