

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-015255**Date Inspected:** 01-Jul-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1100**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**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 W3/W4

A). Field Splice W1/W2

The QAI observed the welder Rory Hogan machining the back gouged surface, to remove slag, utilizing a high cycle grinder. At the conclusion of the machining, the QC inspector James Cunningham performed a visual inspection on the prepared surface of the field splice identified as 1W-2W-D1 and D2. No areas were marked for repair and at the conclusion of the visual inspection, Mr. Cunningham commence the Magnetic Particle Testing (MPT) and no rejectable indications were noted. The testing was performed as per the procedure SE-UT-D1. 5-CT-100 Rev.4 utilizing an AC Parker Contour Probe.

The QAI also observed the repair welding of the Complete Joint Penetration (CJP) at the field splice identified as 1W-2W-B. The surface flaws were noted upon a previous QC inspection and was identified as undercut and weld surface irregularities. The flaws were removed by grinding and repaired by the welder James Zhen ID-6001 utilizing the Shielded Metal Arc Welding process as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1000 Repair Rev. 2. The WPS was also used by the QC inspector Tom Pasqualone to monitor and verify the DCEP welding parameters which were noted and recorded by the QAI as 130 amps. The welding

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was performed in the vertical position with the work approximately in the vertical plane and the weld progression upward. At the conclusion of the welding the QC inspector performed a visual inspection and no rejectable discontinuities were noted by the QC inspector and the QAI concurs with QC evaluation.

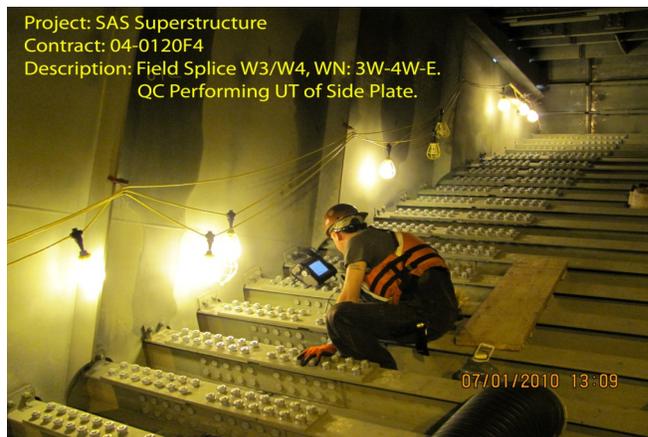
B). Field Splice W3/W4

The QAI also observed the Ultrasonic Testing (UT) on the CJP weld joint of the side plate field splice identified as WN: 3W-4W-E1 and E2. The testing was performed by the QC technician Steve McConnell utilizing a G.E. /Krautkramer USM 35X. Mr. McConnell also utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 as a reference during the examination of the CJP. The QC technician performed the required longitudinal wave utilizing a 1" diameter transducer for base metal soundness and a .63 x .75 rectangular transducer to perform the shear wave testing during the testing for weld soundness. The testing was performed from the "A" face side of the weld joint and at the conclusion of the testing the QC technician noted no rejectable discontinuities.

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 process 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 below illustrate the work observed during this scheduled shift.



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Summary of Conversations:

There were no pertinent conversations were 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.

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| Inspected By: | Reyes,Danny | Quality Assurance Inspector |
| Reviewed By: | Levell,Bill | QA Reviewer |
