

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 #: 1x.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012450**Date Inspected:** 06-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 930**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** As noted in Summary**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 Girder**Summary of Items Observed:**

This Quality Assurance Inspector (QAI), was present at the Self Anchored Suspension (SAS) job site. The following items were observed; see individual item numbers in the body of this report for further details.

1. Welding of transverse deck plate field splice 1E-2E-A
2. Welding of bottom plate 1E-2E-D, stiffener plates S1 through S18.
3. Welding of transverse deck plate field splice backing bar 1W-2W-A

1. The QAI observed the Submerged Arc Welding (SAW) of the complete joint penetration (CJP) groove weld of the transverse deck plate field splice 1E-2E-A, Segments 1A through 5A. The welding was performed by the welding operators Rory Hogan ID-3186 and Jeremy Dolman ID-5042 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1 Rev. 0. The welding was observed by Quality Control (QC) Inspectors Tom Pasqualone and James Cunningham. The minimum preheat temperature of 60 degrees Celsius and maximum interpass temperature of 230 degrees Celsius was verified by the QA inspector utilizing Tempilstik temperature indicators. The SAW fill pass by Mr. Hogan, average amperage of 560 DC and voltage of 32.4 DC at the welding head gages and average travel speed of 380 millimeters per minute were verified to be within the WPS parameter ranges by QA inspector. At approximately 1400 hours on this date, welding was completed and appears to be in general compliance with contract documents.

2. The QAI observed the gas shielded flux cored arc welding (FCAW-G) of the complete joint penetration (CJP) groove welds on the bottom plate 1E-2E-D, stiffener plates S1 through S18. The welding was performed by the

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

welders Song Tao Huang, ID 3794, James Zhen, ID 6001 and Jin Quan Huang, ID 9340, utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-3010-3 Rev. 0 in the vertical up (3G) position. The welding was observed by Quality Control (QC) Inspectors Steve McConnell and Bernard Docina. The minimum preheat temperature of 100 degrees Celsius and maximum interpass temperature of 230 degrees Celsius was verified by the QA inspector utilizing Tempilstik temperature indicators. The fill pass by Mr. Huang, average amperage of 190 DC and voltage of 22.4 DC were verified to be out of the WPS parameter range of 201 to 251 DC amps, 20.2 to 23.5 DC volts and travel speed of 108 to 260 millimeters per minute by QA inspector. The issue of low amperage was brought to the attention of QC Inspector Steve McConnell. Mr. McConnell immediately verified the amperage and directed the welder, Mr. Huang to adjust the welder to meet requirements. On stiffeners S1, S2, S12, S13 and S18, welding was completed and appears to be in general compliance with contract documents with the following exception. Preheat was not maintained in accordance with Contract Special Provisions Section 10 1. 59 STEEL STRUCTURES, subsection FIELD WELDING. An Incident Report has been submitted previously.

3. The QAI observed the shielded metal arc welding (SMAW) of the complete joint penetration (CJP) groove weld splices on the backing bar for transverse deck plate field splice 1W-2W-A. The welding was performed by the welder Rick Clayborn utilizing the Welding Procedure Specification ABF-WPS-D1.5-1031 Rev.0 in the flat (1G) position with E7018 H4R low hydrogen electrodes. The welding was observed by Quality Control (QC) Inspector Benifacio Daquiang. The minimum preheat temperature of 60 degrees Celsius and maximum interpass temperature of 230 degrees Celsius was verified by the QC. Welding was completed on five splices and appears to be in general compliance with contract documents. After the welds cooled, the QA inspector observed The NDT technician Mr. Steve McConnell perform ultrasonic testing. The welds and base metal were scanned utilizing a GE USM-35 for the following scans. The base metal lamination check was performed with a 1.0" dia. round 2.25 MHz transducer. The shear wave scan was performed with a 0.75" x 0.625" 2.25 MHz transducer on a 70 degree corrected angle wedge. The five welds were examined and accepted in accordance with AWS D1.5-2002 table 6.4.



Summary of Conversations:

General conversations with QC personnel regarding welding locations and schedule.

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.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Inspected By:	Lanz,Joe	Quality Assurance Inspector
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Reviewed By:	Levell,Bill	QA Reviewer
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