

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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028365**Date Inspected:** 11-Sep-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** jobsite**CWI Name:** Scott Kortum**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:** OBG**Summary of Items Observed:**

Quality Assurance inspector (QA) Matthew Daggett was at the American Bridge/Fluor (ABF) job site at the San Francisco/Oakland Bay Bridge in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

Weld Repairs 13W-PP123-W2.8-BF-3; Y Location 280mm

This QAI from time to time observed the welder Jimmy Zen grinding to a bright clean metal condition an excavation at the following location on Floor Beam Bottom Flange Splice 13W-PP123-W2.8-BF-3:

Y=280mm, D=40mm, L=165mm, W=55mm

Prior to welding Quality Control Technician Scott Kortum performed Visual and Magnetic Particle Testing on the above excavations. This Quality Assurance Inspector verified the results of the test by doing duplicate testing to the excavations. No indications were noted.

The welder spent part of the shift depositing the root passes and fill passes with approximately 100% being completed at the end of the shift. QC inspector Kortum was noted to be present in order to monitor the progress and ensure the welding was within the established Welding Procedure Specification (WPS) noted as ABF-WPS-D15-1001 Rev 0 and supporting Procedure Qualification Records (PQR). Prior to and during the welding at this location the QC inspector observed the preheat temperature using a Raytek non-contact Thermometer, was sufficient and compliant to the above-mentioned WPS. Using a Tempil Stick, (temperature

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indicating crayon) the pre-heat was then verified by this QA inspector to be greater than 150F. Using a Fluke brand Tong style meter, the parameters were verified to be 132 amps.

Weld Repairs 13W-123.5-W2.1-BW-1 Y Location: 350mm

This QA inspector observed first time weld repair being performed by ABF welding personnel Richard Chouinard on Floor Beam Web Splice 13W-PP123.5-BW-1, at the following location:

Y= 350mm, D=7mm, W=25mm, L=40mm

This QA Inspector observed Mr. Chouinard preheating to a QC recorded, QA verified temperature of 250F prior to using the Carbon Arc Gouging process to remove defects at the above-mentioned locations on the Splice. The locations and depth of the defects had been marked on the steel by the Ultrasonic Technician at the conclusion of his testing. At the end of gouging operations Mr. Chouinard ground the excavations to a bright clean metal condition in preparation of Visual and Magnetic Particle Testing.

Prior to welding Quality Control Technician Scott Kortum performed Visual and Magnetic Particle Testing on the above excavations. This Quality Assurance Inspector verified the results of the test by doing duplicate testing to the excavations. No indications were noted.

The welder spent a fraction of the shift depositing the root passes and fill passes with approximately 100% being completed at the end of the shift. QC inspector Scott Kortum was noted to be present in order to monitor the progress and ensure the welding was within the established Welding Procedure Specification (WPS) noted as ABF-WPS-D15-1004R (Rev 0) and supporting Procedure Qualification Records (PQR). Prior to initiating the welding at this location the QC inspector observed the preheat temperature and post heat temperature using a Raytek non-contact Thermometer, was sufficient and compliant to the above-mentioned WPS. Using a Tempil Stick, (temperature indicating crayon) the preheat, and post heat temperature was then verified by this QA inspector to be greater than 350F and 450F respectively. Using a Fluke brand Tong style meter, the parameters were verified to be 151 amps.

Weld Repairs 13W-123.5-W2.1-BW-1 Y Location: 405mm

This QA inspector observed first time weld repair being performed by ABF welding personnel Richard Chouinard on Floor Beam Web Splice 13W-PP123.5-BW-1, at the following location:

Y= 405mm, D=8mm, W=35mm, L=90mm

This QA Inspector observed Mr. Chouinard preheating to a QC recorded, QA verified temperature of 250F prior to using the Carbon Arc Gouging process to remove defects at the above-mentioned locations on the Splice. The locations and depth of the defects had been marked on the steel by the Ultrasonic Technician at the conclusion of his testing. At the end of gouging operations Mr. Chouinard ground the excavations to a bright clean metal

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condition in preparation of Visual and Magnetic Particle Testing.

Prior to welding Quality Control Technician Scott Kortum performed Visual and Magnetic Particle Testing on the above excavations. This Quality Assurance Inspector verified the results of the test by doing duplicate testing to the excavations. No indications were noted.

The welder spent a fraction of the shift depositing the root passes and fill passes with approximately 100% being completed at the end of the shift. QC inspector Scott Kortum was noted to be present in order to monitor the progress and ensure the welding was within the established Welding Procedure Specification (WPS) noted as ABF-WPS-D15-1004R (Rev 0) and supporting Procedure Qualification Records (PQR). Prior to initiating the welding at this location the QC inspector observed the preheat temperature and post heat temperature using a Raytek non-contact Thermometer, was sufficient and compliant to the above-mentioned WPS. Using a Tempil Stick, (temperature indicating crayon) the preheat, and post heat temperature was then verified by this QA inspector to be greater than 350F and 450F respectively. Using a Fluke brand Tong style meter, the parameters were verified to be 151 amps.

Quality Assurance Verification Magnetic Particle

This QAI performed Magnetic Particle Testing on the following members at a test frequency of 10% of the total weld length:

13W-PP123-W2.8-BF-2
13W-PP123-W2.8-BW-1
13W-PP122.5-W2.8-BW-1
13W-W2.8
13W-PP123.5-W2.1-BF-1 (Fillets)
13W-PP123.5-W2.8-BF-1
13W-PP124.5-W2.8-BW-1
13W-PP124.5-W2.8-BF-1
13W-PP123-W2.1-BF-1 (Fillets)

The testing was accomplished using a Parker Probe utilizing the continuous magnetization method with visible powder, for further information see Magnetic Particle Testing report dated 9/11/12.

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Summary of Conversations:

There were general conversations with Quality Control Inspector Scott Kortum, at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift. All observations were relayed to Danny Reyes and Bill Levell.

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 Gary Thomas 916-764-6027, who represents the Office of Structural Materials for your project.

Inspected By:	Daggett, Matt	Quality Assurance Inspector
Reviewed By:	Levell, Bill	QA Reviewer
