

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-028352  
**Date Inspected:** 09-Sep-2012

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

**OSM Arrival Time:** 700  
**OSM Departure Time:** 1900  
**Location:** jobsite

<b>CWI Name:</b>	Scott Kortum	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes	No N/A
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes	No N/A
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes	No N/A
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes	No N/A
		<b>Delayed / Cancelled:</b>	Yes	No N/A
<b>Bridge No:</b>	34-0006	<b>Component:</b>	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:

This QAI randomly observed the welder Jimmy Zen welding a repair excavation at the following location on Floor Beam Bottom Flange Splice 13W-PP123-BF-3:

Y=210mm, D=13mm, L=30mm, W=20mm

The welder spent part of the shift depositing the fill passes and cap 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 indicating crayon) the preheat was then verified by this QA inspector to be greater than 150F. The parameters, using a Fluke brand Tong style meter, was verified to be 138 amps.

Critical Weld Repair 13W-PP122.5-W2.8-BF-2

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This QA inspector observed critical weld repair being performed by ABF welding personnel Jimmy Zen, without Engineer Approval, on Floor Beam Web to Flange Splice 13W-PP122.5-W2.8-BF-2, at the following location:

Y= 1460mm, D=7mm, W=15mm, L=60mm

This QA Inspector observed Mr. Zen 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. Zen ground the excavation 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. The parameters, using a Fluke brand Tong style meter, was verified to be 163 amps.

Weld Repair 13W-PP122-W2.5-BF-1

This QAI randomly observed the welder Lin E Yun grinding to a bright clean metal condition an excavation at the following location on Floor Beam Bottom Flange Splice 13W-PP122-W2.5-BF-1:

Y=50mm, D=14mm, L=140mm, W=40mm

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 preheat was then verified by this QA inspector to be greater than 150F. The parameters, using a Fluke brand Tong style meter, were verified to be 135 amps.



## 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.

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**Inspected By:** Daggett, Matt

Quality Assurance Inspector

**Reviewed By:** Levell, Bill

QA Reviewer