

**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-026983**Date Inspected:** 30-Dec-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Salvador Molina**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 Components**Summary of Items Observed:**

On this date, Quality Assurance Inspector (QAI) Kenneth Riley was present at the San Francisco Oakland Bay Bridge job site at Yerba Buena Island to observe erection and welding activities for the San Francisco Oakland Bay Bridge (SFOBB) project. This Quality Assurance Inspector (QAI) observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

- A) Repair welding Field Splice
- B) Field Splice
- C) Lifting Lug Holes

## A). Field Splice Repairs

The QAI observed welder Jeremy Dolman ID-5042 and Fred Kadu ID 2188, performing Shielded Metal Arc Welding (SMAW) using electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1001R for the Complete Joint Penetration weld repairs. The preheat was observed as being a minimum of 60 degrees Celsius (125 Degrees Fahrenheit) with the welding current observed at 134 amps for welder 5042 and 133 amps for welder 2188. Both welders were using the 3.2mm electrode. The location of the welding was on the west bound lane (WB) at field splice bottom plate's 12w/13w. Welder 5042 was located at D3 with the repair location being Y=485 (length 940mm). Welder 2188 was at location D1 with repair #4, location Y=1940, Length 450mm. Both welders were observed as placing intermediate weld passes at their locations. QC inspector Harry Scharein was observed onsite overseeing the welding operations for this location. Mr. Scharein was verifying and documenting the welding parameters for this location.

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### B). Field Splices

The QAI observed welder Rich Garcia ID-5892, using the Carbon Arc Cutting (CAC) process to remove the backup bar for location 13w/14w-A5 (Y-0 ~ 1550mm). The contractor had removed 5 bolted rib splices for this location as agreed upon by Caltrans. Mr. Garcia was observed as performing the back gouging/removal in the overhead (4G) position.

### C). Lifting Lug Holes

The QAI observed welder Mike Jimenez had performed carbon Arc Cutting (CAC) at 11W-PP103-W1 & W3 at the W4 line. The back gouging was being performed prior to the continued welding. QC Salvador Marino performed Magnetic Particle inspection (MT) of the back gouged area and relayed the results to this QAI as acceptable. Mr. Jimenez then continued with the Shielded Metal Arc Welding (SMAW) using electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1110A for the Complete Joint Penetration weld at this location. The pre-heat was observed as being a minimum of 40 degrees Celsius with the welding current observed at; 128 amps for the 3.2mm electrode. QC inspector Salvador Marino was observed onsite overseeing the welding operations for this location. Mr. Marino was verifying and documenting the welding parameters for this location.

The QAI observed welder Todd Jackson ID 4639 performing Shielded Metal Arc Welding (SMAW) using electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1050CU for the Complete Joint Penetration weld with copper backing. The preheat was observed as being a minimum of 40 degrees Celsius with the welding current observed at 133 amps for the 3.2mm electrode. The location of the welding was at 11W-PP11-W4 at the W3 line. The QC inspector performed a visual inspection of the fit-up and found it to be acceptable. Mr. Jackson then completed the root pass using 3.2mm electrode and continued to the intermediate passes using the 4.0mm electrode for this location. QC inspector Salvador Marino was observed onsite overseeing the welding operations for this location. Mr. Marino was verifying and documenting the welding parameters for this location.

### QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding utilizing the WPS's as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspectors 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 consumables utilized for the welding process stated 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.

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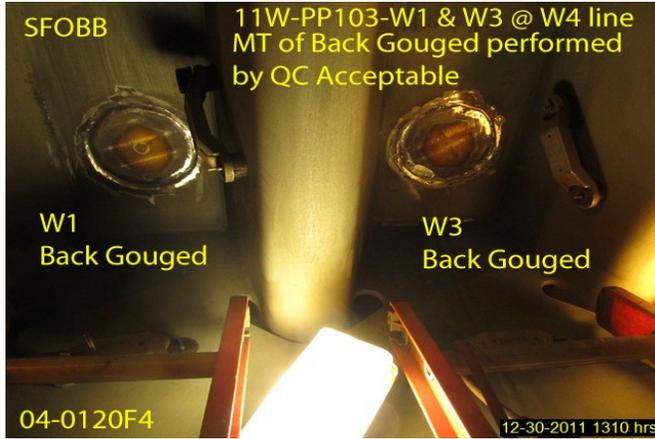
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## Summary of Conversations:

Basic conversation, fundamental to completion of the tasks at hand, occurred between this QAI and ABF QC personnel.

## 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 Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Riley, Ken	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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