DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-026985
Date Inspected: 03-Jan-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: 1730
Location: Job Site

CWI Name: Salvador Molina

Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ 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, performing Shielded Metal Arc Welding (SMAW) using electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1001R for the Complete Joint Penetration weld repair. The preheat was observed as being a minimum of 60 degrees Celsius (125 Degrees Fahrenheit) with the welding current observed at 132 amps for welder 5042. The welder was observed using the 3. 2mm electrode for this repair. The location of the welding was on the west bound lane (WB) at field splice bottom plate 12w/13w located at D3 with the repair location being Y=485 (length 940mm). The welder was observed as placing intermediate weld passes at this location. QC inspector Salvador Molina was observed onsite overseeing the welding operations for this location. Mr. Molina was observed verifying and documenting the welding parameters for this location.

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. Once the welder completed the back gouging and ground the area to a bright metal, the QC inspector Mr. Salvador Molina was observed performing a visual inspection of the area along with using magnetic particle inspection (MT) to ensure sound weld metal was achieved. The welder then proceeded with using Flux Cored Arc Welding (FCAW) process in the overhead (4G) position under Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4 for the Complete Joint Penetration weld. The pre-heat was observed as being a minimum of 65 degrees Celsius (150 Degrees Fahrenheit). The amperage was recorded as 248 amps and 23.5 for welder 5892. The QC inspector was observed onsite overseeing the welding operations, along with verifying, and documenting the welding parameters for this location. At the time of the observations no issues were noted by the QAI.

C). Lifting Lug Holes

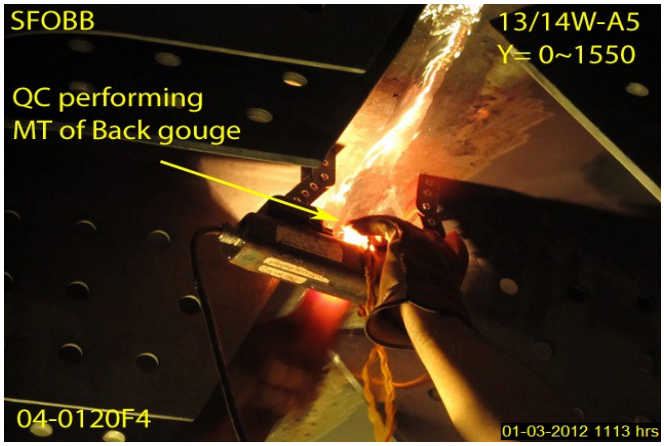
The QAI observed welder Mike Jimenez performing the carbon Arc Cutting (CAC) process at 11W-PP103-W2 & W4 at the W4 line. The back gouging was being performed in the overhead (4G) position. Prior to the CAC process Mr. Jimenez was using a rosebud to remove all the moisture and water from the top of the deck plate prior to the CAC process and welding operations. The QC inspector Salvador Marino performed Magnetic Particle inspection (MT) of the back gouged area and informed the QAI of the results for this location as acceptable. Mr. Jimenez then started with the Shielded Metal Arc Welding (SMAW) process 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; 127 amps for the 3.2mm electrode. The QC inspector was observed onsite overseeing the welding operations, along with verifying, and documenting the welding parameters for this location. At the time of the observations no issues were noted by the QAI.

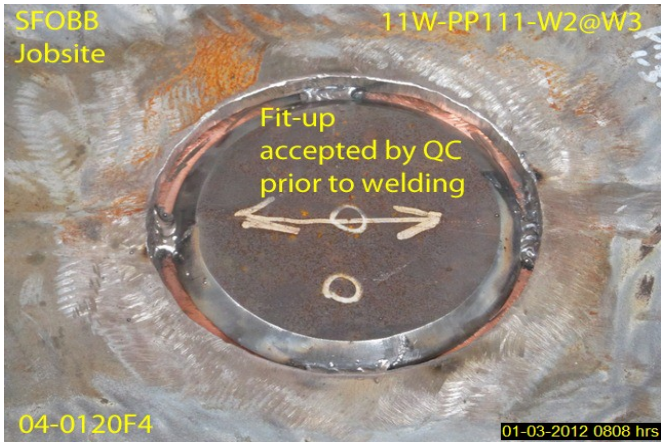
The QAI observed welder Todd Jackson ID 4639 had fit up the deck plate hole insert at PP111 hole W2 on the W3 line. The QC inspector was observed checking the fit-up prior to welding and noted that the fit-up was acceptable. Welder 4639 then started performing the Shielded Metal Arc Welding (SMAW) process using electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1050CU for the Complete Joint Penetration weld with copper backing. The electrode size being used for the root pass was 3.2 mm and then used the 4.0mm for the intermediate passes. The preheat was observed as being a minimum of 40 degrees Celsius with the welding current observed at 122 amps for the 3.2mm electrode and 133 amps for the 4.0mm electrode. The QC inspector was observed onsite overseeing the welding operations, along with verifying, and documenting the welding parameters for this location. At the time of the observations no issues were noted by the QAI.

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.





Summary of Conversations:

Basic conservation, 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.

Inspected By:	Riley,Ken	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer