

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-027061
Date Inspected: 18-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 Merino
Inspected CWI report: Yes No N/A
Electrode to specification: Yes No N/A
Qualified Welders: Yes No N/A
Approved Drawings: Yes No N/A

CWI Present: Yes No
Rod Oven in Use: Yes No N/A
Weld Procedures Followed: 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) Lifting Lug Holes Repairs
- B) Field Splice 12W-13W @ A2
- C) Submittal Reviews

A). Lifting Lug Holes

The QAI observed that welder Mike Jimenez, was pre-heating the area prior to welding at 12W-PP115-W4-W4 lifting lug hole. The temperature required as outlined in the WPS is 20 degrees Celsius (50 degrees F) that was verified using a tempstik and infrared gun by the QC. The welder was using the Shielded Metal Arc Welding (SMAW) using electrode E7018 under Welding Procedure Specification (WPS) ABF-WPS-D15-1050A-CU for the Complete Joint Penetration weld with copper backing in the flat (1G) position. The electrode used for the root pass was 4.8mm diameter with welding amps verified as 279. The welder was placing the intermediate weld passes for this location and using a chipping hammer, power grinder and power wire wheel for the interpass cleaning. The QC inspector for this location was Salvador Merino and was observed verifying and documenting

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the welding parameters for this location, along with overseeing the welding operations. The QAI observed 2 contractors' apprentices were using power grinders at 12W-PP114-W3-W1~4 to grind all welds flush to within 1 mm high. The welds are for the lifting lug holes. The QC inspector was observed onsite overseeing the operations for these locations. At the time of the observations no issues were noted by the QAI.

B). Field Splice 12W-13W @ A2

The QAI observed welder Rich Garcia, performing Flux Cored Arc Welding (FCAW) using electrode E71T-1M under Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4 for the Complete Joint Penetration weld. The preheat was observed as being a minimum of 60 degrees Celsius (150 Degrees Fahrenheit) with the welding current observed at 254 amps, 23.2 volts and heat input of 1.53kj. The welder was observed using the 1.6mm electrode for this location. The welder was placing the intermediate weld passes for this location in the overhead (4G) position and using a chipping hammer, power grinder and power wire wheel for the interpass cleaning. The location of the welding was on the west bound lane (WB) at field splice bottom plate 12w/13w-A2 located between Y-3250mm and 4150mm for the top deck. The welder was observed as placing the intermediate and cover passes for this location. The QC inspector Salvador Merino was observed onsite overseeing the welding operations for this location. Mr. Merino was observed verifying and documenting the welding parameters for this location.

E). Submittal Review

This QAI performed submittal reviews for weekly welding reports from Watson Bowman Acme under submittal numbers ABF-SUB-002550 Rev 20 for week ending Oct 15, 2011 and ABF-SUB-002550 Rev 21 for week ending Oct 22, 2011. These reviews includes, the Weekly Welding Report's which contain the Inspection Checklist, Weld Maps and KTA Daily Checklists for. The submitted documents, as noted above, have been reviewed and a TL-20 was documented for each review. See corresponding submittals of the TL-20 for more information.

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. Unless noted otherwise, all work observed on this date appeared to be in general compliance with the contract documents at the time of observations.

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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.

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