

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-027425**Date Inspected:** 09-Apr-2012**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:** See below**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:** Tower**Summary of Items Observed:**

Quality Assurance (QA) Inspector Danny Smith arrived at the new San Francisco Oakland Bay Bridge to observe, document and perform a general visual verification and NDT. Upon arrival as noted above the QA Inspector observed Quality Control (QC) on site performing welding inspection.

Longitudinal Stiffener plate:

Upon arrival at work location 6W-PP46.5-W2-LSW the QA Inspector observed the welding rod oven had been cold and the circuit breaker to be off. The QA Inspector relayed to the QC Inspector and to ABF welding personnel of the situation at hand. The QC Inspector relayed to the QA Inspector the welding electrodes in question would not be used at this time until the proper re-bake had been performed on the welding electrodes. The QA Inspector then observed ABF welding personnel obtain a fresh hermetically sealed container of electrodes to be used.

The QA Inspector at random intervals, observed ABF welder Steve Davis (ID 7889) perform the Shielded Metal Arc Welding (SMAW) process in the 3G vertical position on face "A" of the longitudinal stiffener plate 6W-PP46.5-W2-LSW on the interior of the OBG. The welder was observed utilizing 3.2mm E9018-H4R electrodes obtained from a baking oven and drawing amperage of 125. QC Inspector was on hand to monitor the welding, parameters and measure the inter-pass temperatures as they apply to ABF-WPS-D1.5-101231. On subsequent observations the welder was observed cleaning the work between passes by employing a small disc grinder, brushes and compressed air. The QA Inspector noted the welder performed the post weld heat treatment (PWHT) after welding using the same preheat temperature and heating machine and held it for three hours as required. The QA Inspector noted the welding at this location completed at this time on this date.

Later in the shift the QA Inspector at random intervals, observed ABF welder Steve Davis (ID 7889) welding on

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

face “B”. The welder was observed utilizing 3.2mm E9018-H4R electrodes and drawing amperage of 125. The QA Inspector noted the welding at this location to be complete on this date.

The QA Inspector at random intervals, observed ABF welder Tod Jackson (ID 4639) perform the Shielded Metal Arc Welding (SMAW) process in the 3G vertical position on face “A” of the longitudinal stiffener plate 8E-PP61.5-E5-LSE on the interior of the OBG. The welder was observed utilizing 3.2mm E9018-H4R electrodes obtained from a baking oven and drawing amperage of 130. QC Inspector was on hand to monitor the welding, parameters and measure the inter-pass temperatures as they apply to ABF-WPS-D1.5-1012-3. On subsequent observations the welder was observed cleaning the work between passes by employing a small disc grinder, brushes and compressed air. Later in the shift The QA Inspector observed the QC Inspector perform Magnetic Particle Test (MT) at this location on the back gouge prior to any welding of the back fill. The QC Inspector relayed to the QA Inspector no relevant indications were found at this location on this date. The QA Inspector noted the welding at this location not completed at this time on this date.

Interior Deck Access Holes:

The QA Inspector observed the QC Inspector perform MT on the back gouge of face “B” at DAH-5W-PP36.5-W2-NE prior to any welding being performed. The QC Inspector relayed to the QA Inspector a small indication was found and would be ground out to sound metal prior to welding. Later the QC Inspector relayed to the QA Inspector the small indication in question had been removed and QC performed MT to verify the indication had been removed.

The QA Inspector at random intervals, observed ABF welder Mike Jiminez (ID 4671) perform the Shielded Metal Arc Welding (SMAW) process in the 4G overhead position on face “B” of the interior deck access hole at DAH-5W-PP36.5-W2-NE on the interior of the OBG. The welder was observed utilizing 3.2mm E7018-H4R electrodes obtained from a baking oven and drawing amperage of 135. QC Inspector was on hand to monitor the welding, parameters and measure the inter-pass temperatures as they apply to ABF-WPS-D1.5-1010-1. On subsequent observations the welder was observed cleaning the work between passes by employing a small disc grinder, brushes and compressed air. The QA Inspector noted the welding at this location completed at this time on this date.

FW Spencer-Mechanical Piping:

The QA Inspector observed the following: At location Panel Point PP97, weld I.D. numbers 1-DW1-97-SW the QA randomly observed FW Spencer qualified welder Damian Llanos perform Complete Joint Penetration (CJP) 1G flat position rotated using Shielded Metal Arc Welding (SMAW) on the root pass and cover passes on the 1” diameter weld-o-let 2” diameter compressed air. The line systems being welded are field welds along the OBG. The welder was noted welding the root pass with 3/32” diameter E6010 electrode and followed by fill pass to cover pass using 3/32” diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder with measured working current of 83 amperes for E6010 electrode. The QA Inspector noted the welding at this location not to be complete.

Later in the shift the QA Inspector observed the following: At location Panel Point PP92, weld I.D. numbers 30-2.5-92-SW the QA randomly observed FW Spencer qualified welder Damian Llanos perform Complete Joint Penetration (CJP) 1G flat position rotated using Shielded Metal Arc Welding (SMAW) on the root pass and cover passes on the 2 1/2” diameter domestic water line to the 4” domestic water line. During welding, ABF QC Steve

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Jensen was noted monitoring the parameters of the welder with measured working current of 83 amperes for E6010 electrode. The QA Inspector noted the welding at this location not to be complete.

Work performed appears to be in general compliance with contract documents.



Summary of Conversations:

Conversations included welding work being performed on this date.

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:	Smith,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
