

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-027378**Date Inspected:** 27-Mar-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**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.

FW Spencer-Mechanical Piping:

The QA Inspector observed the following: At location Panel Point 10W-PP98 at grid line W2, weld I.D. numbers 1-CA2-98-NW/1-DW1-98-NW and 1-DW1-100-NW the QA randomly observed FW Spencer qualified welder Damian Llanos perform Complete Joint Penetration (CJP) 6G (all position) using Shielded Metal Arc Welding (SMAW) on the root pass and cover passes on the 1" weld-o-let to the 2 1/2" diameter air and 2" to 4" domestic water lines respectively. The air and water line systems being welded are field welds along the grid line of W2 of 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 76-78 amperes for E6010 electrode and 87-90 amperes for E7018 electrode. The QA Inspector relayed to the QC Inspector welds marked as 1-DW1-88-NW/1-CA2-88-NW had not yet been visually inspected and accepted by the QC Inspector.

Later in the shift the QC Inspector relayed to the QA Inspector the welds marked as 1-DW1-88-NW/1-CA2-88-NW had now been visually inspected and accepted by the QC Inspector. At the end of the shift, one drain on each line was completed and was visually accepted by QC.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

Tower at 13mm:

At Tower Base 13 meters diaphragm, weld joint number W107, QA randomly observed ABF certified welder James Zhen ID #6001 continuing to perform 1G (flat position) Submerged Arc Welding (SAW) on the Partial Joint Penetration (PJP) T- joint between the 45mm thick external center diaphragm and 60mm shear plate. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4062-1. The joint being welded has a 45 degree bevel groove T- joint with an average root opening of 4.2mm and C-channel installed underneath that will serve as the backing bar. The plates were preheated to more than 225 °F using Miller Preheat 35 Induction Heating System with one heater blanket located on top of each plate prior welding and moving it to the side and lifting the other during welding. ABF/QC Fred Von Hoff was noted monitoring the welding parameters of the welder with measured working current of 550 amperes, 32.5 volts with travel speed of 375 mm per minute.

The QC Inspector relayed to the QA Inspector the shear plate between welds marked as W106 and W107 had been "Magnetic Particle Tested" for laminations prior to tying in welds marked as W106 and W107. At this time the QC Inspector relayed to the QA Inspector no relevant indications were found at this time on this date for the above stated welds

The QA Inspector observed the welding work at this location was not yet completed on this date.

Exterior Deck Access Holes:

The QA Inspector at random intervals, observed ABF welder Salvador Sandoval (ID 2202) perform the Shielded Metal Arc Welding (SMAW) process in the 1G flat position on face "A" of the Deck Access Hole (DAH) located at 12E PP109.5 E5 on the exterior of the OBG. The welder was observed utilizing 3.2mm E7018-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-D1.5-1010-1. 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 work at this location not completed at this time on this date.

Interior Deck Access Holes:

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 Deck Access Hole (DAH) located at 8W-PP61.5-W2-NW 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 132. 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 work at this location not completed at this time on this date

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

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



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
