

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-027375**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:** As noted 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:** SAS OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

9W PP84.5 W2-DAH Repair (Exterior/Interior)

This QA Inspector randomly observed ABF welder Rick Clayborn (Welder ID 2773) performing the repair welding operation of nine (9) ultrasonic indications as per the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position on the "A" deck, Deck Access Hole (DAH) located at 9W PP84.5 W2. The welder was observed utilizing pre-heat to bring the B-U2a complete penetration joint (CJP) to a minimum temperature of 20°C.

This QA Inspector verified the temperature by employing a Tempilstik and observed the use of E7018-H4R electrodes obtained from a remote baking oven. QC Inspector John Pagliero was observed monitoring the welding and the parameters (Amps=140) so they were in accordance with WPS D1.5-1001- Repair. The welder was also observed cleaning the work utilizing a small disc grinder, brushes and compressed air to clean to shiny metal so as to not introduce additional indications. On a subsequent observation, the welder was observed completing the welding on the exterior face of the DAH and the work will be re-inspected by Magnetic Particle (MT) and Ultrasonic (UT) testing after a 24 hour delay period. This QA Inspector observed the ABF welding personnel transferring equipment and relocating to the interior of the OBG at the same location to begin excavation operations on three (3) ultrasonic rejectable indications located at y+1065mm: 70mm in length, 20mm wide and 7mm deep, y+2020mm: 60mm in length, 15mm wide and 6mm deep and y+2710mm: 80mm in length, 15mm wide and 15mm deep. This QA Inspector randomly observed the welder perform back-gouging operations

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utilizing the Carbon Air Arc method to excavate the indications. Upon completion of the excavation work, QC Inspector John Pagliero was observed performing MT inspection on the excavations to ensure soundness of the metal. It was noted that Mr. Pagliero found no rejectable indications. The welder was observed pre-heating the sites to a minimum of 20°C which this QA Inspector verified with a Tempilstik as the welder procured 3.2mm E7018-H4R electrodes from a baking oven and drew amperage of 140. QC Inspector John Pagliero was present to monitor the welding and the parameters to ensure compliance with ABF-WPS-D1.5-1001-Repair. This QA Inspector made subsequent observations throughout the shift and noted that the work was completed on this date and appeared to be in general compliance with the contract documents.

12E PP109.5 E5-DAH (Exterior)

This QA Inspector randomly observed ABF welder Salvador Sandoval (ID 2202) perform the SMAW process in the 1F flat position on the DAH located at 12E PP109.5 E5 on the exterior of the OBG. The welder was observed utilizing E7018-H4R electrodes and this QA Inspector verified that the electrodes were recently obtained from a baking oven. QC Inspector Steve McConnell was observed measuring the inter-pass temperatures by employing an infra-red temperature gun as well as monitoring the welding and the parameters. It was noted that the welder was drawing amperage of 125 utilizing 3.2mm electrodes. The welder was observed grinding the start/stop edges of the work utilizing a small disc grinder and cleaning excess debris with compressed air. The welder was observed running multiple pass stringers while adhering to ABF-WPS-D1.5-F1200A. On a subsequent observation, it was noted that the welder had completed the root of the B-U2a CJP joint and was employing the Carbon Air Arc technique to form an acceptable joint bevel configuration to allow access for the nozzle of the wire feed application. This QA Inspector randomly observed Mr. Sandoval perform the Flux Core Arc Welding (FCAW) process in the 1 and 2G position, flat and horizontal respectively, on the DAH of the same location. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work is in progress and appeared to be in general conformance with the contract specifications.

9E PP84.5 E5-LSW (Interior)

This QA Inspector made random observations of ABF welder Todd Jackson (ID 4639) in the 3G vertical position performing the SMAW process utilizing E9018-H4R electrodes on the West Longitudinal Stiffener (LSW) at 9E PP84.5 E5 on the interior of the OBG. The welder was observed grinding the start/stop edges of the work between passes employing a small disc grinder to provide a smooth clean transition. This QA Inspector noted that QC Inspector Steve Jensen was present to monitor the welding and the parameters to ensure the welding within compliance with ABF-WPS-D1.5-1012-Revision 0. This QA Inspector also noted that the work was in progress and the parameters and the quality appeared to be in general conformance with the contract specifications.

9E PP84.5 E5-DAH-LSW (Interior)

This QA Inspector made random observations of SMAW on the DAH located at 8W PP70.5 W2 on the interior of the OBG. ABF welder Eric Sparks (ID 3040) was observed welding in the 4G overhead position utilizing 3.2mm E7018-H4R electrodes that were obtained from a remote baking oven verified by this QA Inspector. QC Inspector Steve Jensen was present to monitor the welding and the parameters to ensure compliance with ABF-WPS-D1.5-1010-Revision 1. The welder was observed cleaning the work between passes and employed

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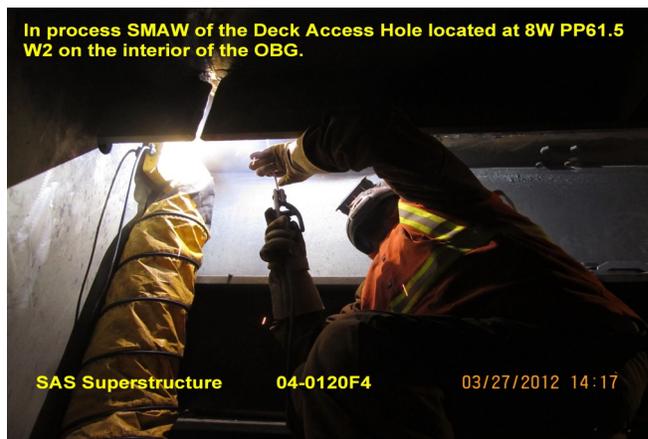
a small disc grinder to blend the start/stop edges for a smooth transition, as the QC Inspector measured the inter-pass temperatures. This QA Inspector made subsequent observations and observed the welder performing the SMAW process in the 3G vertical position on the West Longitudinal Stiffener (LSW) at the same location on the interior of the OBG. This QA Inspector noted the use of E9018-H4R electrodes drawing and amperage of 138. QC inspector Steve Jensen was observed monitoring the welding and the parameters. This QA Inspector noted that the work was in progress and the parameters at this location appeared to be in conformance with the applicable WPS.

8W PP61.5 W2-DAH (Interior)

This QA Inspector randomly observed ABF welder Mike Jimenez (ID 4671) perform the SMAW process in the 4G overhead position on the Deck Access Hole (DAH) located at 8W PP61.5 W2 on the interior of the OBG. Prior to welding Mr. Jimenez was observed pre-heating the B-U2a CJP joint to a minimum temperature of 20°C which was verified by the QC Inspector. This QA Inspector randomly observed the welder employing 3.2mm E7018-H4R electrodes drawing amperage of 119. QC Inspector Steve Jensen was observed monitoring the welding to insure the parameters were in accordance with ABF-WPS-D15-1010-Revision 1. The welder was also observed cleaning the work utilizing a small disc grinder, brushes and compressed air to clean to shiny metal so as to not introduce additional indications. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work is in progress and appeared to be in general accordance with the contract documents.

Summary of Conversations:

This QA inspector met with QC inspectors John Pagliero, Jesse Cayabyab and Sal Merino to coordinate inspections required and welder assignments.



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: Frey,Doug

Quality Assurance Inspector

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Reviewed By: Levell,Bill

QA Reviewer