

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-027828**Date Inspected:** 26-Jun-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**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:

13E PP122-E2.5-BW1 (Exterior)

This QA Inspector randomly observed repair welding using the Shielded Metal Arc Welding (SMAW) process in the 3G vertical position on the Beam Web at 13E PP122-E2.5-BW1 Location for the repairs; y+20mm and y+280mm. ABF/JV qualified welder Steven Davis #7889 was observed pre-heating the joint prior to welding and utilized 3.2mm E7018-H4R electrodes drawing amperage of 127. QC Inspector Salvador Merino was present to monitor the welding and the parameters as they pertain to ABF-WPS-D1.5-1000-Repair. Between passes the welder was observed cleaning the work using a small disc grinder as QC measured the inter-pass temperatures with Tempilstik Heat Indicators. On a subsequent observation, it was noted that the welder was continuing the in process welding. This QA Inspector noted that the 3.2mm electrodes were stored in electrically heated thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters. At the time of the observations no issues were noted by the QA. On subsequent observations throughout the shift to monitor quality, it was noted that the work was completed and appeared to be in general conformance with the contract documents.

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5E PP29.5 E2-DAH (Exterior)

This QA Inspector randomly observed the SMAW process in the 1F flat position on the Deck Access Hole (DAH) located at 5E PP29.5 E2-DAH on the exterior of the OBG. ABF/JV qualified welder Roby Smith #4245 was observed cleaning the weld between passes utilizing a small disc grinder and compressed air to blend the start/stop edges for a smooth transition. 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 Jensen 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 127 utilizing 3.2mm electrodes. The welder was observed running multiple pass stringers while adhering to ABF-WPS-D1.5-1010-Revision 1. On a subsequent observation, the welder was observed continuing work on the B-U2a Complete penetration Joint (CJP) and was employing the same routine to clean the passes. 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.

Lift 12 Corner Assembly

During this QA Inspectors' review of the fit-up operation being performed after the erection of Segment 12 East's Deck Corner Plate Drop-in, the following issue was observed: This QA Inspector observed that the root opening throughout the length of the joint was in excess of 20mm. The root opening averaged 22mm. This QA Inspector generated an Incident Report on this date and notified METS QA Lead Inspector Danny Reyes and METS QA Task Leader Bill Levell via email for review and disposition of the report due to the non-compliance with AWS D1.5-2002 - Section 3.3.4.2 - Assembly which states that Root openings larger than those allowed in 3.3.4.1 may be corrected by welding only with the approval of the Engineer. See attached photos for further details.

13E Drop-In Panel K Plate

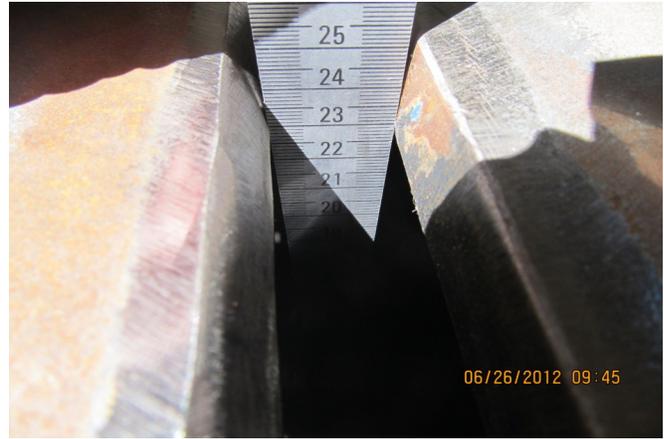
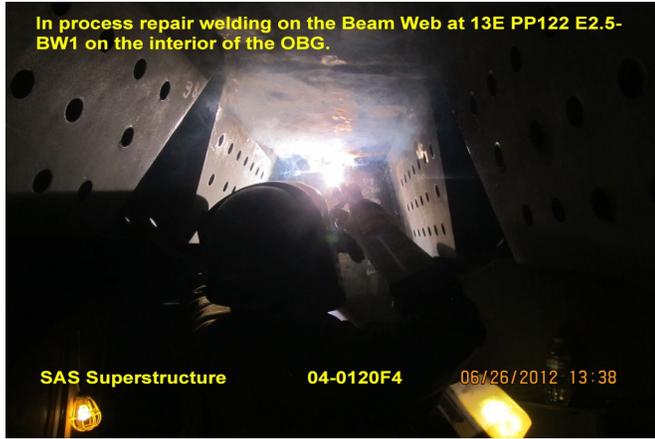
During this QA Inspectors' review of the fit-up operation being performed of Segment 13 East's Drop-in Panel Plate "K", the following issue was observed: The joint was not pre-qualified, Excessive included angle and misalignment. This QA Inspector generated an Incident Report on this date and notified METS QA Lead Inspector Danny Reyes and METS QA Task Leader Bill Levell via email for review and disposition of the report due to the non-compliance with AWS D1.5-2002 - Section 3.3.3 - Assembly which states that; Measurement of offset shall be based upon the centerline of parts unless otherwise shown on the drawings. 2.12.1 Dimensional Tolerances. Dimensions of groove welds specified on design or detailed drawings may vary as shown in Figure 2.4. The joint does not comply with Figure 2.4 Joint designation B-U4b. See attached photos for further details.

Summary of Conversations:

Conversations were relevant to welding performed and information unique with each location.

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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.

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Inspected By: Frey,Doug

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer