

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-028261**Date Inspected:** 20-Aug-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**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:

12E/13E-LS1 (Interior)

This QA Inspector randomly observed ABF welder Mike Jimenez #4671 perform carbon air arc gouging of Ultrasonic rejectable indications on the Longitudinal Stiffener (LS) at 12E PP111.1-LS1 on the interior of the OBG. The welder ground the weld joint smooth after the gouging and it was tested by ABF QC using the Magnetic Particle Testing (MT). The welder was observed continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) Complete Joint Penetration (CJP) welding to fill the stiffener splice butt joint. The stiffener plate being welded are made of high strength plate material HPS 485W and has a thickness of 30mm. The welder was noted using E9018H4R with 3.2mm diameter electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D1.5-1002-Repair. The splice joint was preheated to greater than 200 degrees Fahrenheit. The QA Inspector noted the ABF QC Salvador Merino was on site monitoring the in process preheat and welding parameters and measured working current during welding was 120 amps on a 3.2mm E9018H4R electrode. QC was also closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. The welder completed LS1 and the work at this location appeared to be in general conformance with the contract documents. No RWR was required for this first time weld repair.

12E/13E-B (Interior)

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This QA Inspector randomly observed QC Inspector Jesse Cayabyab at 12E-E2.1-C1.1 on the interior of the OBG performing Ultrasonic Testing (UT). The QC Inspector was observed scanning from each side of the weld and the scanning pattern as described in D1.5 6.24. The QC Inspector was noted as identifying rejectable indications and the work at this location is ongoing and appeared to be in general conformance with the contract documents and SE-UT-D1.5-CT-100-Revision 4.

12E PP111.1 (Interior)

This QA Inspector randomly observed ABF certified welder Jin Quan Huang #1088 continuing to perform 4G (overhead position) Shielded Metal Arc Welding (SMAW) welding fill pass on the CJP transverse joint on 12E PP111.1 on the interior of the OBG. The welder was utilizing 3.2mm diameter E7018H4R on the fill pass implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C-Revision 0. The joint was preheated to more than 150 degree Fahrenheit using propylene gas torch prior welding. Welding parameters were monitored by ABF/QC Salvador Merino. QA noted the welding working current of 135 amperes on the 3.2 diameter E7018H4R electrode. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work at this location was in progress and appeared to be in general conformance with the contract specifications.

13E PP120-E2.0-FBW1 (Interior)

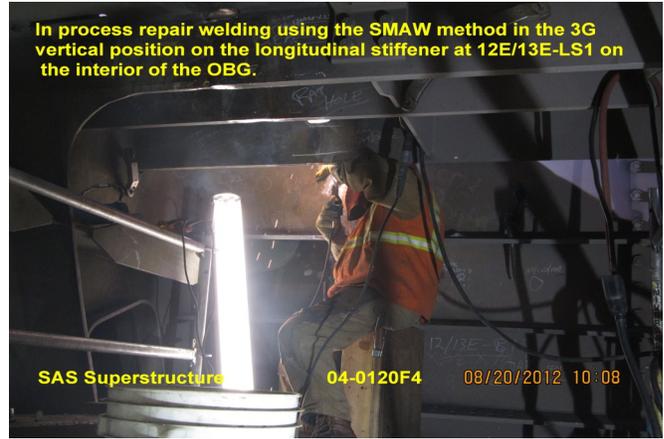
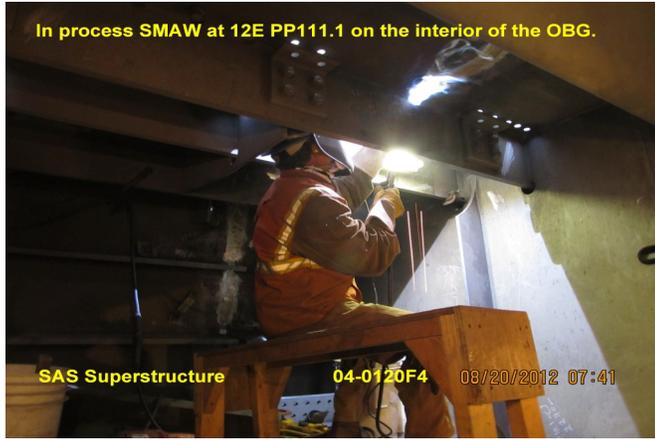
This QA Inspector randomly observed SMAW in the 2G horizontal position on the Floor Beam Web plate at 13E PP120. ABF/JV qualified welder Chris Bowles #9317 was observed pre-heating the joint prior to welding and utilized 3.2mm E7018-H4R electrodes drawing amperage of 126. QC Inspector Salvador Merino was present to monitor the welding and the parameters as they pertain to ABF-WPS-D1.5-1004-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. Upon completion of the welding, thermal heat blankets were placed over the sites for one (1) hour at 450-650°F. At the time of the observations no issues were noted by the QA. RWR-201208-054 was referenced throughout this procedure.

Summary of Conversations:

Conversations today were pertinent to the weld locations.

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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.

Inspected By: Frey,Doug

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer