

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-027711**Date Inspected:** 02-Jun-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:** 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 PP122.2-LS1 (Interior)

This QA Inspector made random observations of ABF welder Edward Brown (ID 9331) performing the Shielded Metal Arc Welding (SMAW) Process in the 3G vertical position utilizing E 9018-H4R electrodes on Longitudinal Stiffener (LS) 2 located at 13E PP122.2 on the interior of the OBG. The welder was observed utilizing the Pro-Heat 35 thermal heating blankets for face "B" of the complete penetration joint (CJP) to pre-heat and provide constant heat to the work. QC Inspector Salvador Merino verified the temperature and recorded the parameters as acceptable and within the requirements of ABF-WPS-D1.5-1012-3. The welder was observed installing run off tabs and began welding the height of the joint followed by grinding and blending, utilizing a small disc grinder. On a subsequent observation, this QA Inspector noted that the ongoing production welding was performed in the vertical position utilizing the E9018-H4R low hydrogen electrodes. 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 and Tempilstik Heat Indicators for verifying the preheat and inter-pass temperatures. Upon completion of Face "A", the thermal blankets were placed on the opposite side and work began on the back-gouge. Upon completion of the back-gouge

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operation QC performed a Magnetic Particle Inspection (MT) to determine soundness of the metal. It was noted that QC found no rejectable indications. At the time of the observation no issues were noted by the QA. On subsequent observations throughout the shift to monitor quality, it was noted that the work was in progress and appeared to be in general conformance with the contract documents. This joint is a Seismic Performance Critical Member (SPCM).

13E Drop-In Panels (Interior)

This QA Inspector made random observations of the fit-up and Visual Inspection (VT) process conducted by QC Inspector Salvador Merino. The Inspector was observed measuring the excessive root opening of 13E PP121.5-E2.5-BF1 on the interior of the OBG. (See photo below). It was noted that the measurements were out of tolerance in accordance with AWS D1.5-2002 Section 3.3, 3.3.1. QC Inspector Salvador Merino reported the findings to QC Manager Bonifacio Daquinag Jr. This QA Inspector generated a TL-15 on this date and referenced the above AWS D1.5 sections. These joints are Seismic Performance Critical Members (SPCM).

13E PP122.5-BF1 (Interior)

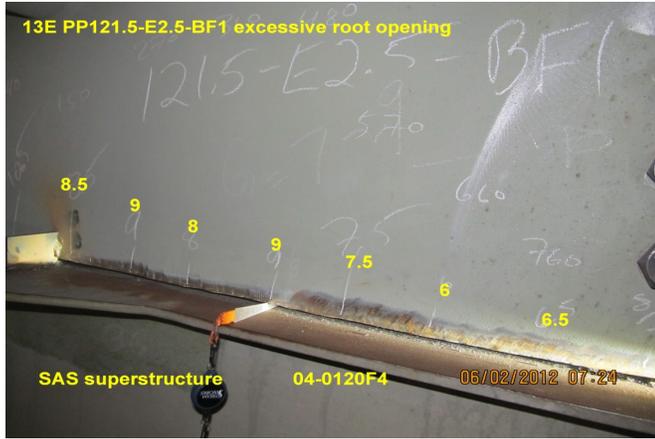
This QA Inspector randomly observed the continuing in process SMAW on the Longitudinal Stiffener (LS) weld at 13E PP120.6-LS1. ABF welder Khit Lounechaney (ID 4985) was observed grinding and blending the work between passes with a small disc grinder. On a subsequent observation, the welder was observed continuing the SMAW process in the 3G vertical position utilizing E9018-H4R electrodes drawing amperage of 130. This QA Inspector observed QC Inspector Sal Merino verify prior to the start of welding operations, that the minimum preheat temperature as per the approved WPS was established; and afterwards verified that the welding parameters (Amps and Travel Speed) were in accordance with ABF-WPS-D1.5-1012-3. This welding was in progress for the duration of the shift and was completed on this date. This QA Inspector verified that the electrodes were stored in electric rod ovens and appeared to be in accordance with AWS D1.5 Section 4.5.2 and exposure rates appeared to be in accordance with AWS D1.5 Table 4.7. During subsequent observations it was noted that the welders were using a power disc grinder and/or rotary die grinders at weld starts and stops as needed and were cleaning between weld passes with power wire wheel brushes. This QA Inspector noted that the work at this location was completed on this date and appeared to be in general conformance with the contract documents. This joint is a Seismic Performance Critical Member (SPCM).

Summary of Conversations:

This QA Inspector discussed welder assignments and locations in the Drop-In panels with QC Inspector Salvador Merino.

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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