

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-028172**Date Inspected:** 14-Aug-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:

QC UT (Exterior)

This QA Inspector randomly observed QC Inspectors Pat Swain at 12E/13E-B on the exterior 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 PP116.5-DAH (Interior)

This QA Inspector made a random observation of work in progress on the Deck Access Hole (DAH) located at 12E PP116.5 E5 on the interior of the OBG. QC Inspector Salvador Merino performed a Magnetic Particle Test (MT) on the back-gouge of the Complete Joint Penetration Joint (CJP) and this QA Inspector noted no indications were observed. This QA Inspector made random observations of ABF/JV qualified welder Jia Yan #1571 performing the Shielded Metal Arc Welding (SMAW) Process in the 4G overhead position utilizing E 7018-H4R electrodes. QC Inspector Salvador Merino verified the temperature and recorded the parameters as acceptable and within the requirements of ABF-WPS-D1.5-1110-A. The welder was observed welding several passes of the joint

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followed by grinding and blending of the work utilizing a small disc grinder. On a subsequent observation, this QA Inspector noted that the welding was performed in the overhead position utilizing the E7018-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. 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.

13E PP120-2.0-FBW1/FBW2 (Exterior)

This QA Inspector randomly observed ABF/JV Chris Bowles #9317 perform SMAW in the 2G horizontal and 3G vertical positions on the Floor Beam Webs at 13E PP120-2.0-FBW1/FBW2 on the exterior of the OBG. The welder was observed performing multiple pass production welding on the 20mm thick SPCM material with E7018-H4R electrodes drawing amperage of 132 and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1050 for the single bevel joint and ABF-WPS-D1.5-1040C for the double bevel joint. This QA Inspector observed QC Inspector Fred Michels using a Fluke infra-red temperature gauge to verify the preheat temperature of more than 150°F. This QA Inspector performed a verification of the welding parameters and observed 136 amperes on the 3.2mm diameter electrode. The welding appeared to comply with the WPS's and at the end of the shift; the work was in progress and appeared to be in general conformance with the contract specifications.

12E/13E QC MT (Interior)

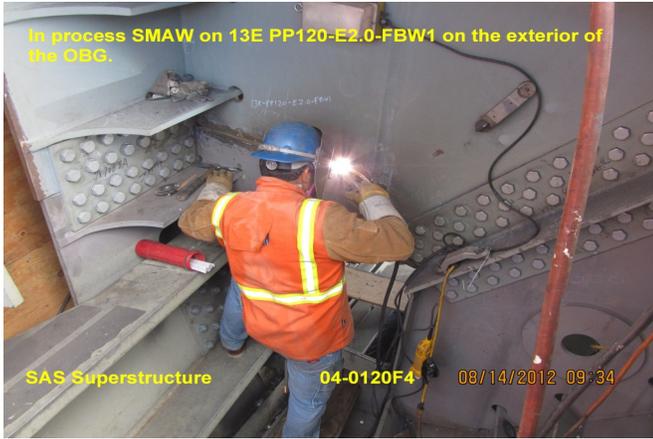
This QA Inspector randomly observed Quality Control Inspector Salvador Merino perform MT testing and inspection of 12E/13E-LS1/LS2/LS3 and 12E/13E-B on the interior of the OBG. The QC Inspector was observed manipulating the yoke in 90° angles in relationship to the weld axis and on top of the weld throughout the welds length to provide complete coverage of the testing area. It was noted that the QC Inspector observed minor indications that were removed by minor grinding with a small disc grinder by ABF welding personnel. Upon re-testing the QC Inspector observed no indications and accepted the testing as satisfactory. The process observed appeared to comply with SE-MT-CT-D11-105-MT05-1.

Summary of Conversations:

Discussed base metal repair criteria with QA Task Leader Bill Levell.

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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
