

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-028014**Date Inspected:** 18-Jul-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:

12E PP111.1-B1 (Exterior)

This QA Inspector randomly observed the in progress welding on 12E PP111.1-B1 on the exterior of the OBG. The work at this location was initiated on 7/17/2012. ABF/JV qualified welder Xiao Jian Wan #9677 was observed performing the Shielded Metal Arc Welding (SMAW) process in the 3G vertical position. Prior to welding Quality Control (QC) Inspector Salvador Merino was observed monitoring the pre-heating of the joint and the parameters as they pertain to ABF-WPS-D1.5-1040C-CU. This QA Inspector verified that the 3.2mm electrodes were stored in an 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. The welder was observed grinding and blending the start/stop edges of the work utilizing a small disc grinder and compressed air in between passes as QC measured the inter-pass temperatures with an infra-red temperature gun. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the production welding at this location was in progress on this date and appeared to be in general conformance with the contract documents.

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### 12E/13E-LS3 (Interior)

This QA Inspector made random observations of ABF/JV qualified welder Todd Jackson #4639 performing SMAW in the 3G vertical position on the Longitudinal Stiffener (LS) of 12E/13E-LS3 on the interior of the OBG. 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) were in accordance with ABF-WPS-D1.5-1012-3. The welder was observed grinding and blending the start/stop edges of the work utilizing a small disc grinder and compressed air in between passes. 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 and Tempilstik Heat Indicators for verifying the preheat and inter-pass temperatures. 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 in progress and appeared to be in general conformance with the contract documents.

### 13E-K Plate (Interior)

This QA Inspector made random observations of ABF/JV qualified welder Richard Garcia #5892 performing the SMAW process in the 2G horizontal position on 13E-EK-SK1 on the 13E-K Plate on the interior of the OBG. This QA Inspector observed QC Inspector Salvador 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) were in accordance with ABF-WPS-D1.5-1-1070. The welder was observed grinding and blending the start/stop edges of the work utilizing a small disc grinder and compressed air in between passes as QC measured the inter-pass temperatures with an infra-red temperature gun. 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 documents.

### 5E PP29.5 E5-DAH (Exterior)

This QA Inspector randomly observed ABF welder Roby Smith #4245 continuing to perform the back-gouge operation of ultrasonic rejectable indications on the Deck Access Hole (DAH) at 5E PP29.5 E5-DAH. The welder was observed working on excavations at y+3110mm at 40mm long, 20mm wide and 5mm deep, y+3650mm at 80mm long, 22mm wide and 10mm deep, y+4190mm at 90mm long, 20mm wide and 11mm deep, y+635mm at 105mm long, 22mm wide and 14mm deep and y+2120mm at 90mm long, 20mm wide and 14mm deep. This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the excavations to determine the soundness of the metal. Upon completion of the testing this QA Inspector observed that no rejectable indications were present. This QA Inspector randomly observed the welder performing the repair welding operation as per the SMAW process in the (1G) flat position. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Sal Merino verify that the preheat temperature was at least the minimum required and that the welding parameters were in accordance with WPS D1.5-1001- Repair. On a subsequent observation, the welder was noted as continuing the repair welding and between passes the QC Inspector verified the welding parameters and surface temperatures utilizing a Fluke 337 clamp meter to measure the electrical

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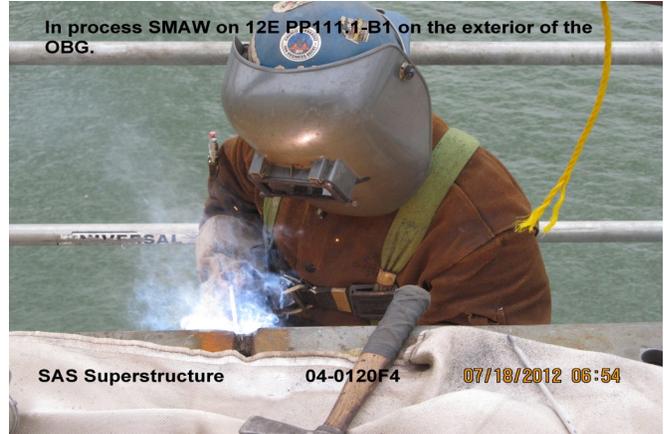
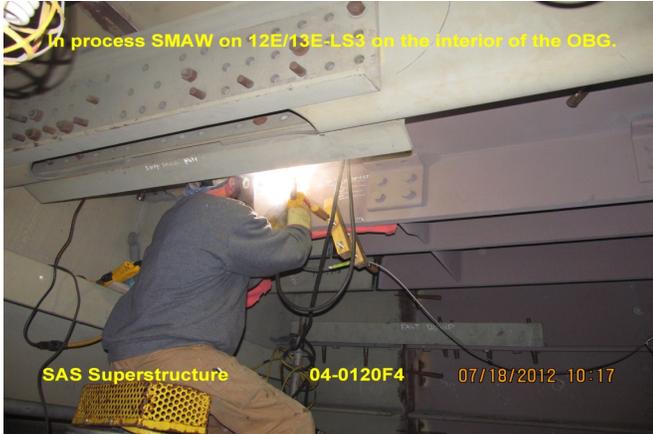
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welding parameters and Tempilstik Heat Indicators for verifying the preheat and inter-pass temperatures. This QA Inspector noted that the electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed 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. This QA Inspector noted that the work was completed on this date and appeared to be in general conformance with the contract documents.

## Summary of Conversations:

Discussed welder assignments and locations with Quality Control Inspector Slavador Merino.



## 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