

**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-026493**Date Inspected:** 01-Oct-2011**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:** See 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:** OBG**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed as noted below:

## A). OBG E13 and W13

At the conclusion of mobilizing the Orthotropic Box Girder (OBG) E13 and W13 into its designated position for the make up of the field splice identified as W12-W13. This QA SPCM Lead Inspector assigned Quality Assurance Inspector (QAI) Joselito Lizardo to the designated work station located at the "A" deck and "D" bottom plate of the OBG field splice which was identified as W12-W13-A and W12-W13-D to observed the welding of the blank nuts, U-Bars and installation of the key plates, also referred to as fitting gear. The installation and welding of the fitting gear was performed utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A, Rev. 2 and Rick Clayborn ID-2773 performing the work of installing, aligning and the welding of the fitting gear blank nuts.

This QA SPCM Lead Inspector also assigned QAI William Clifford to the designated work station located at the "A" deck and "D" bottom plate of the OBG field splice identified as E12-E13-A and E12-E13-D to observed the welding of the blank nuts, U-Bar and installation of the key plates, also referred to as fitting gear. The installation and welding of the fitting gear was performed utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A, Rev. 2 with James Zhen ID-6001 and Wai Kitlai ID-2953 performing the work of installing, aligning and the welding of the fitting gear blank nuts.

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This QAI SPCM Lead Inspector observed and reviewed the work performed by QAI Joselito Lizardo and William Clifford in regards to verifying the WPS', electrodes, welding parameters, preheat and interpass temperatures as described above. The QAI work performed on this date appeared to comply with the contract specifications and AWS D1.5-Section 12.16, 2002.

Upon this QAI SPCM Lead Inspector's review it was noted that the welding of the fitting gear, blank nuts, was welded incorrectly (3-sides were welded) and did not comply with the contract document, Submittal 1361 Rev. 3 of the TEMPORARY WELDED ATTACHMENT PLAN. This work was noted at the OBG identified as E12-E13-A5. This QAI informed the inspector, William Sherwood, of this issue and his response was that he would contact the QC Lead Inspector, Bonifacio Daquinag, Jr. and inform him of this issue. Later in the shift Mr. Daquinag, Jr. informed this QAI that a report would be submitted to the AB/F Welding Quality Control Manager (WQCM), James Bowers, for further review and the appropriate action to be taken to rectify this issue.

### B). Review of QA Tracking Plan

This QA Inspector continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates. The QAI also updated the tracking records for the pipe welds and the pipe supports.

On this date the QAI commence the review of QA tracking documents for the OBG's identified as E3, E4 and E5.

### QA Summary

The welding was performed in the vertical position utilizing the E7018-H4R. The 3.2 mm H4R electrodes were stored in a electrically heated, thermostatically controlled oven after the 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 Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

The digital photographs on page 3 of this report illustrate some of the work observed during this scheduled shift.

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## Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

## 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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<b>Inspected By:</b>	Reyes, Danny	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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