

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-024440**Date Inspected:** 17-Jun-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 Report 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:** Orthotropic Box Girders**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed on the various field fit-up of weld joints and the Complete Joint Penetration (CJP) and Partial Penetration (PJP) groove welds of the East and West Orthotropic Box Girders (OBG's) and the diaphragm plates accordingly. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) and the Flux Cored Arc Welding (FCAW).

**A). Diaphragm Plate**

The QAI observed the Partial Penetration Joint (PJP) groove welding of the diaphragm plate to the tower skin plate located at the 9 meter elevation and identified as WN: 051. The welding was performed by Wai Kitlai ID-2953 utilizing the FCAW process as per the WPS identified as ABF-WPS-D15-3160-1, Rev. 0. The QAI also observed the QC inspector, Pat Swain, perform in process weld inspection utilizing the WPS to monitor and to verify the welding parameters. The welding and the inspection appeared to comply with the contract specifications.

**B). Lifting Lug Holes**

The QAI observed the CJP welding of the lifting lug holes identified as WN: 9W-PP76-W4, W1 & W3. The welding was performed by Fred Kaddu ID-2188 utilizing the WPS identified as ABF-WPS-D15-1050A-CU, Rev. 0 and 1110A, Rev. 1. The QAI also observed the QC inspector perform the visual inspection and verify the

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welding parameters during the production welding. The inspection performed by William Sherwood appeared to comply with the contract specifications. The welding of this joint was not completed during this scheduled shift.

This QA Inspector also performed a daily review and update of the field document control tracking records regarding the Orthotropic Box Girders, Longitudinal and Transverse "A" Deck Stiffeners and Deck Access Holes.

## QA Summary

The welding was performed in the overhead and horizontal fixed positions utilizing the E7018-H4R low hydrogen and E71T-1 consumables. The 3.2 mm and 4.0 mm 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 WPS's were also utilized by the QC inspector's as a reference to monitor the welding operation, verify the welding parameters and verify the minimum preheat and the interpass temperatures. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter for 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.

## 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 and N.D.E. testing 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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