

**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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000719**Date Inspected:** 16-Oct-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island**CWI Name:** Fu Guo Gau**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 Closed Rib Trail**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Larry Viars was present to observe the dimensional testing and welding of Orthotropic Box Girder (OBG) Mock-up closed rib trial, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Caltrans QA Inspector monitored welding parameters and weld joint fit up of Orthotropic Box Girders (OBG) closed rib weld trial. Measurements were taken prior to tack welding to ensure a fit-up of .25 mm at the closed rib to deck plate joint. ZPMC personnel placed a jack below the deck plate adjacent to close rib on some areas to obtain 0.25 mm fit up.

Caltrans QA observed ZPMC welder Mr. Yang Yong Zeng performing Gas Metal Arc Welding (GMAW) of closed rib tack welding. ZPMC QA Fu Yuhong stated, the Welding Procedure Specification used for the tack welding was WPS-B-T-2342-U2 (u-ribs). Caltrans QA inspectors Viars and QA Inspector Alfredo Acuna observed that the ZPMC Quality Control (QC) measurement of travel speed time and Caltrans QA recorded time differed by three seconds. American Bridge Flour (ABF) QC representative Mr. Craig Knops stated that the welding time at the start of the tack weld and at the end did not factor into the welding time when starting the puddle or terminating the tack weld. The following picture shows the tack weld profile.

The following welding variables were recorded by Caltrans QA on closed rib weld trial. Weld joint # 7, amperage 320, volts 30.3, and a travel speed of 562 (with start and stop time excluded).

Caltrans QA monitored welding parameters of GMAW closed rib tack welding as well as dimensional

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measurements of closed rib to plate fit-up. Welding and fit-up appeared to be in conformance with the Special Revisions and AWS D1.5 requirements at the time of observation.



### Summary of Conversations:

As identified within the contents of this report.

### 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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Viars,Larry	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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