

**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-003417**Date Inspected:** 09-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2200**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** An Qing Xiang**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:** Tower**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Ken Jobes, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, to randomly monitor welding and Quality Control (QC) functions. While on site, the QA Inspector observed and/or discovered the following:

**New Tower Bay 1**

The Caltrans QA Inspector randomly observed the machining of weld bevel on Piece Mark p397b. The Caltrans QA Inspector also randomly observed that no welding or flame cutting was being done in this shop.

**New Tower Bay 2**

The Caltrans QA Inspector randomly observed the machining of weld bevels on Piece Marks p352b, p569b and p1284 for tower Skin Plate Face "D". The Caltrans QA Inspector also randomly observed that no flame cutting was being done in this shop.

The Caltrans QA Inspector also randomly observed the machine Submerged Arc Welding (SAW) of fill passes on Weld No. ESD1-SA49A/D-31B, Skin Plate Face "D". This is a complete joint penetration (CJP) groove weld. The welding was performed in the flat groove (1G) welding position by welding operator, Wu Zhi jun (I. D. No. 062611). Welding Procedure Specification (WPS) WPS-B-T-2221-B-U3c-S was used. Certified Welding Inspector (CWI), An Qing Xiang (CWI No. 07120651), was present during the welding, as was ABF QA Inspector, Wu Qui cai. The Caltrans QA Inspector verified the qualifications of the welding operators, and that the

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electrode/flux classification, diameter of electrode, amperage, voltage, travel speed, and preheat/interpass temperatures were within the specified ranges on the applicable WPS.

The Caltrans QA Inspector also randomly observed the shielded metal arc welding (SMAW) of tower stiffeners to Skin Plate Face "A" in the horizontal groove (2G) welding position. The welders were Yang Chuan Guo (I. D. No. 040668) and Zhai Qing shan (I. D. No. 058026). (CWI), An Qing Xiang (CWI No. 07120651), was present during the welding, as was ABF QA Inspector, Luo Lei quan. Three Piece Mark Nos. p39(E) and one Piece Mark p38(E) were being tacked to Piece Mark p22(E). The reference drawing is No. ESD1-SA107A/J and the WPS No. was WPS-B-P-2212-TC-U5b. The Caltrans QA Inspector observed that the specified electrode, 4.0 mm diameter, TL-508 (E7018) was being used and that two heated electrode ovens were being utilized. Preheating was also observed.

All above observations appeared to meet the requirements of the job specifications.



### 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 Joshua Ishibashi (13764710411) China, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Jobs, Kenneth	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon, Albert	QA Reviewer

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