

**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 #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002113**Date Inspected:** 26-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Changxing Island**CWI Name:** Chen Xi**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 and OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Larry Viars was present observe production welding of the deck plate U-rib tack welds of the Orthotropic Box Girder deck plate and perform Visual observations of the tower diaphragm welds, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

The Caltrans QA Inspector observed ZPMC welder Mr. Xia Yong Liu performing Submerged Arc welding (SAW) on tower skin plate B, plate SA49 to plate P1276, weld joint ESD1-SA49 C/D 6A. The posted welding procedure specifications were as follows WPS-B-T-2321-U3C-C-S for the complete joint penetration portion of the weld, and WPS-B-T-2321-P3-S for the filler and cover passes. The following welding parameters were recorded during the fill pass, amperage 649, voltage 32.2, travel speed 615 mm/min., with a heat input of 2.03 kJ/mm. The above mentioned welding appeared to meet the requirements of AWS D1.5 (2002) and applicable contract documents.

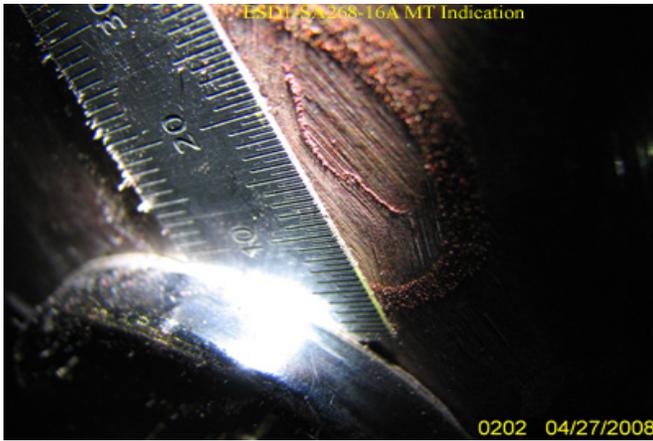
The Caltrans QA Inspector performed Magnetic Particle Testing (MT) verification of the 43 Meter Internal Diaphragm plate weld ESD1-SA268 16A. Linear cracks were found on both ends of the diaphragm plate ranging from 4 mm to 15 mm. ZPMC Quality Control (QC) Mr. Wang Wei had accepted weld 16A on 4-26-08. This a reoccurring issue with the diaphragm plate ends after run off tab removal. ZPMC QC Mr. Li Xiuyang stated that the MT was not complete and the area of cracking at the weld termination was scheduled to be machined and that the area would be retested by ZPMC QC. Please see the photos below of the diaphragm cracking.

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# WELDING INSPECTION REPORT

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## 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
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<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer
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