

**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-002114**Date Inspected:** 24-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:** Li Yan Hua**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. Liu Xiaomin performing Gas Machine Arc Welding (GMAW) on the U-rib tack welds of DP489-001 in the 2G position. The following parameters were recorded from weld DP489-001-006, amperage 325, voltage 30.5, travel speed of 550 mm/min., with a heat input of 1.08 kJ/mm. The above mentioned welding appeared to be in conformance with the posted welding procedure specification, WPS-B-T-2342-U2-(U-rib).

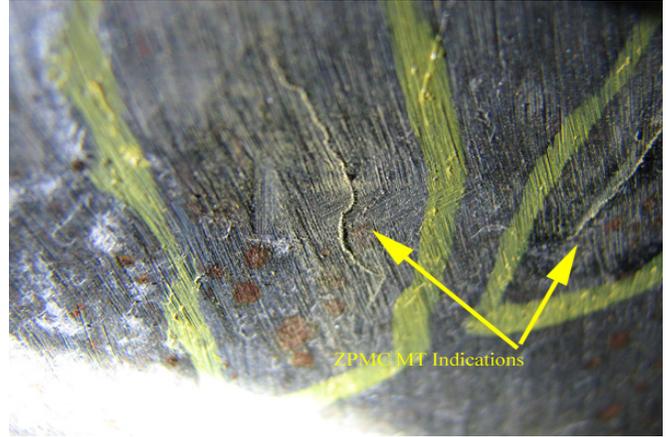
The Caltrans QA Inspector was scheduled perform Magnetic Particle Testing (MT) verification of the 33 Meter Diaphragm bottom plate weld NSD1-SA276 1A, 1B, 2A, and 2B. Upon arrival there were no markings to indicate whether the weld was acceptable. Linear cracks were found on both ends of the diaphragm plate with yellow magnetic powder present. Two cracks of 20 and 30 mm were found on weld 1A and two cracks measuring 15 mm each were found on weld 2A and 2B. The cracks observed were shown to ZPMC QC Mr. Li Xiuyang. Mr. Xiuyang consulted with ZPMC a ZPMC MT technician and 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
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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