

**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-001666**Date Inspected:** 20-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Fu Yu Hong**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 Deck panels**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

Production Monitoring test (PMT) and Fabrication

The QA inspector performed random fit-up verifications to the PMT coupons and Deck Panel DP-14-002 at the junction of the U-ribs to deck plate. The QA inspector found that U-ribs fit-up appeared to be in compliance with the contract documents. However the QA Inspector's identified that the closed rib single bevel groove surfaces are non-uniform, non-smooth and also contain areas of rust. ZPMC QC inspector Chen Xi was notified of these issues but ZPMC had not made proper corrections on the preparation of the bevel surfaces.

The QA inspector witnessed the welding operations at the PMT at the junction of the 800 mm U-ribs and the deck plate.

The QA inspector observed welding operators Zhao Chen Shuang welder ID # 059400, Chen Jie ID # 059468, Gao Xin Dong ID # 059361, Jian Ting Guang ID # 062265, Zhao Cheng Shuang ID # 059400 and Yuan Fen Chuan ID # 059355 performing welding operations on the root pass weld joints # 1 thru 6 respectively with the automatic Gantry Lincoln machine with the gas metal arc welding (GMAW) process on the metal transferring with spray transfer mode following the (WPS) WPS-B-T-2342-U1 (Urib).

ZPMC had approximately one (1) control panel Operator, six (6) Welders, two (2) QC inspectors, two (2) QC representatives, two (2) Supervisor and six (6) Grinders. ABF representative Mr. Warren Buelher, ZPMC representatives Mr. Lay Tao and Caltrans representatives Mr. Larry Viars, Mr. Robert Cuellar, Mr. Alistair Melville, Mr. John Kinsey, Mr. Ady Velasco and Mr. Bruce Berger were present at the OBG deck panels fabrication shop.

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ZPMC certified welding inspector Chen Xi performed visual weld inspection to the root pass. ZPMC found that welds were in accordance with the contract documents.

The cover pass and the PMT was welded sub sequentially with the submerged arc welding (SAW) process following the WPS-B-T-2322-U1 (Urib). The QA inspectors performed random verifications for the amperage, voltages and travel speed and appeared to be in general compliance with the contract documents.

Note: ZPMC proceed welding the root passes and cover passes from deck panel DP-14-002 without finishing with the PMT coupons at the ZPMC's risk.

Caltrans QA Inspector recorded data from the visual weld inspection results performed by Caltrans QA inspectors Bruce Berger and Paul Dawson on this date.

### **Summary of Conversations:**

As noted above.

### **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>	Acuna,Alfredo	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer
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