

**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-002495**Date Inspected:** 30-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Wu Ming Kai and See Below**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:** See Below**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector, M. Paul Stovall, was present at Zhenhua Port Machinery Company (ZPMC) on Changxing Island, Shanghai, China for the purpose of monitoring Quality Control (QC) functions during the fabrication of the Self Anchored Suspension (SAS) section of the San Francisco/Oakland Bay Bridge.

New Tower Shop, Bay 1

The QA Inspector observed ZPMC personnel cut bevel groove angle profiles onto various External Skin plates and to machine the bevel groove angle onto various Skin plates using the horizontal mill.

The QA Inspector observed ZPMC personnel fit and tack weld using the Shielded Metal Arc Weld (SMAW) process External Skin plates P261 to SA17, and P263 to P2620. The ZPMC welders are Wang Xianbo, ID #052599, Chen Xianhong, ID #047338, and Zha Yongsong, ID #056134.

The QA Inspector observed ZPMC personnel weld fill passes on External Skin plate weld number SSD1-SA173-A/K-16A. The Welding Procedure Specification (WPS) used is WPS-B-T-2221-U3c-S and the QA Inspector verified the WPS parameters as 687 amperes (amps), 32.1 volts, and a travel speed (ts) of 630 mille-meters (mm) per minute. This is a Submerged Arc Weld (SAW), and the ZPMC welder is Xu Xiushu, ID #040889.

OBG Fabrication, Bay 3

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## WELDING INSPECTION REPORT

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This QA Inspector observed ZPMC personnel fit and tack welded WT stiffeners on Side Plates (SP). These plates are SP123-001, SP148-001, and SP361-001. The ZPMC welders are Wang Zhonghua, ID #053753, Xhang Feng, 049769, and Lv Peng, ID #048617, and these welds are Shielded Metal Arc Weld (SMAW) process welds.

The QA Inspector observed ZPMC personnel weld fillets on SP335-001 at the rear gantry. The ZPMC welders are Li Xuehua, ID #058174, Sun Tiyu, ID #054459, and Li Shuliang, ID #048801.

OBG Fabrication, Bay 4

This QA Inspector observed ZPMC personnel heat straightening Internal Tower Diaphragm flange plates with the use of oxy-acetylene torches and hydraulic jacks in a fabricated fixture. The ZPMC Certified Welding Inspector (CWI) is Zhu Zhong Hai.

The QA Inspector observed ZPMC personnel grind fillet welds produced at the rear gantry welder and ZPMC welder Dai Lu, ID #048659, made minor weld repairs to these welds.

American Bridge / Fluor (ABF) QC Inspector C. K. Chan Inspector informed the QA Inspector that the electronic heating element used to preheat the Internal Tower Diaphragm plates broke down on Monday. As a result, of this any pre-heating of Diaphragm plates will involve an oxy-acetylene torch exclusively. Because of this ZPMC, personnel did not weld any Diaphragm plates.

The QA Inspector observed ZPMC QC personnel perform final Ultrasonic Tests (UT) on Bottom Plate (BP) BP111-001-001, -002, -019, and -021; SP747-001-001, -002, -019, and -021. ZPMC QC personnel accepted these pieces.

The QA Inspector observed ZPMC QC personnel perform final Magnetic Particle Tests (MT) on BP111-001-007 through 018, SP747-001-007 through -018, End Plate (EP) EP007-001-003 through -0090-001; SP750-001-015 through -026, and EP004-001-001 through -004. ZPMC QC personnel accepted these pieces.

### **Summary of Conversations:**

See above in body of 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>	Stovall,Paul	Quality Assurance Inspector
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<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer
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