

**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-002526**Date Inspected:** 09-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:** Zhao Chen Sun and 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 to 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 grinding Tower Skin plate weld joint number SSD1-SA16-F/G-6A. The grinding was on the excavation of two (2) areas rejected by ZPMC Quality Control (QC) Ultrasonic Testing (UT).

The QA Inspector observed ZPMC personnel performing Submerged Arc Welding (SAW) on Tower Skin Plate weld joint number SSD1-SA159-3A using Welding Procedure Specification (WPS) WPS-B-T-2221-B-U3c-S-1. The QA Inspector verified the welding parameters as 678 amperes and 33.1 volts.

The QA Inspector observed ZPMC welding personnel using the Flux Cored Arc Welding (FCAW) process on Tower Skin plate weld joint SSD1-SA15-A/F-26A. The QA inspector reviewed the ZPMC Weld Repair Report number T-WR005 and observed the Shielded Metal Arc Welding (SMAW) process specified for repair welding. The QA Inspector notified ZPMC QC and ABF Representative Kevin Carpenter of the discrepancy. The correct ZPMC Weld Repair document for the using the SMAW process was obtained.

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The QA Inspector observed ZPMC welding personnel Yun Chuanjin, ID #0503060, Chen Hong Xia, ID #040460, and Wang Jun, ID #040421 using the SMAW process to tack weld Tower Skin Plate number P802 to P16 during the fit up process.

The QA Inspector observed ZPMC personnel heat straightening various Tower Skin plates, flame cutting plate material at two (2) separate cutting tables, and the machining of bevels on various Tower Skin plates using a horizontal mill.

The QA Inspector observed ZPMC QC personnel were present and monitoring the work. The work observed by this QA Inspector appeared to comply with the contract requirements.

New Tower Shop

Bay 2

The QA Inspector observed ZPMC welding personnel Zhai Qingshan, ID #058025 performing tack welding using the SMAW process during the fit up of Tower Skin plates P609 and P16 for weld joint number ESD1-SA227-A/H-16A. The work observed appeared to comply with the contract requirements.

OBG Preassembly Bay 2

The QA Inspector observed ZPMC personnel flame cutting plate material for the Tower.

OBG Preassembly Bay 3

The QA Inspector observed ZPMC welding personnel Tan Xiangbo, ID #066459, Zhang Feng, ID #049769, and Liu Qingyong, ID #066479 fit and tack weld WT stiffeners to Bottom Plates (BP) and Side Plates (SP): BP165-001, SP148-001, SP425-001, and SP415-001. The WPS used for these welds is WPS-B-P-2112-FCM. The QA Inspector observed ZPMC personnel heat straightening various Side Plates, cutting W21 x 57's for use as WT's, and ZPMC QC inspecting and marking WT's for grinding due to surface irregularities from the cutting process.

The QA Inspector observed ZPMC QC personnel were present and monitoring the work. The work observed by this QA Inspector appeared to comply with the contract requirements.

OBG Preassembly Bay 4

The QA Inspector observed ZPMC personnel grinding Internal Tower Diaphragm plate weld joint number SSD1-SA322-A/B-1B (2B) after backing gouging.

The QA Inspector observed ZPMC personnel using the carbon arc process to back gouge Internal Tower Diaphragm plate weld joint number NSD1-SA276-1B (2B).

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The QA Inspector observed ZPMC welding personnel Gu Caihong, ID #053748 performing SAW on Internal Tower Diaphragm plates weld joint number NSD1-SA335-1B (1A) and NSD1-SA322-A/B-1A (2A).

The QA Inspector observed ZPMC QC personnel were present and monitoring the work. The work observed by this QA Inspector appeared to comply with the contract requirements.

**Summary of Conversations:**

The QA Inspector had conversations as noted in the body of the 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
<b>Reviewed By:</b>	Hager,Craig	QA Reviewer

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