

**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-002541**Date Inspected:** 19-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Chen Chih-Ming, An Qingxiang			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>

**Bridge No:** 34-0006**Component:** OBG side and bottom panels and tower skin p**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG new assembly bay 2

QA observed two ZPMC Quality Control (QC) Ultrasonic Testing (UT) technicians UT repaired areas on the following joints: SEG-018A-005 panels SP23A to SP31A (1 area), SEG-020A-004 panels BP22A to BP23A (3 areas), SEG-014A-002 panels SP21A to SP29A (4 areas), SEG-014A-019 panels SP-52A to SP-40A (5 areas). These areas appeared to be in conformance with AWS D1.5 2002 and the contract documents.

QA observed ZPMC QC Magnetic particle Testing (MT) technicians perform final MT the following joints: SEG-018A-005, SEG-014A-002, SEG-020A-004, SEG014A-008 and SEG014-019A.

Other general observations include ZPMC personnel grinding side and bottom panels and weld bevel prep.

New Tower Bay 1

QA observed ZPMC personnel tack welding the following skin plate joints: SSD1-SA18E/E and SSD1-SA179D/E-6A. No other welding was being performed in this bay at the time QA was present.

New Tower Bay 2

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QA observed ZPMC qualified welding personnel perform SAW on one side of the groove weld joining the following tower skin plate joints: ESD1-SA77A/E-35B, ESD1-SA77A/E-37B, WSD1-SA653A/F-1A, WSD1-SA653A/F-2A and LSD1-SA49C/D-14 following the guide lines of approved WPS# WPS-B-T-2221-B-U3c-S and WPS-B-T-2221-B-U3c-S-1. QA observed 3 ZPMC Quality Control (QC) inspectors in the vicinity of the welding operations including ZPMC CWI identified as An Qingxiang. There were also 3 American Bridge/Fluor (ABF) QC inspectors in the area as well. QC monitored the welding process continuously throughout the evening. The welding parameters as measured with Quality Controls calibrated instruments appeared to be in conformance with the posted WPS's and were as follows:

## ESD1-SA77A/E-35B SAW

Volts: 32.7 Amps: 643 Travel speed: 630mm/min

## ESD1-SA77A/E-37B SAW

Volts: 33.8 Amps: 657 Travel speed: 615mm/min

## WSD1-SA653A/F-1A SAW

Volts: 34.9 Amps: 672 Travel speed: 645mm/min

## WSD1-SA653A/F-2A SAW

Volts: 33.8 Amps: 663 Travel speed: 640mm/min

## LSD1-SA49C/D-14 SAW

Volts: 34.8 Amps: 653 Travel speed: 620mm/min

Other general observations in the New Tower bays include ZPMC tack welding tower skin plates, weld bevel preparation, flame straightening, CNC parts cutting and grinding.



## Summary of Conversations:

Only general conversations were held between QA and QC concerning this project.

## Comments

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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 Patrick Lowry (858)-344-2712, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hall, Steven	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar, Robert	QA Reviewer

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