

**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-001373**Date Inspected:** 25-Jan-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	Xu Le Feng, Ye Yong Jun, Sha Zi			<b>CWI Presenting</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>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Tower Mock-ups and OBG		

**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

**Tower Fabrication Facility****89M Mock-up Assembly**

The Quality Assurance Inspector observed a ZPMC welder performing in process welding of a complete joint penetration weld joining Skins A to E. The welder was the flux cored arc welding process to produce the weld in the flat position from the interior of the assembly. The Quality Assurance Inspector observed that approximately 70% of the skin welds were completed to date.

The Quality Assurance Inspector observed no cutting was taking place of material today on the cutting table.

The Quality Assurance Inspector observed that the rotating devise around the red ZPMC mock-up assembly was removed.

**Bay 1**

The Quality Assurance Inspector observed ZPMC squaring the length of closed ribs on the milling machine. Eight ribs were stacked and being milled simultaneously. The Quality Assurance Inspector measured the ribs to be approximately five meters in length, 12 millimeters in thickness and 790 millimeters in width.

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# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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## Bay 2

### 114M Mock-up Upper and Lower Shaft Assembly

The Quality Assurance Inspector observed ZPMC welding addition wide flange supports to the underside of the assembly. In addition the bolt hole template was tacked in place on skin C and ZPMC has begun drilling the holes using hand held magnetic drills. Three 50 ton hydraulic jacks are still in place and pressurized. Later in the shift, ZPMC erected another template on the skin C side. Below is a digital photograph illustrating the erection in process.

## 77M Mock-up Assembly

The Quality Assurance Inspector observed a ZPMC welding operator welding the diaphragm to corner stiffener partial joint penetration weld. The welder was using the shielded metal arc process to produce the weld in the horizontal position. Quality Control Inspector Ye Yong Jun was monitoring welder.

## Bay 3

The Quality Assurance Inspector observed ZPMC cutting plate stiffeners in preparation for installation.

## Bay 7

The Quality Assurance Inspector observed a ZPMC welding operator welding floor beam 013. The welder was using the shielded metal arc welding process to produce the fillet weld in the flat position.

## Bay 8

The Quality Assurance Inspector observed ten diaphragm plates staged within bay eight. ZPMC did not inform Caltrans that any operations for the SAS project were taking place in the bay. ZPMC was measuring the flatness of diaphragm plates using a string line. A ZPMC Quality Control Inspector relayed there own in house tolerance was two millimeters. ZPMC was marking the plates with the flatness dimensions in preparation for heat straightening as illustrated in the digital photograph below.



## Summary of Conversations:

As stated in the contents of the above 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

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# WELDING INSPECTION REPORT

*( Continued Page 3 of 3 )*

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for your project.

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