

**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-001186**Date Inspected:** 28-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Li Zhi Jiang**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 and Tower Mockup**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Joe Lanz arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions during second shift. While on site the QA Inspector observed and/or discovered the following.

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The QA inspector performed ultrasonic verification testing of the partial joint penetration welds on the Deck mockup, piece mark MU3. The ultrasonic testing (UT) was performed to verify the weld depth of penetration and testing performed by ZPMC personnel meet the requirements of the contract documents. The base metal lamination check was performed with a 1.0" dia. round 2.25 MHz transducer. The shear wave scan was performed with a 0.375" 3.25 MHz transducer on a 70 degree angle wedge from face A. Scanning patterns A, B and C were utilized. Following is a list of welds examined and the relevant indications of inadequate penetration observed in accordance with the contract documents.

**Deck Trial Mockup MU3**

Rib and Weld ID	Y location	Length	% of full screen height	Depth of lack of penetration
U-01, W-1	5,820mm	20mm	52%	3.0
U-01, W-1	11,820mm	17mm	36%	2.5
U-01, W-1	12,400mm	50mm	36%	2.5
U-06, W-1	13,210mm	185mm	46%	2.8
U-06, W-1	13,830mm	45mm	39%	2.6
U-06, W-1	14,305mm	85mm	59%	3.2

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U-06, W-1	14,850mm	40mm	39%	2.6
U-06, W-2	13,260mm	75mm	56%	3.1
U-06, W-2	13,760mm	50mm	46%	2.8
U-06, W-2	13,810mm	25mm	32%	2.4
U-06, W-2	14,250mm	30mm	36%	2.5
U-06, W-2	14,540mm	185mm	36%	2.5

The QA noted the indications of lack of penetration were discovered during ultrasonic testing that was performed by ZPMC personnel. The QA inspector concurred with the NDT level II technician's assessment. An Ultrasonic Test Report (TL-6027) for the welds that were tested was not generated for this date.

The following digital photographs illustrate observations of the activities being performed.



## Summary of Conversations:

No relevant conversations on this date.

## 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.

<b>Inspected By:</b>	Lanz, Joe	Quality Assurance Inspector
<b>Reviewed By:</b>	Cochran, Jim	QA Reviewer