

**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-006085**Date Inspected:** 27-Feb-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** 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:** Tower Fabrication**Summary of Items Observed:**

CWI Inspectors Mr. Chen Shouhua. Wu Ming Kai

On this date CALTRANS OSM Quality Assurance (QA) Inspector Mr. Paul Dawson arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

## Tower Bay 10

This QA Inspector performed random ultrasonic (UT) inspections of approximately 20 percent length of North Tower Lift 2 Skin D welds ND1-A468-38M-2-7r1, ND1-A468-38M-12, ND1-A468-38M-21, ND1-A468-38M-22, ND1-A468-28M-7, ND1-A468-28M-22, ND1-A468-33M-12, ND1-A468-33M-21. Weld ND1-A468-38M-2-7r1 is listed on ZPMC Notification of Witness Inspection document 002095 and the other welds do not appear to have been recently submitted on a Notification of Witness Inspection document. All these welds have been previously ultrasonically inspected and accepted by ZPMC inspection personnel. The QA Inspector observed the welds that were ultrasonically inspected by this QA Inspector appear to comply with AWS D1.5 ultrasonic inspection requirements. For additional information on these inspections see the TL6027 Ultrasonic Test Report

This QA Inspector observed ZPMC welder Mr. Xu Bo, stencil 040427 is using flux cored welding procedure WPS-B-T-2332-TC-P5-F to make stiffener plate welds to tower skin plate weld NSD1-SA223-D/E-12. The QA Inspector observed the base material had been preheated using an electrical heater element. The QA Inspector

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observed ZPMC Quality Control Inspector Mr. Chen Shou Hua had recorded a welding current of 330 amps and 31.7 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Liao Yanfe, stencil 066398 is using flux cored welding procedure WPS-B-T-2332-TC-P5-F to make stiffener plate welds to tower skin plate weld NSD1-SA223-D/E-12. The QA Inspector observed the base material had been preheated using an electrical heater element. The QA Inspector observed ZPMC Quality Control Inspector Mr. Chen Shou Hua had recorded a welding current of 336 amps and 31.8 volts. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

ZPMC QC representative Mr. Ken Zhang requested Caltrans QA personnel to perform visual inspection of north tower, lift 1 skin plate C doubler plate weld NSD1-SA22A/E-1, -2, -3 and -4. QA Inspector observed the four welds appear to comply with project specifications.

ZPMC QC representative Mr. Ken Zhang requested Caltrans QA personnel to perform final visual inspection of north tower, lift 1 skin plate C bearing plate welds NSD1-SA22A/E -10, -12, -16, -18, -22, -25, -26, -38, -42 and -43. The QA Inspector observed the weld radius at the bottom end of welds NSD1-SA22-B/E-10 and NSD1-SA22-B/E-38 have irregular shaped radiuses instead of smoothly ground radiuses. The QA Inspector informed Mr. Zhang the radius of these two welds do not appear to comply with project specifications and after the welds were ground to a radius shape, the QA Inspector observed all ten welds appear to comply with project specifications. See the photograph below for additional information.



## Summary of Conversations:

See above.

## 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 Serge Sinevod phone: 134-8257-0045 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
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<b>Reviewed By:</b>	Clifford,William	QA Reviewer
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