

**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-004512**Date Inspected:** 31-Oct-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1330**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2230**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr. Li Yang**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 Fabrication**Summary of Items Observed:**

Caltrans 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:

**OBG Bay 3**

ZPMC QC representative Mr. Lay Tau informed QA personnel that at around 1815 hours that ZPMC intends to remove welds in bay 3 to correct an improperly positioned plate. The QA Inspector asked ZPMC CWI Mr. Li Yang what item had been welded in the wrong position and Mr. Yang showed the QA Inspector a stiffener plate that is welded to side plate SP468-001 the end of the stiffener plate does not align with the ends of the other stiffer plates. Mr. Yang said that instead of removing the welds tonight that ZPMC is going to issue a critical weld repair (CWR) prior to removal of welds 3 and 4. See the photographs below for additional information.

**89M Mock-up**

At around 1730 hours the Caltrans QA Inspector observed that ZPMC appears to have completed the welding of MUB-MA21-A/J-26 and MUB-MA21-A/J-61. ABF CWI representative Mr. Yang Yiheng informed the QA Inspector that he and ZPMC QC representative Mr. Li Pengfei are going to monitor the cool down temperature of these two weld joints. The QA Inspector monitored this activity for the several hours and as of 2030 hours the QA Inspector observed Mr. Li Pengfei has recorded the temperatures for every thirty minutes and the following

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temperature measurements were recorded:

Time: Temp: Drop in temperature:

1630: 198°C NA

1700: 186°C 12°C

1730: 169°C 17°C

1800: 156°C 13°C

1830: 138°C 18°C

1900 : 121°C 17°C

1930: 102°C 19°C

2000: 82°C 20°C

2030: 62°C 20°C

Submittal SUB101R2 allows a maximum heat drop of 40°C per hour and the cooling rate of these two welds appears to comply with the submittal. Following cooling of the welds the QA Inspector measured the two fillet welds and they appear to be a minimum of 22 mm as required by the specifications.

### Heavy Bay 3

The QA Inspector performed initial visual inspections of the stiffener welds of deck panel DP355-001 and DP409-001 in heavy tower bay #3. The QA Inspector marked a few additional areas of weld overlap and underfill.

The QA Inspector documented the initial visual inspection on the yellow inspection status tags that are attached to the deck panels.

The QA Inspector performed final visual inspections of the stiffener welds of deck panel DP586-002 in heavy tower bay #3. The QA Inspector observed ZPMC and ABF representatives had completed visual inspections of these welds and they had identified the welds are acceptable on the yellow inspection status tag that is attached to the deck panel. The QA Inspector showed these areas of overlap to ZPMC CWI Li Yanhua and after the overlap areas were ground and accepted by ZPMC QC the QA Inspector determined the stiffener welds appear to comply with project specifications and the QA Inspector documented this inspection on the yellow inspection status tag.

### Bay 4

The QA Inspector performed random AWS D1.5 visual and magnetic particle inspections of the following OBG component welds in support of the yellow and green tagging:

SP481-001-015 through -028; Yellow tag 1419, green tag 1465

SP719-001-013 through -024; Yellow tag 1418, green tag 1466

ZPMC Inspection personnel had previously visually & MT inspected and accepted these welds. Items observed appear to comply with project specifications.

### 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 Ady Velasco 13816942685, who represents the Office of Structural Materials for

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your project.

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