

**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-003797**Date Inspected:** 04-Sep-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**CWI Name:** Zhang Bao Lei**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 side, bottom and deck panels**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 assy bay 2

QA observed that ZPMC has fit and tacked longitudinal shear plate at PP027 on OBG section 4BE leaving an excessive root opening of 8.5mm between the web of the shear plate and the web of the floor beam that it will weld to. This exceeds the tolerances specified in AWS D1.5 2002 figure 2.4 joint designation TC-U4b "root opening = 0 - 3 / +2 -3" and paragraph 3.3.4. Paragraph 3.3.4.1 also states "Root openings wider than those allowed in 3.3.4, but not greater than twice the thickness of the thinner part or 20 mm [3/4 in.], whichever is less, may be corrected by welding to acceptable dimensions prior to joining the parts by welding". ZPMC has already joined these parts by tack welding.

QA also observed that ZPMC has hand burned "rat holes" at the junction of side plate SP-080-001 and BP-022-001 @ PP-028 OBG section 4BE. These holes are detailed on the drawings however hand burning is prohibited per AWS D1.5 2002 paragraph 3.2.2: "Freehand thermal cutting shall be done only where approved by the Engineer". QA notified ZPMC QC Lead CWI identified as Mr. Zhang Bao Lei and ABF representative identified as Mr. Steve Lawton of QA's intention to submit an incident report for both of these issues. See attached photos below.

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QA performed 10% verification Ultrasonic Testing (UT) on floor beam joints SSD17-PP027-003, 009, SSD1-17A-PP027-130,105 and 007. All welds appeared to comply with AWS D1.5 2002 and the contract documents.

QA performed 10% verification UT on side panel joints SEG023A-014, 013 and 012. All welds appeared to comply with AWS D1.5 2002 and the contract documents.

Other general observations include ZPMC personnel fitting and welding OBG temporary support columns, grinding and weld bevel prep on various OBG components.



### Summary of Conversations:

As mentioned 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 Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

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**Inspected By:** Hall,Steven

Quality Assurance Inspector

**Reviewed By:** Cuellar,Robert

QA Reviewer