

**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-007138**Date Inspected:** 19-May-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**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:** OBG and Tower Fabrication**Summary of Items Observed:**

CWI Inspectors: Mr. Lv Liqing, Mr. Sheng Fu You

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:

Prior to Caltrans QA Inspectors' concurring with issuance of OBG deck plate closed rib green tag releases a review of the ultrasonic inspection database is performed to verify all closed rib tack weld repair locations have been ultrasonically accepted. Today this QA Inspector, Mr. Paul Dawson, performed data entry of ultrasonic inspection information from the field generated Ultrasonic inspection data sheets onto the common drive computer database for the following OBG deck panels: DP123-001, DP126-001, DP180-001, DP207-001, DP230-001, DP234-001, DP257-001, DP261-001, DP230-001, DP095-001, DP284-001, DP311-001, DP338-001, DP339-001, DP365-001, DP369-001, DP372-001, DP392-001, DP419-001, DP448-001, DP473-001, DP475-001, DP478-001, DP500-001, DP537-001, DP450-001 and DP477-001.

**OGB Assembly Yard**

The QA Inspector performed random visual inspections of the interior of the eastbound and westbound Orthotropic box girder (OBG) assemblies and observed there appears to be no ZPMC personnel performing welding. Note: there is a steady light rain falling and many of the interior steel surfaces are wet. ZPMC has

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several people installing bolting in various bolted splice connections. The QA Inspector observed one ZPMC worker scraping the faying surface between the floor beam member and the splice plate to remove paint chips that had been created when the bolts had been inserted through the drilled holes.

### OBG Bay 13

The QA Inspector observed ZPMC welder Ms. Duan Xiuzhi, stencil 050502 is preparing to use welding procedure specification WPS-B-T-2221-B-U3C-S-2 to make submerged arc groove weld SEG067B-031. The QA Inspector observed ZPMC Quality Control Inspector Mr. Wang Weiming monitoring this welding. The QA Inspector asked Mr. Weiming who is the AWS Certified Welding Inspector (CWI) that is responsible for monitoring the welding in bay 13. Mr. Weiming said he does not know the name of the CWI. The QA Inspector asked Mr. Weiming if he has an amperage meter for measurement of the welding volts and welding current. Mr. Weiming said he does not have an amperage probe. Mr. Weiming said a CWI will be at the location of the weld in a few minutes.

Approximately five minutes later CWI Mr. Lv Liqing arrived at the location where the submerged arc welding is to be performed, and he used an electronic temperature measurement instrument to confirm the base material had been adequately preheated where the submerged arc weld is to be deposited. Once the submerged arc welding started Mr. Lv Liqing used his amperage measurement instrument to measure the welding parameters. The QA Inspector measured a welding current of 620 amps, 27 volts and a welding speed of 520 mm per minute. Items observed on this date appeared to generally comply with applicable contract documents.

### OBG Bay 14

The QA Inspector observed ZPMC welder Mr. Wang Li, stencil 044772 is using shielded metal arc process to make fillet welds on OBG 9EE-SEG58A-003 between side plates SP588A and SP628A. The QA Inspector observed a welding current of approximately 180 amps. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder stencil 033768 is using shielded metal arc process to make fillet welds on OBG 9EE-SEG58A-003 between side plates SP588A and SP628A. The QA Inspector observed a welding current of approximately 185 amps. Items observed by the QA Inspector 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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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

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