

**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-001841**Date Inspected:** 17-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1730**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 800**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**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**New OBG Bay:**

The QA Inspector randomly observed ZPMC welder Wang Lan Ying ID Number 045265, utilizing the Submerged Arc Welding (SAW) Process in the 1G Position (Flat Groove) with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221B-L2c-S-1, to weld the fill pass on Side Plate Section SP8A to Side Plate Section SP7A at Weld Joint (WJ) SEG01A-003. The QA Inspector randomly observed ZPMC CWI Chen Chih-Ming monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 524 amps, 31 volts with a travel speed of 450 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

**Bay 7 OBG:**

The QA Inspector randomly observed a ZPMC Torch Cutting Operator utilizing a semiautomatic torch cutting apparatus, to cut access holes in 300 x 300 x 10 mm A500 GR B Structural Tube for Floor Beam Diagonals.

The QA Inspector randomly observed ZPMC Welder Yang Xuhe ID Number 044837, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-P-2211-B-U2-FCM, to weld Floor Beam FB014-02 Diaphragm Flange half sections at WJ FB014-02-042. The QA Inspector randomly

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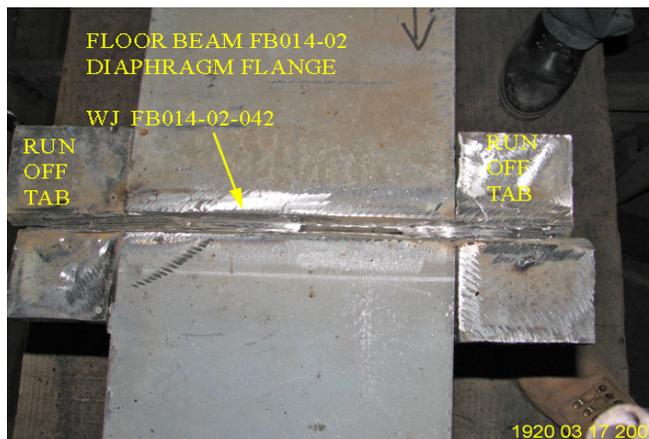
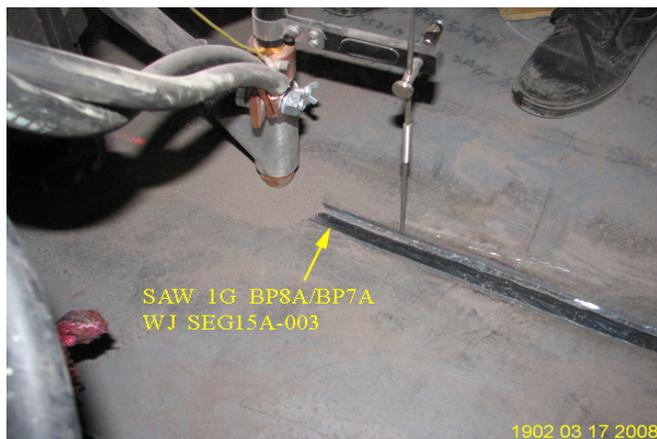
observed ZPMC CWI Huang Wen-Pang, monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed a ZPMC Carbon Air Arc Operator utilizing the Carbon Air Arc Process, to back gouge WJ FB008-03-045 attaching split flange piece mark X7M, to the 30 mm thick section of Floor Beam Web FB008-03.

The QA Inspector randomly observed ZPMC welder Sun Guzuo ID Number 058100, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-B-L2c-S-1, to weld the fill pass on several Floor Beam Diaphragm Web Sections. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector performed a random 10% Visual Testing (VT) Inspection and a random 10% Magnetic Particle Taseing (MT) Inspection on the cover pass of the welds attaching stiffeners to the Far Side of Floor Beam Web FB016-02. The QA Inspector randomly observed VT indications on WJ's 004, 010, 013, 014, 029, 030, 037, 038 and 048. The QA Inspector marked up the areas and informed ZPMC CWI Huang Wen-Pang of the VT indications. The QA Inspector accepted all the welds on FB016-02 with the exception of the WJ's listed above.

The QA Inspector performed a random 10% VT Inspection and a random 10% MT Inspection on the cover pass of the welds attaching stiffeners to the Near Side of Floor Beam Web FB016-04. The QA Inspector observed that the Complete Joint Penetration WJ FB016-04-045 attaching the split flange to the 30 mm thick section of Floor Beam Web FB016-04, had a marked Ultrasonic Testing (UT) reject marked adjacent to WJ 045. The QA Inspector accepted all the welds on FB016-04 with the exception of WJ FB016-04-045.



## Summary of Conversations:

As noted in the above body of this report.

## 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.

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<b>Inspected By:</b>	Franco,Charlie	Quality Assurance Inspector
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<b>Reviewed By:</b>	Hager,Craig	QA Reviewer
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