

**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-002191**Date Inspected:** 15-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 2300**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:** An Qing Xiang**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**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 Tower Shop Bay 2:**

The QA Inspector randomly observed ZPMC welder Xue Yian ID Number 047481, utilizing the Submerged Arc Welding (SAW) Process in the 1G Position (Flat Groove) with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-B-U3c-S, to weld the fill pass in Weld Joint (WJ) ESD1-SA107A/J-16B on Tower Face A Sub-Assembly SA107(E) piece mark p375 to p228(E). The QA Inspector randomly observed ZPMC CWI An Qing Xiang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 700 amps, 33.5 volts with a travel speed of 630 millimeters (mm) per minute. The weld parameters appeared to comply with contract requirements.

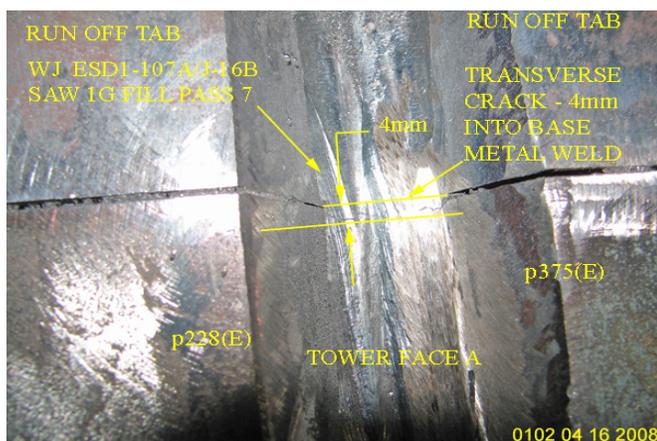
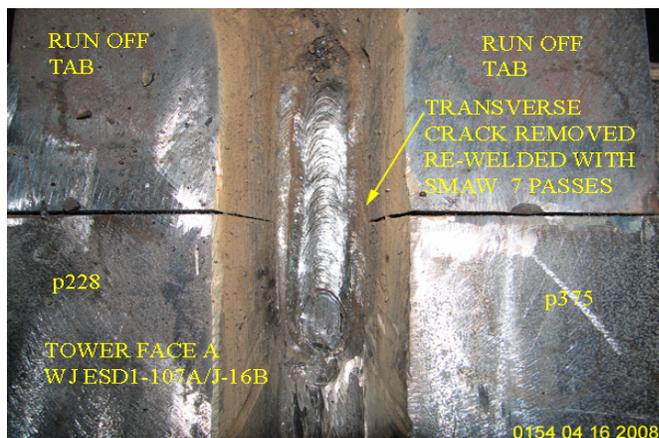
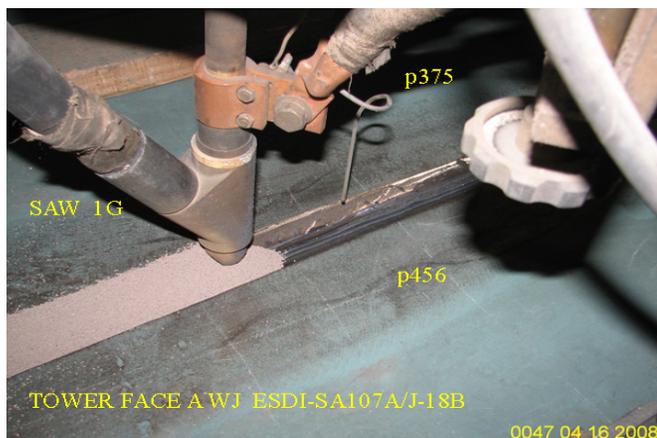
The QA Inspector randomly observed ZPMC welder Sun Bing Fa ID Number 062046, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-2221-B-U3c-S, to weld the fill pass in WJ ESD1-SA107A/J-18B on Tower Face A Sub-Assembly SA107(E) piece mark p375(E) to p456(E). The QA Inspector randomly observed ZPMC CWI An Qing Xiang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 660 amps, 33.5 volts with a travel speed of 635 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

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The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations on Tower Face E piece mark p839 per ZPMC Heat Straightening Request (HSR) HSR1(T)-691, to remove mill induced distortion.

The QA Inspector randomly observed a transverse crack 4 mm from the run off tab at the end of WJ ESD1-SA107A/J-16B in the 7th fill pass. The crack originated at the joint between the run off tab and the trailing edge of WJ ESD1-SA107A/J-16B and progressed 4 mm into the WJ. The QA Inspector brought it to the attention of ZPMC CWI An Qing Xiang and American Bridge/Fluor Enterprises (ABF) Representatives Dai Qing Wen and Li Han Jie. Mr. An directed ZPMC welder Yang Lei ID Number 040690, to remove the crack by grinding. Mr. Yang removed the deposited weld metal in the area of the crack until the WJ between the run off tab and the trailing edge of WJ ESD1-SA107A/J-16B, was in the original fit up condition with the crack completely removed. Mr. An then directed Mr. Yang to weld the area where the crack was removed with WPS-345-SMAW-1G(1F)Repair. The QA Inspector randomly observed Mr. Yang utilize the Shielded Metal Arc Welding (SMAW) Process to repair the area. The QA Inspector randomly observed Mr. An monitor weld parameters. Weld parameters appeared to comply with contract requirements. The attached photographs provide additional detail.



## Summary of Conversations:

There were no relevant conversations.

## Comments

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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
<b>Reviewed By:</b>	Hager,Craig	QA Reviewer

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