

**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-002132**Date Inspected:** 24-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1330**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:** 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**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 1:**

The QA Inspector randomly observed ZPMC welder Xu Yan ID Number 052917, utilizing the Submerged Arc Welding (SAW) Process in the 1G Position (Flat Groove) with ZPMC Weld Procedure Specification (WPS) WPS-B-P-2211-B-U3b(CJP), to weld the root pass in Weld Joint (WJ) SSD1-SA173J/K-8B(CJP) on Tower Skin Plate E Sub-Assembly SA173(E). The QA Inspector randomly observed ZPMC CWI Sha Zhi monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 665 amps, 32.6 volts with a travel speed of 606 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Xu Xiushui ID Number 040489, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-P-2211-B-U3b(CJP), to weld the root pass in WJ SSD1-SA16F/G-5A(CJP) on Tower Skin Plate E Sub-Assembly SA16(E). The QA Inspector randomly observed ZPMC CWI Sha Zhi monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 672 amps, 32 volts with a travel speed of 540 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations per

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ZPMC Heat Straightening Procedure HSR1(T)-777 Rev 0, to piece mark p144(S) to remove mill induced distortion.

New Tower Shop Bay 2:

The QA Inspector randomly observed ZPMC welder Cao Xiaohua ID Number 056975, 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-SA216B/K-7A on Tower Skin Plate E Sub-Assembly SA216(E) piece marks p790(E) to p788(E). The QA Inspector randomly observed ZPMC CWI Zhu Zhong Hai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 670 amps, 33.6 volts with a travel speed of 623 mm per minute. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Shen Mei ID Number 041716, 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-SA216A/K-17A on Tower Skin Plate E Sub-Assembly SA216(E) piece marks p788(E) to p789(E). The QA Inspector randomly observed ZPMC CWI Zhu Zhong Hai monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 659 amps, 34 volts with a travel speed of 616 mm per minute. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations per ZPMC Heat Straightening Procedure HSR1(T)-904 Rev 0, to piece mark p83(S) to remove mill induced distortion.

New Tower Shop Bay 3:

The QA Inspector randomly observed ZPMC welder Yuan Fengchuan ID Number 059355, utilizing the SAW Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-P-2221-B-L2c-S-1, to weld the fill pass in WJ DP437-001-189 between Deck Plate sections p484A to p484B. The QA Inspector randomly observed ZPMC CWI Li Yanhua monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 530 amps, 30.6 volts with a travel speed of 420 mm per minute. The 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 Gouging Process to back gouge WJ DP248-001-189 .

New OBG:

The QA Inspector randomly observed ZPMC welder Wang Lan Xiang ID Number 045265, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-223(2)1T, to weld the fill pass WJ Number SEG-017A-002 Side Plate section piece marks SP011-01 + SP019-01 to SP027-01. 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: 672 amps, 32 volts with a travel speed of 540 mm per minute. The weld parameters appeared to comply with contract requirements.

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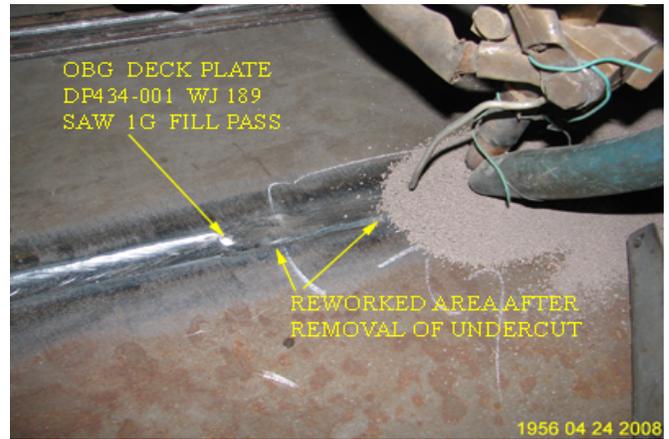
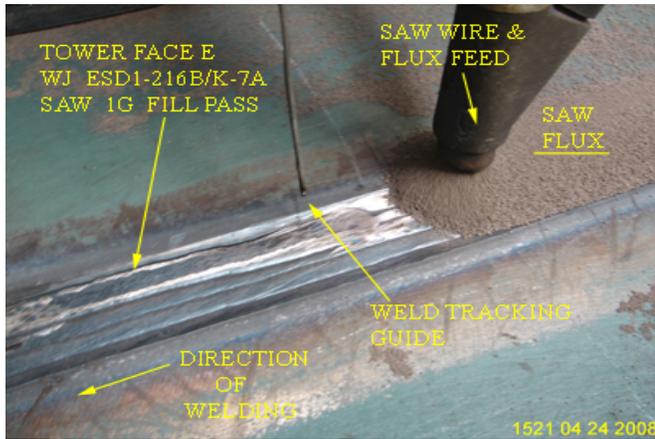
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The QA Inspector randomly observed a ZPMC Carbon Air Arc operator utilizing the Carbon Air Arc Gouging Process to back gouge WJ SEG019A-001 between Side Plate sections SP012-01 and SP020-01.



## Summary of Conversations:

There were no relevant conversations.

## 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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**Inspected By:** Franco,Charlie

Quality Assurance Inspector

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**Reviewed By:** Carreon,Albert

QA Reviewer