

**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-007786**Date Inspected:** 09-Jul-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:** Xu Le Feng, Yu Dong Ping**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 (CT) 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).

**Heavy Equipment Shop Bay 10:**

The QA Inspector randomly observed ZPMC welder ID 040460, utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-4221-B-U3c-S-1, to weld the seam between flange sections p5012-1A and p5011-1A of East Tower shear link strut spares at Weld Joint (WJ) Numbers ED1-A6003-1-2B, ED1-A6003-2-2B, ED1-A6003-3-2B and ED1-A6003-4-2B. The QA Inspector randomly observed ZPMC Quality Control (QC) monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Zhang Jin Gong ID 057220, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-2112 and WPS-B-T-2113 in the 3F (Vertical Fillet) Position, to tack weld dogs to Skin Plates C and D for fit up of the diagonal stiffener over the seam weld between Skin Plates C and D of Lift 1 North Tower. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

**Heavy Equipment Shop Bay 11:**

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The QA Inspector randomly observed ZPMC welder ID 047304, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-4221-B-U3c-S-1, to weld the seam between flange sections for the West Tower shear link strut spares at WJ's WD1-A6003-5-1A, WD1-A6003-5-2B, WD1-A6003-6-1A and WD1-A6003-6-2B. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC production personnel performing heat straightening operations on the West Tower shear link strut spares per ZPMC Heat Straightening Request HSR1 (T)-9802. The QA Inspector randomly observed ZPMC QC monitoring the temperature. The temperature appeared to be in compliance with the approved HSR.

The QA Inspector randomly observed ZPMC welders ID 070140 and ID 068920, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2332-TC-P5-F with Gantry 1 mounted welding apparatus, to weld longitudinal stiffeners to Lift 4 East Tower Skin Plate C at WJ ESD1-FCSA4-2B/C-5 and 6 respectively. The QA Inspector randomly observed ZPMC (QC) monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders ID 066683 and ID 067550, utilizing the FCAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2332-TC-P5-F with Gantry 2 mounted welding apparatus, to weld longitudinal stiffeners to Lift 4 East Tower Skin Plate C at WJ ESD1-FCSA4-2C/C-5 and 6 respectively. The QA Inspector randomly observed ZPMC (QC) monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder ID 067947, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2331-B-U3-F, to weld a butt seam in Longitudinal Stiffener D-2 for Lift 4 West Tower Skin Plate D at WJ WSD1-FDSA4-4D/D-22B. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder ID 070254, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2331-B-U3-F, to weld a butt seam in Longitudinal Stiffener C-3 for Lift 4 West Tower Skin Plate C at WJ WSD1-FCSA4-2B/C-7B. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder Cao Xiao Hua ID 056975, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-4221-B-U3c-S-1, to weld the seam between flange sections for the West Tower shear link strut spares at WJ's WD1-A6003-3-3A, WD1-A6003-3-4B, WD1-A6003-4-3A and WD1-A6003-4-4B. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

End of Pier:

The QA Inspector randomly observed a ZPMC helper utilizing an angle grinder to remove slag from Carbon Air

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# WELDING INSPECTION REPORT

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Arc Gouging (CAAG) operations to remove the cover plate from the diagonal stiffener over the long seam between Skin Plates C and D on Lift 2 South Tower Shaft just above the 50.30 m elevation. The QA Inspector also randomly observed a ZPMC welder utilize the CAAG process to remove remnants of the cover plate which had not been totally removed from the previous CAAG operation. The attached photograph provides additional detail.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



### Summary of Conversations:

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 Serge Sinevod 13482570045, 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>	Clifford,William	QA Reviewer
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