

**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-007330**Date Inspected:** 04-May-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Le Feng, Liu Yang**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).

**Outside Yard at Vertical Mill:**

The QA Inspector randomly observed that ZPMC milling was idle and no milling work was being performed on Lift 2 South Tower. There appears to be a malfunction with the machinery and ZPMC personnel are up on lift at the top of the vertical mill trying to diagnose the problem.

The QA Inspector randomly observed that Lift 1 South Tower has been removed from the vertical mill and taken to the blast shop; and that Lift 1 East has been brought from the paint shop and is being positioned to be placed at the vertical mill.

**Heavy Equipment Shop Bay 10:**

The QA Inspector randomly observed several ZPMC helpers utilizing angle grinders and pencil grinders to blend the cover pass on the long seam weld NSD1-TL8B/L-1A between Skin Plate E and Skin Plate A on Lift 2 North Tower Shaft and the welds attaching the doubler plates to Skin E. The QA Inspector also observed a large arc strike on Skin Plate E. The ZPMC CWI observed the QA Inspector photographing the arc strike and marked it up for grinding and Magnetic Particle Testing (MT) Inspection. The attached photographs provide additional detail.

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The QA Inspector randomly observed 4 ZPMC helpers utilizing angle grinders to blend the overlay on the ends of the outside stiffeners on Skin C at the base of Lift 1 North Tower Shaft.

The QA Inspector randomly observed ZPMC welder Wang Shou Qin ID 201750, utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-C-U2b-S-2 to weld the long seam at Weld Joint (WJ) NSD1-A112B/H-2B between Skin Plate C and Skin Plate D on Lift 1 North. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 663 amps, 31.5 volts with a travel speed of 530 millimeters (mm) per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Zhang Su Qin ID 209051, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-C-U2b-S-2 to weld the long seam at WJ NSD1-A112B/H-2B between Skin Plate C and Skin Plate D on Lift 1 North. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 664 amps, 31.4 volts with a travel speed of 528 mm per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Chen Hong Xia ID 040460, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-C-U2b-S-2 to weld the long seam at WJ NSD1-A112B/H-2B between Skin Plate C and Skin Plate D on Lift 1 North. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 670 amps, 31.5 volts with a travel speed of 530 mm per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Xu Yan ID 052917, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-C-U2b-S-2 to weld the long seam at WJ NSD1-A112B/H-2B between Skin Plate C and Skin Plate D on Lift 1 North. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 675 amps, 31.1 volts with a travel speed of 520 mm per minute. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Dong Yu Qin ID 053116, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-2332-TC-P4-F and in the 3F (Vertical Fillet) Position with ZPMC WPS WPS-B-T-2332-TC-P4-F to weld the doubler plates to Skin Plate A on Lift 2 North Tower. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

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

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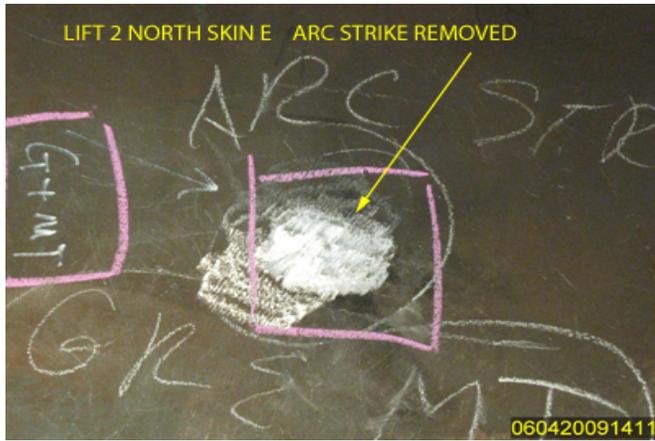
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## Summary of Conversations:

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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**Inspected By:** Franco,Charlie

Quality Assurance Inspector

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**Reviewed By:** Clifford,William

QA Reviewer