

**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-007531**Date Inspected:** 22-Jun-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, 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).

**Outside Yard at Vertical Mill:**

The QA Inspector randomly observed the vertical mill was idle and that there was no milling being performed on the skin plates on Lift 1 East Tower Shaft or Lift 2 East Tower Shaft at this time.

The QA Inspector randomly observed that no contract work was being performed in the interiors or on the exteriors of Lift 1 East Tower Shaft or Lift 2 East Tower Shaft.

**Heavy Equipment Shop Bay 11:**

The QA Inspector randomly observed 3 ZPMC helpers utilizing angle grinders to blend the cover pass on the outside of the long seam between Skin Plates B and C on Lift 1 West Tower Shaft from the upper elevation to the front jig rotation ring.

The QA Inspector randomly observed 4 ZPMC helpers utilizing angle grinders to blend the cover pass on the outside of the long seam between Skin Plates C and D on Lift 1 West Tower Shaft from the upper elevation to the front jig rotation ring and 4 more from the front ring to the back ring.

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The QA Inspector randomly observed ZPMC welders ID's 066155 and 066251, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2232-TC-U4b-F to weld the long seam between Skin Plates A and E on Lift 2 North Tower Shaft at Weld Joint (WJ) NSD1-TC8B/L-5A. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 2 ZPMC helpers utilizing angle grinders to blend the edges on the sides of the longitudinal stiffeners on Lift 4 West Tower Shaft Skin Plate. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welder ID 040759, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231 to weld the longitudinal stiffeners to Skin Plate A for Lift 4 East Tower Shaft at WJ ESD1-FASA4-2D/E-1A. 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 040713, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-TC-U5-F to weld the longitudinal stiffeners to Skin Plate A for Lift 4 East Tower Shaft at WJ ESD1-FASA4-2E/E-4A. 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 053316, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-TC-U5-F to weld the longitudinal stiffeners to Skin Plate A for Lift 4 East Tower Shaft at WJ ESD1-FASA4-2E/E-43A. 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 040775, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-TC-U5-F to weld the longitudinal stiffeners to Skin Plate A for Lift 4 East Tower Shaft at WJ ESD1-FASA4-2D/E-14A. 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 040701, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-TC-U5-F to weld the longitudinal stiffeners to Skin Plate A for Lift 4 East Tower Shaft at WJ ESD1-FASA4-2D/E-27A. 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 040723, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-TC-U5-F to weld the longitudinal stiffeners to Skin Plate A for Lift 4 East Tower Shaft at WJ ESD1-FASA4-2E/E-57A. 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 058792, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-TC-U5-F to weld the longitudinal stiffeners to Skin Plate A for Lift 4 East Tower Shaft at WJ ESD1-FASA4-2E/E-20A. The QA Inspector randomly observed ZPMC QC

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monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder ID 048810, utilizing the FCAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-TC-U5-F to weld the longitudinal stiffeners to Skin Plate A for Lift 4 East Tower Shaft at WJ ESD1-FASA4-2E/E-50A. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector performed a 100% Visual Testing (VT) Inspection of the fit lugs on Skin D to 33M and 38M Diaphragms and the 13M and 15M Diaphragms to Skin D and the diagonal stiffeners to the web of Lift 1 West per ZPMC NDT Notification Sheet 003502. There appeared to be no indications and the QA Inspector accepted the above listed welds.

The QA Inspector attempted to perform a 100% VT Inspection of the 33M and 38M Diaphragms to Skin D of Lift 1 West per ZPMC NDT Notification Sheet 003502. The QA Inspector randomly observed several areas in the copes of 33M and 38M Diaphragm to Skin D welds that did not comply with the contract approved "Tower Cope Hole Acceptance Criteria". The QA Inspector physically showed ZPMC Quality Representative Zhang Jiadi the areas in the copes that would require re-work and informed Mr. Zhang that the above listed welds were not ready for inspection at this time. ZPMC Quality personnel directed a ZPMC helper to re-work the copes. The QA Inspector randomly observed the ZPMC helper utilizing a pencil grinder to re-work the copes. ZPMC Quality personnel informed the QA Inspector that they would notify him when the welds would be ready for re-inspection. 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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