

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-004702**Date Inspected:** 21-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**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 & OBG**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).

**ZPMC SFOBB Storage Yard:**

The QA Inspector verified that heat numbers and any other material identification, had been removed from 34 Check Samples from Batch 138/Plate List 114 and 20 from Batch 152/Plate List 191 for SAS Tower raw material being sent to the lab for testing. The QA Inspector randomly observed that Check Sample Lot Number B75-64-08, still had the Heat Number and another material traceability number written in paint stick on the top edge of the sample. The QA Inspector randomly observed a ZPMC helper removing the material traceability identification with a grinder, and verified that it had been completely removed. The attached photographs provide additional detail.

**OBG Sub-Assembly Bay 1:**

The QA Inspector randomly observed ZPMC welder Dong Yiqun ID 059450, utilizing the Flux Cored Arc Welding (FCAW) Process in the 3F Position to weld diaphragms in U-Ribs for Deck Plate DP446-001 at Weld Joint (WJ) Numbers 016, 025, 039 043 and 052.

The QA Inspector randomly observed ZPMC welder Li Huabei ID 059472, utilizing the Flux Cored Arc Welding

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(FCAW) Process in the 3F Position to fit up and tack weld U-Rib Sections to Deck Plate Sections for various PMT's.

The QA Inspector randomly observed 2 ZPMC magnetic drill operators drilling bolt holes in U-Ribs U-90, 91, 92 and 93, prior to forming.

OBG Sub-Assembly Bay 2:

The QA Inspector randomly observed 4 Magnetic Drill Operators drilling bolt holes in Skin Plate Stiffeners A709 HPS 485 piece mark A571 (E) p709, p753 and p687.

OBG Sub-Assembly Bay 3:

The QA Inspector randomly observed ZPMC welder Shi Wei ID 053859, utilizing the Shielded Metal Arc Welding (SMAW) Process in 2F Position with ZPMC WPS WPS-B-P-2112, to weld tack weld I-Ribs during fit up to Edge Plate EP060-001 WJ's 002/001 & 004/003. 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 Zhao Quan Li ID 046813, utilizing the SMAW Process in 2F Position with ZPMC WPS WPS-B-P-2112-FCM, to weld tack weld I-Ribs during fit up to Edge Plate EP090-001 WJ's 002/001 & 004/003. 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 Li Shu Liang ID 048801 and Sun Ti Yu ID 054459, utilizing the Flux Cored Arc Welding (FCAW) Process in 2F Position on Gantry 2 with ZPMC WPS WPS-B-T-2132-3, to weld I-Ribs simultaneously to Edge Plates EP077-001 (WJ's 001/002) & EP065-001 (003/004) 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 Wei Da Shuai ID 051246, Xu Meng 053742 and Li Zha Qian ID 048810, utilizing the FCAW Process in 2F Position on Gantry 1 with ZPMC WPS WPS-B-T-2132-3, to weld I-Ribs to Side Plate SP448-001 at WJ's 001/002, 005/006 and 009/010 respectively. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

OBG Sub-Assembly Bay 4:

The QA Inspector randomly observed ZPMC welder ID 048801, utilizing the SMAW Process in the WPS-B-T-4311-P4 in the 1G Position, to weld Run Off Tabs to the ends of WJ WSD1-SA424A/B-9A(9B) on 77M (N) Tower Diaphragm SA424. 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 054467, utilizing the SMAW Process in the WPS-B-T-4311-P4 in the 1G Position, to weld Run Off Tabs to the ends of WJ WSD1-SA425-3A(3B) on 77M

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(N) Tower Diaphragm SA425. 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 Wei Da Shuai ID 051246, Xu Meng 053742 and Li Zha Qian ID 048810, utilizing the FCAW Process in 2F Position on Gantry 1 with ZPMC WPS WPS-B-T-2132-3, to weld I-Ribs to Side Plate SP448-001 at WJ's 001/002, 005/006 and 009/010 respectively. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

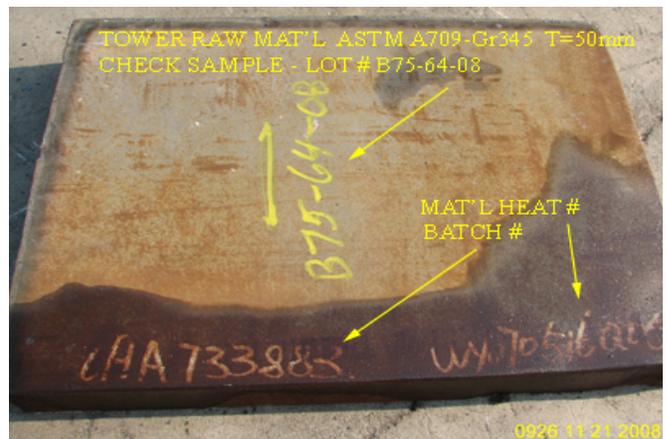
OBG Sub-Assembly Bay 7:

The QA Inspector randomly observed ZPMC welders Yuan Wen Song ID 055491 and Xie Jin Xia ID 048038, utilizing the FCAW Process in 2F Position with automatic welding apparatus and ZPMC WPS WPS-B-T-2132-3, to weld I-Stiffeners to Floor Beam Sub-Assembly FB023-003 at WJ's 097/099 and 096/098 respectively. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

OBG Sub-Assembly Bay 8:

The QA Inspector randomly observed ZPMC welder Xu Pei Pei ID 050323 utilizing the Submerged Arc Welding (SAW) Process in the 1G Position with ZPMC WPS WPS-B-T-3221-B-U3c-S-1, to weld a butt splice between piece marks p969 and SA325 of 65M (N) Upper Tower Diaphragm SA325 at WJ NSD1-SA325-1B. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

SAW 1G 65M Lower Tower Diaphragm SA325 – WJ NSD1-SA325-1A/1B 1 Welder.



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**Summary of Conversations:**

As noted in the above body of this report.

**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 Joshua Ishibashi, 13764710411, 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>	Wright,Mark	QA Reviewer

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