

**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-006199**Date Inspected:** 05-Apr-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 Tao**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 segments**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

**Outside Deck Panel Repair Area**

QA performed repair Phased Array Ultrasonic Testing (PAUT) following the guide lines of UT procedure titled "Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds" after ZPMC welding personnel performed repairs in the tacked areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plate. The deck panels examined are as follows:

DP-411-001 (0 of 1 area rejected), DP-276-001 (0 of 1 area rejected), DP-273-001 (0 of 4 areas rejected)

NOTE: The following are the dbS reference levels obtained from known cracks in two macroetch samples:

2mm macroetch crack sample 5-9 DP-564: 21 dbS.

4mm macroetch crack sample 5-6 DP-564: 15 dbS.

OBG outside assembly (segments 4AW and 4BW)

This QA observed that ZPMC personnel have removed longitudinal diaphragm identified as LD17H on

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segment 4BW at PP026. According to Caltrans QA task leader this issue has already been addressed by other Caltrans QA inspectors and ZPMC is working on submitting to Caltrans a procedure to repair by welding and re-install this diaphragm.

This QA observed ZPMC qualified welding personnel identified as 220064 perform FCAW welding on weld joint identified as OBW4-003. ZPMC QC identified as Mr. Guo Xing Hui was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2231.

This QA observed ZPMC qualified welding personnel identified as 220068 perform FCAW welding on weld joint identified as OBW4-002. ZPMC QC identified as Mr. Guo Xing Hui was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2233-T.

This QA observed ZPMC qualified welding personnel identified as 048617 perform SMAW welding on weld joint identified as OBW4-001. ZPMC QC identified as Mr. Guo Xing Hui was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-P-2213-B-U2-FCM.

This QA observed ZPMC qualified welding personnel identified as 054467 perform SMAW welding on weld joint identified as OBW4-005. ZPMC QC identified as Mr. Guo Xing Hui was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-P-2213-B-U2-FCM.

This QA observed ZPMC qualified welding personnel identified as 048659 perform SMAW root welding on weld joint identified as OBW4-003. ZPMC QC identified as Mr. Shi Lin was present to monitor the welding process. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-345-SMAW-1G (1F)-FCM-repair.

OBG outside assembly (segment 4BE)

This QA along with 2 other Caltrans QA inspectors performed Visual Testing (VT) on above mentioned OBG segment after ZPMC sand blasted the interior of said OBG. VT revealed several weld and material surface discontinuities which required additional grinding and 4 discontinuities requiring weld repair. The areas in need of weld repair have been recorded on a Caltrans weld repair tracking log.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.

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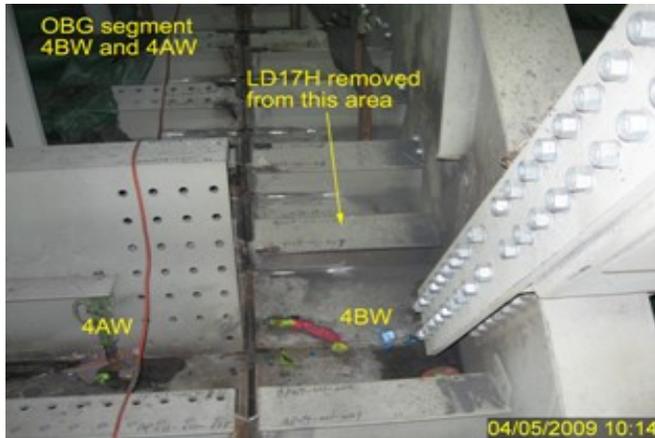
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## Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

## 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 Patrick Lowry (858)-344-2712, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hall, Steven	Quality Assurance Inspector
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<b>Reviewed By:</b>	Carreon, Albert	QA Reviewer
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