

**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-005490**Date Inspected:** 22-Feb-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:** Zhu Zhong Hai**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 cross beams**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:

OBG bay 19

This QA received ZPMC Non Destructive Testing (NDT) notification No. 002045 and performed Ultrasonic Testing (UT) of approximately 10% of the welds previously tested and accepted by ZPMC Quality Control (QC) personnel. This QA generated a UT report for this date. The weld designations are as follows: BP025-001-001, 002 and 003, BP026-001-001, 002 and 003.

This QA noted that ZPMC QC UT technicians have rejected the following welds and weld repairs: R1 repairs on BP025-002-001, R1 repairs on BP026-002-001 and initial UT on BP025-002-003.

This QA observed ZPMC qualified welding personnel identified as Mr. Fei Xiang (062751) perform FCAW welding on suspension bracket identified as SB002-016. ZPMC QC identified as Mr. Zhu Kai 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-2132-3.

This QA observed ZPMC qualified welding personnel identified as Mr. Chen Zhoushan (062750) and Mr. Shi Xianqiang (062794) perform FCAW welding on suspension bracket identified as SB004-010. ZPMC QC identified as Mr. Zhu Kai 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-2132-3.

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This QA observed ZPMC qualified welding personnel identified as Mr. Zhang Chao (062739) perform FCAW welding on suspension bracket identified as SB006-028. ZPMC QC identified as Mr. Zhu Kai 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-2132-3.

This QA observed ZPMC personnel tack welding various cross beam bottom panel splice joints through out the bay.

This QA observed ZPMC qualified welding personnel buttering the edge of floor beam component identified on the material as FB215A. QA noted that the material was marked as SPCM material. This QA spoke with ABF QA inspector identified as Mr. Kelvin Cheung concerning the reason this plate was being buttered. Mr. Cheung contacted ZPMC QC CWI identified as Mr. Zhu Zhong Hai who produced a weld repair report identified as weld repair report no. B-WR2466. The report indicated that the part was 10mm too narrow and was buttered 10mm to 12mm along the entire edge of the plate (approximately 6m to 7m in length). This QA informed both ZPMC QC and ABF QA inspectors that due to the fact that the material was classified as SPCM and the buttering exceeded  $\frac{1}{4}$  of the thickness of the material (12mm) a Critical Weld Repair CWR was needed to perform this repair as specified in AWS D1.5 2002 section 12.17.2 (7). ZPMC QC informed this QA that a CWR had not been submitted to the engineer for approval prior to beginning the repair. This QA informed ZPMC QC and ABF QA that an incident report would be issued for this non compliance. See attached photos.

This QA observed ZPMC welding personnel were wrapping the welds around the ends of the stiffeners on the suspension brackets. This QA informed ZPMC QC CWI identified as Mr. Zhu Zhong Hai and ABF QA identified as Mr. Kelvin Cheung of this non compliance to the drawings. General notes drawing GN3 detail WT1 specifies a typical weld termination for all stiffener welds. The detail indicates the weld be terminated at or near the end of the joint without wrapping the end. QA has issued an incident report for this non compliance. See attached photos.

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

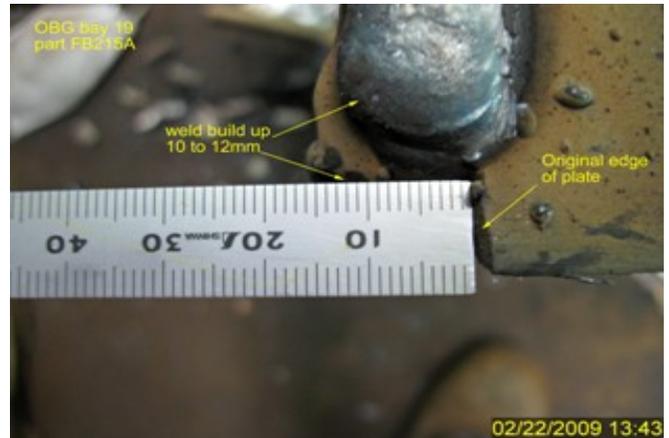
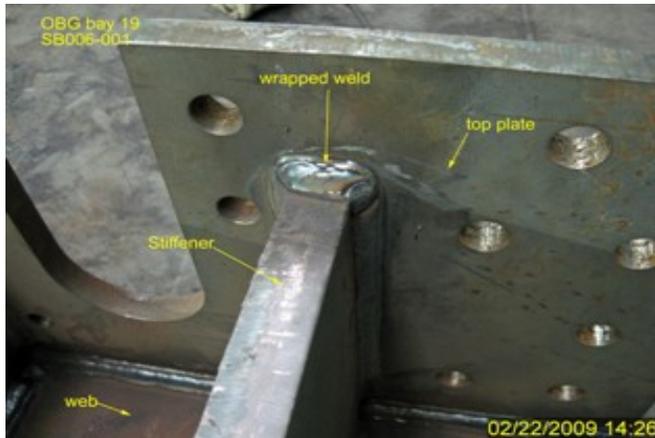


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## Summary of Conversations:

As mentioned above.

## 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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