

**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-001246**Date Inspected:** 14-Dec-2007**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:** Xu Lefeng**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**Summary of Items Observed:**

CALTRANS Quality Assurance (QA) Inspector, Alfredo Acuna was present for the fabrication scheduled for this project at the ZPMC facility in Shanghai, China for the San Francisco Oakland Bay Self Anchored Suspension Bridge.

Item Description	WBS	Dwg No.	Status
1 Witnessing UT examination at the interior splice MA-65 Tower Mock-up 114 M The QA inspector witnessed ZPMC Quality Control inspector Ms. E Shuiqin and Mr. Xue Hai Rong performing preliminary ultrasonic testing (UT) at the junction of the interior splice MA-65 and longitudinal stiffeners weld joints # 1 and 2 scanning from sides A, B and C. The QA inspector observed that Ms. E Shuiqin and Mr. Xue Hai Rong marked on the steel that the welds were acceptable.			

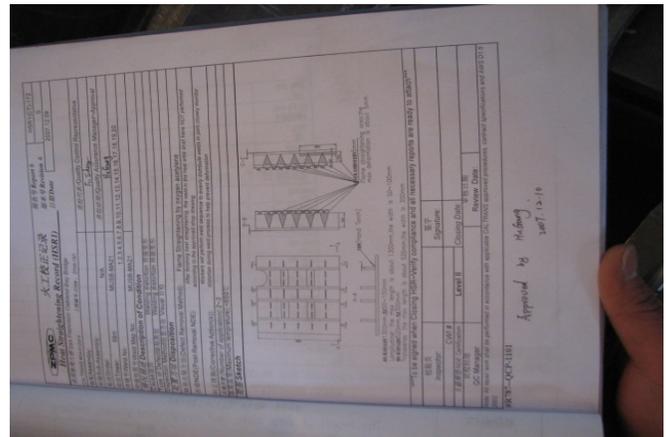
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## 2 Heat straightening operations at the Skin A Tower Mock-up 89M

The QA inspector observed ZPMC personnel performing heat straightening operations at the Skin panel A. The heat straightening operations appeared to be in compliance with the HSR1 (CT)-172. The photographs below shows ZPMC performing heat straightening operations and the HSR1 (CT)-172 report.



## 3 Tower Mock-up 89 M MT verifications

The QA inspector observed ZPMC performing magnetic particle testing (MT) verifications on the root passes at the junction of the Skin E and doubler plate weld joints 1 thru 4, and at the partial penetration welds cover passes at the junction of the longitudinal stiffeners and skin plate weld joints # 1 thru 4 on Tower Mock-up 89 meters elevation. The QA inspector observed that ZPMC's verifications appeared to be in compliance with the contract documents. See photographs below.

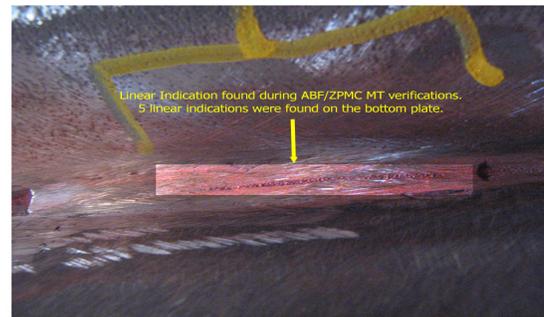
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## 4 OBG ABF MT verifications

The QA inspector observed ABF representatives Kevin Dye and Dave LaRue performing magnetic particle testing (MT) verifications for information. The QA inspector had a conversation with Mr. David LaRue, Mr. Kevin Dye and ZPMC representative Mr. Xu Jun. ZPMC and ABF representatives informed that ABF found 5 cracks on tack welds. The photograph below shows Mr. David LaRue and Mr. Kevin Dye performing MT verifications and a tack weld with a linear indication on the middle. The QA inspector questioned Mr. Xu Jun what is ZPMC doing to prevent the tack welds. ZPMC representative did not answer the question.



## 5 SA-24 Subassembly CWR # 027 Tower Mock-up 89 M

The QA inspector observed ZPMC air carbon arc gouged the weld repair for the CWR # 027 at the joint # 10, located at SA-24 subassembly for the Tower Mock-up 89 M. ZPMC removed approximately 30 mm of weld metal at this location. The photograph below show the area excavated.

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## 6 Tower Splice 114 M Lower Section

The QA inspector observed that ZPMC was performing welding operation at the junction of the skin E and D for the lower section from the Tower Mock-up 114. The QA inspector performed random verifications of the welding sequences. The QA inspector found that the welding sequences appeared to be in accordance with ZPMC's fabrication procedure.



### Summary of Conversations:

As noted 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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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**Inspected By:** Acuna, Alfredo

Quality Assurance Inspector

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**Reviewed By:** Carreon, Albert

QA Reviewer