

**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-001966**Date Inspected:** 01-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

**CWI Name:** Zhu Zhonghai  
**Inspected CWI report:** Yes No N/A  
**Electrode to specification:** Yes No N/A  
**Qualified Welders:** Yes No N/A  
**Approved Drawings:** Yes No N/A

**CWI Present:** Yes No  
**Rod Oven in Use:** Yes No N/A  
**Weld Procedures Followed:** Yes No N/A  
**Verified Joint Fit-up:** Yes No N/A  
**Approved WPS:** Yes No N/A  
**Delayed / Cancelled:** Yes No N/A

**Bridge No:** 34-0006**Component:** Tower and OBG**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mike Hasler was present to observe the fitup, welding and related activities associated with the fabricating of Caltrans Mock-up, 77M, 89M, 114M, Orthotropic Box Girders (OBG) and Tower, for the San Francisco Oakland Bay Self Anchored Suspension Bridge, at Zhenhua Port Machinery Company (ZPMC) facility on Changxing Island.

Item Description	WBS	Dwg No.	Status
1 Tower Skin Plate	NA	NA	ZPMC Heat Straightening

New Tower Shop: The Caltrans QA Inspector observed ZPMC performing flame heat straightening operations on tower skin plates for mill induced distortion. The tower skin plates and heat straightening procedures are identified as skin plate P123 (N)-P1302 (W), procedure HSR1 (T) 444, revision (0), skin plate P375 (E), procedure HSR1 (T)-449, revision 0 and P123 (S)-P1302 (E) procedure, HSR1 (T)-447, revision 0. Caltrans QA observed ZPMC heating the plate manually with a rose-bud torch. Caltrans QA observed ZPMC Quality Control Inspectors, Mr. Xu Le feng and Mr. Huang Shuai monitoring the heat straightening of the plates using a calibrated infra-red temperature indicating device to monitor the heat. The following digital picture illustrates heat straightening in progress.

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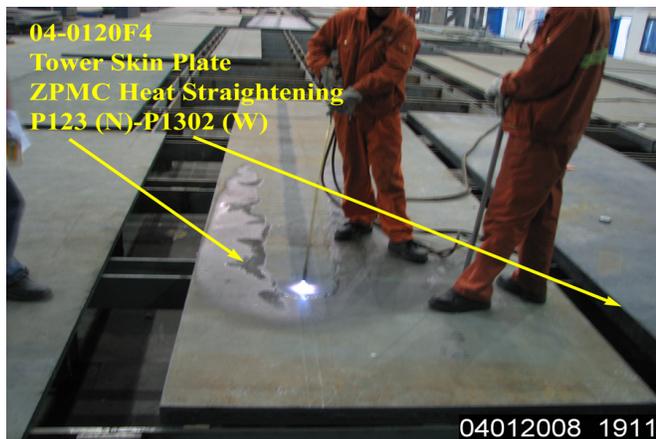
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# WELDING INSPECTION REPORT

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|---|------------------|----|----|---------------------|
| 2 | Tower Skin Plate | NA | NA | Welding in Progress |
|---|------------------|----|----|---------------------|
- New Tower Shop Bay 1: Caltrans QA Inspector observed submerged arc welding (SAW), complete joint penetration (CJP) skin plate splice, root weld pass. The subassembly is identified as skin plate SA15 (S) to SA17 (S), weld location SSD1-SA15 A/F -13A. The welder operator is identified as Mr. Xu Yan, welder stamp 052917. The welder is observed using welding procedure specification, WPS-B-T-2221-B-U3c-S-1, revision 0. Caltrans QA measured current welding parameters at approximately 510 amps, 30.0 volts and 450mm/min (millimeters per minute) travel speed. Caltrans QA verified preheat and interpass temperatures during welding activities. The preheat temperature prior to the start of welding measures more than 110 degrees Celsius but less than 230 degrees Celsius during maximum interpass temperature verification. Caltrans QA observed ZPMC Quality Control (QC/CWI), Mr. Zhu Zhonghai monitoring the welding activities at the work-station.
- |   |            |    |    |       |
|---|------------|----|----|-------|
| 3 | Deck Plate | NA | NA | QA UT |
|---|------------|----|----|-------|
- Storage Yard Outside New OBG Shop- Caltrans QA Inspector performed an Ultrasonic Test (UT) inspection of the partial joint penetration (PJP) welds between the closed u-ribs and deck panel of DP014-001. Caltrans QA Inspector performed UT inspection on 15% of the full length of welds which have been previously UT inspected by ZPMC QC inspection personnel on the following weld joints: DP014-001-001, DP014-001-002, DP014-001-003, DP014-001-004, DP014-001-005, DP014-001-006, DP014-001-007 and DP014-001-008. Caltrans QA Inspector recorded the results of the UT inspection and generated an ultrasonic test report. See Caltrans Ultrasonic Test Report (TL-6027 Modified) dated April 01, 2008 for further information.
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|---|------------|----|----|-------|
| 4 | Deck Plate | NA | NA | QA UT |
|---|------------|----|----|-------|
- Storage Yard Outside New OBG Shop- Caltrans QA Inspector performed an Ultrasonic Test (UT) inspection of the partial joint penetration (PJP) welds between the closed u-ribs and deck panel of DP014-001. Caltrans QA Inspector performed UT inspection on 15% of the full length of welds which have been previously UT inspected by ZPMC QC inspection personnel on the following weld joints: DP014-001-001, DP014-001-002, DP014-001-003, DP014-001-004, DP014-001-005, DP014-001-006, DP014-001-007 and DP014-001-008. Caltrans QA Inspector recorded the results of the UT inspection and generated an ultrasonic test report. See Caltrans Ultrasonic Test Report (TL-6027 Modified) dated April 01, 2008 for further information.

### Summary of Conversations:

As identified within the contents 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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials

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for your project.

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<b>Inspected By:</b>	Hasler, Mike	Quality Assurance Inspector
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<b>Reviewed By:</b>	Cuellar, Robert	QA Reviewer
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