

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016671**Date Inspected:** 30-Aug-2010**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:** Zhao Chen Sun**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 Components**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

**TOWER JETTY**

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 006528

**Magnetic Particle Testing (MT)**

This QA inspector performed MT of the area previously tested and accepted by ZPMC Quality Control personnel.

This QA Inspector generated an MT report for this date. The member is identified as Tower Component. The weld designation/Location reviewed as follows:

**BASE MATERIAL REPAIR POINTS AFTER BLASTING (EXTERNAL) – SOUTH TOWER LIFT-2**

- 1) Skin 'B' –2660 mm from top and 150 mm from A/B corner.
- 2) Skin 'B' –77 meter elevation, 310 mm from B/C corner.
- 3) Skin 'C' –2.5 meter from top and 1010 mm from B/C corner.
- 4) Skin 'C' –2.5 meter from top and 1020 mm from B/C corner.
- 5) Skin 'E' –1250 mm from top and 1350 mm from D/E corner.

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 006534

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### Ultrasonic Testing (UT)

This QA inspector performed UT of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. The member is identified as Tower Component. The weld designation reviewed as follows:

LIFT-3 TOWER CROSS BRACING GUSSET PLATE

WD1 – GUSA3 – 3 – 109M – S – 3A/B

NOTE: - Due to component geometry it appears that ZPMC personnel could not perform 100% full volumetric UT testing of this weld joint.

This QA Inspector observed the following work in progress

### Shielded Metal Arc Welding (SMAW):

Weld joint # 29 located on North tower Lift-3 cross bracing gusset plate to small doubler plate ND1 – FASA3 – 1B/E. Welder is identified as 040690. ZPMC Quality Control (QC) Inspector is identified Zhao Chen Sun. The welding variables recorded by QC appeared to comply with the WPS – B – P – 4214– Tc – U4c.

Repair welding of a weld joint # 3B located on West tower Lift-3 cross bracing gusset plate WD1 – GUSA3 – 3 – 109M – W as per the weld repair report # T-WR3536. Welder is identified as 202323. ZPMC Quality Control (QC) Inspector is identified Zhao Chen Sun. The welding variables recorded by QC appeared to comply with the WPS – 345 – SMAW – 2G (2F) – Repair.

Weld joint # 30 located on North tower Lift-3 cross bracing gusset plate to small doubler plate ND1 – FASA3 – 1B/E. Welder is identified as 040690. ZPMC Quality Control (QC) Inspector is identified Zhao Chen Sun. The welding variables recorded by QC appeared to comply with the WPS – B – P – 4212 – Tc – U4c – 4.

(See attached photo)

### BAY#11

This QA Inspector observed the following work in progress

Weld joint # 2A located on Lift-5 Internal Splice Plate Stiffener WSD1 – SPSA5 – 7. Welder is identified as 046769. ZPMC Quality Control (QC) Inspector is identified as Shang Hai Long. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3211 – Tc – U5b – 1.

### Heat Straightening:

Heat Straightening being performed on Internal Splice Plate Stiffener identified as WSD1 – SPSA5 – 20 by oxy-acetylene flame method to remove the distortion that occurred after welding. ZPMC Quality Control (QC) Inspector is identified as Shang Hai Long present at the location. This activity appeared to comply with the Heat Straightening Report # HSR1 (T) – 11471. (See attached Photo)

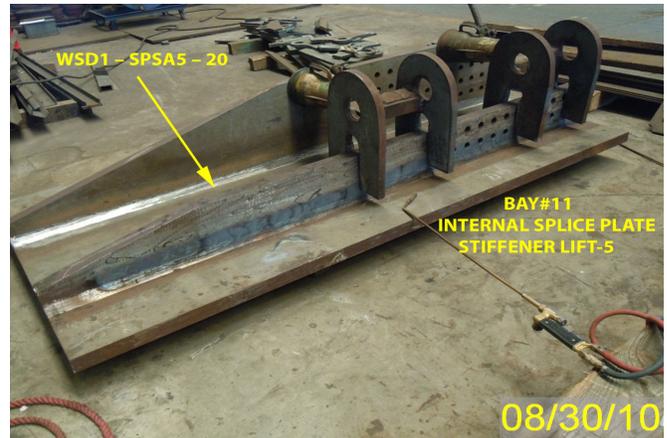
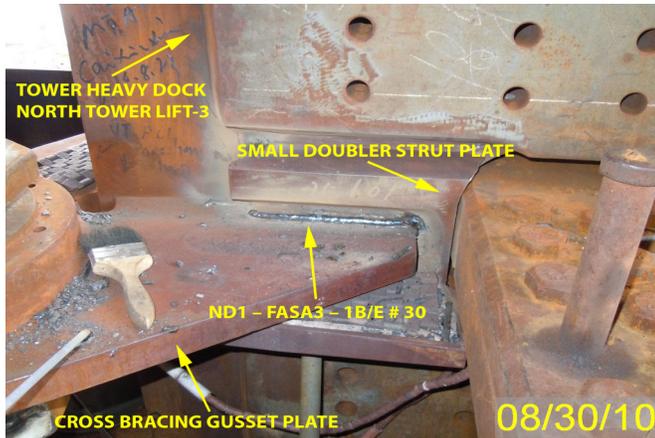
Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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## Summary of Conversations:

No Relevant Conversations.

## 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 Michael Ng - 15921845703, who represents the Office of Structural Materials for your project.

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**Inspected By:** Kumar,Sandeep

Quality Assurance Inspector

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**Reviewed By:** Clifford,William

QA Reviewer