

**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-015730**Date Inspected:** 10-Jul-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:** Yu Dong Ping  
**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 & OBG 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.

BAY#10

This QA Inspector observed the following work in progress

Shielded Metal Arc Welding (SMAW):

Weld joint # 3B located on Lift-5 Splice Plate Stiffener NSD1 – SPSA5 – 13. Welder is identified as 050289. ZPMC Quality Control (QC) Inspector is identified as Li Peng Fei. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3211 – Tc – U5b – 1.

Weld joint # 3A located on Lift-5 Splice Plate Stiffener NSD1 – SPSA5 – 13. Welder is identified as 050289. ZPMC Quality Control (QC) Inspector is identified as Li Peng Fei. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3211 – Tc – U5b – 1.

ORTHOTROPIC BOX GIRDER (OBG) LIFT-13 AT BAY#10

This QA Inspector observed the following work in progress

Fluxcored Arc Welding (FCAW):

Weld joint # 007 located on Edge Plate EP3026 – 001. Welder is identified as 053870. ZPMC Quality Control

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(QC) Inspector is identified as Yuan Hui Gang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2132.

Weld joint # 005 located on Edge Plate EP3026 – 001. Welder is identified as 040533. ZPMC Quality Control (QC) Inspector is identified as Yuan Hui Gang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2133.

Weld joint # 013 located on Edge Plate EP3026 – 001. Welder is identified as 040533. ZPMC Quality Control (QC) Inspector is identified as Yuan Hui Gang. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2132. (See attached photo)

BAY#11

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 006164

Ultrasonic Testing (UT)

This QA inspector performed UT of approximately 10% 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 designations reviewed are as follows:

TOWER STRUT

ND1 – STSA4 – 6 – 127M – 1 – 5A/B; 9A/B; 73A/B

This QA Inspector observed the following work not in compliance:

Description of Incident:

During random 10% verification Ultrasonic Testing (UT) of Tower Strut, this Quality Assurance Inspector (QA) discovered the following issue:

One (1) Class “A” non conforming longitudinal indication measuring approximately 15 mm in length.

The weld is a complete joint penetration (CJP) T-joint, joining Web to Flange and is identified as ND1-STSA4-6-127M-1.

The discontinuity rating is +9, Class “A” reject

Depth of the discontinuity from face B is approximately 15 mm, and Y location was 1500mm.

The Material thickness is 16 mm.

The member is SPCM (Seismic Performance Critical Member).

The member is located in fabrication Bay 11.

The indication is in an area previously tested and accepted by ZPMC QC UT technicians.

The Notice of Witness Inspection Number (NWIT) is 006164.

Applicable reference:

Special Provisions Section 8.3; “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5 Section 6.26.3.1; “Welds that are subject to UT in addition to visual inspection shall be acceptable if they meet the following requirements:...(1) Welds subject to tensile stress under any condition of loading shall

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conform to the requirements of Table 6.3...(2) Welds subject to compressive stress shall conform to the requirements of Table 6.4.”

AWS D1.5-02 Section 6; Table 6.3

This QA notified ZPMC CWI identified as Ms. Yu Dong Ping and ABF inspector identified as Mr. Zhao Xian he of the above issue and that an incident report will be generated.

For further information see below pictures:-

This QA Inspector observed the following work in progress

Shielded Metal Arc Welding (SMAW):

Weld joint # 2B located on Lift-5 Splice Plate Stiffener ESD1 – SPSA5 – 7. Welder is identified as 046709.

ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3211 – Tc – U5b – 1.

Weld joint # 3A located on Lift-5 Splice Plate Stiffener WSD1 – SPSA5 – 12. Welder is identified as 046704.

ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3211 – Tc – U5b – 1. (See attached photo)

Weld joint # 2A located on Lift-5 Splice Plate Stiffener ESD1 – SPSA5 – 12. Welder is identified as 040667.

ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3211 – Tc – U5b – 1.

Weld joint # 1A located on Lift-5 Splice Plate Stiffener WSD1 – SPSA5 – 20. Welder is identified as 040614.

ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3211 – Tc – U5b – 1.

**ORTHOTROPIC BOX GIRDER (OBG) LIFT-13 AT BAY#11**

This QA Inspector observed the following work in progress

Fluxcored Arc Welding (FCAW):

Weld joint # 98 located on Side Plate SP3105 – 001. Welder is identified as 049220. ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2132.

Weld joint # 99 located on Side Plate SP3105 – 001. Welder is identified as 040723. ZPMC Quality Control (QC) Inspector is identified as Ma Qian Li. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2132.

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

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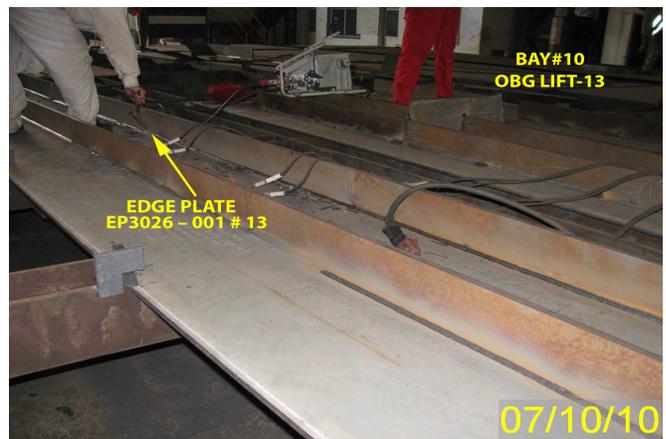
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## Summary of Conversations:

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

**Reviewed By:** Clifford,William

QA Reviewer

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