

**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-021446**Date Inspected:** 28-Feb-2011**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:** Lv Li Qing Xi/Geng Wei**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:**

On this date Caltrans OSM Quality Assurance (QA) Inspector, Nagalingam Pandaram Pillai was present during the times noted above for observations relative to the work being performed.

Ultrasonic Testing:-

BAY#14

This QA Inspector performed Ultrasonic testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality control personnel. This QA inspector generated a (UT) report for this date. The members are identified as 13AE Side plate stiffeners. The weld designation reviewed is as follows:

SEG3007E-076,066,061,041,046,126

SEG3007G- 096,080,061

During the Quality Assurance Ultrasonic Testing (UT) review of weld located on Orthotropic Box Girder (OBG) segment 13BE, this Quality Assurance Inspector (QA) discovered the following issue:

- One (1) longitudinal linear indication measuring approximately 10mm in length.
- The indication dB rating is a +7.
- The Material thickness is 25mm.
- The depth of the indication is approximately 22mm.
- The Y distance for this indication is 80 mm from top end of the weld.

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## WELDING INSPECTION REPORT

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- The weld is identified as SEG3009G-126 at Cross Beam Side, Panel Point PP119.65.
- This weld is Butt welds joining between Side panel stiffeners (RS3090J) to Side panel stiffeners (RS3090J).
- This weld joint is designated as Non-Seismic performance critical (Non-SPCM) weld member.
- The indication is clearly marked on or near the weld.
- The Segment 13AE is located at Bay#14.

The Notice of Witness Inspection (NWIT) No: 008415. The indication is located within an area previously tested and accepted by ZPMC Quality Control (QC) personnel. The above mentioned discrepancy was informed to ABF QA and ZPMC QC for further action. Please see the attached picture.

BAY#14

This QA Inspector performed Ultrasonic testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality control personnel. This QA inspector generated a (UT) report for this date. The members are identified as 14E Vertical Shear Plate to Bottom Panel. The weld designation reviewed is as follows:

SEG3019BB-147

During the Quality Assurance Ultrasonic Testing (UT) review of weld located on Orthotropic Box Girder (OBG) segment 14E, this Quality Assurance Inspector (QA) discovered the following issue:

- One (1) longitudinal linear indication measuring approximately 10mm in length.
- The indication dB rating is a +3.
- The Material thickness is 40mm.
- The depth of the indication is approximately 13mm.
- The Y distance for this indication is 490 mm from the Anchor plate side cope hole weld.
- The weld is identified as SEG3019BB-147.
- This weld is "T" welds joining between Vertical Shear Plate (SA3363A) to Bottom Panel (BP 3085A).
- This weld joint is designated as Seismic performance critical (SPCM) weld member.
- The indication is clearly marked on or near the weld.
- The Segment 14E is located at Bay#14.

The Notice of Witness Inspection (NWIT) No: 008419. The indication is located within an area previously tested and accepted by ZPMC Quality Control (QC) personnel. The above mentioned discrepancy was informed to ABF QA and ZPMC QC for further action. Please see the attached picture.

In process Inspection:-

BAY#14

This QA Inspector observed the following work in progress:

FCAW in the 2G position for the OBG Segment 13BE Deck panel diaphragm to Floor beam flange. The weld joint was designated as: SEG3009G-005. The welder is identified as #037705. ZPMC QC is identified as Mr. Zhong Yang Hong. The welding variables recorded by QC appear to comply with WPS-B-T-2232-ESAB.

This QA Inspector observed the following work in progress:

FCAW in the 3G position for the OBG Segment 13CE Deck panel diaphragm to Deck panel diaphragm. The weld

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joint was designated as: SA3214B-001-002. The welder is identified as #206623. ZPMC QC is identified as Mr. Zhong Yang Hong. The welding variables recorded by QC appear to comply with WPS-B-T-2233-ESAB.

This QA Inspector observed the following work in progress:

FCAW in the 2G position for the OBG Segment 13BE Deck panel diaphragm to Floor beam flange. The weld joint was designated as: SEG3009E-005. The welder is identified as #066882. ZPMC QC is identified as Mr. Zhong Guo Hui. The welding variables recorded by QC appear to comply with WPS-B-T-2232-ESAB.

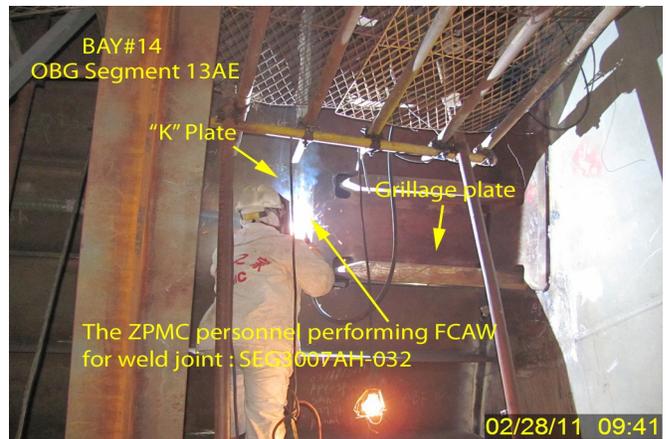
This QA inspector observed the following work in progress:

SMAW welding of weld joint no: SEG3011-007 located on OBG Segment 13CE Deck panel splice weld. Welder is identified as #066258. ZPMC QC is identified as Mr. Zhong Yang Hong. Welding was performed according to the weld repair report B-WR20228 .The welding variables recorded by QC appeared to comply with the WPS-345-SMAW-4G(4F)-FCM-Repair-1.

This QA Inspector observed the following work in progress:

FCAW in the 3G position for the OBG Segment 13AE "K" plate stiffener to Grillage plate. The weld joint was designated as: SEG3007AH-032. The welder is identified as #067877. ZPMC CWI is identified as Mr. Lv Li Qing. The welding variables recorded by QC appear to comply with WPS-B-T-2233-ESAB. Please see the attached picture.

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 Conversation.

## 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 Eric Tsang 150-0042-2372, who represents the Office of Structural Materials for your project.

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**Inspected By:** Pillai, Pandaram

Quality Assurance Inspector

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**Reviewed By:** Patel, Hiranch

QA Reviewer