

**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-022381**Date Inspected:** 01-Apr-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:** Li Yang and Zhu Zhong Hai**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 Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 12AE to Segment 12BE (U-Rib to U-Rib)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the U-Rib to U-Rib at the transverse splice between Panel Points (PP) 112.5 and PP 113 for Segment 12AE to Segment 12BE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00635 dated April 01, 2011.

The bolt sizes used were M22 x 65 RC Lot # DHGM220112 and the final torque value established was 343 N-m.

The bolt sizes used were M22 x 80 RC Lot # DHGM220118 and the final torque value established was 467 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Note: U-Rib located at 15th (between work point E4 towards E3) and 28th, 34th, 37th and 39th (between work

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point E3 towards E2) was not offered by ZPMC QC Mr. Zhang Hai Jung as Retro-fit splice plate and bolt assembly installation is in progress.

Please reference the pictures attached for more comprehensive details.

### Segment 13AW (Deck Panel I-Stiffener)

This QA Inspector observed the in-progress welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as DP3072-001-043. The welder identification was 066422 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-P-2213. The piece mark was identified as the weld connecting the Deck Panel I-Stiffener.

### Segment 13AE (Side Panel to Floor Beam)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as Seg3007AD-134. The welder identification was 067183 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-B-P-2214-Tc-U4b-FCM-1. The piece mark was identified as the weld connecting the Side Panel to Floor Beam at PP 119(+1500mm).

### Segment 13AW (Bottom Panel I- Stiffener to Floor Beam)

This QA Inspector observed the in-process welding by Flux Cored Arc Welding (FCAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as Seg3013C-053. The welder identification was 048433 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-2233-ESAB. The piece mark was identified as the weld connecting the Bottom Panel I-Stiffener to the Floor Beam between work points W4 to W14.

### Segment 13AW (Deck Panel Diaphragm to Deck Panel Diaphragm)

This QA Inspector observed the in-progress welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The Weld joint was designated as Seg3007G-003. The welder identification was 070007 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-P-2213-B-U2-FCM-1. The piece mark was identified as the weld connecting the Deck Panel Diaphragm to Deck Panel Diaphragm.

### Segment 12AE (Stiffeners welded to Bottom Panel to Full Height Longitudinal Diaphragm)

This QA Inspector observed the in-progress welding by Shielded Metal Arc Welding (SMAW) process on a Fillet weld. The welder identification was 040270 (welding at work point E3) and 052910 (welding at work point E4) and observed welding in the 2G (Horizontal) and 3G (Vertical) position using approved Welding Procedure Specification WPS-B-P-2112-FCM-1 and WPS-B-P-2113-FCM-1. The piece mark was identified as the weld connecting the Stiffeners welded to Bottom Panel to Full Height Longitudinal Diaphragm at work point E3 and E4.

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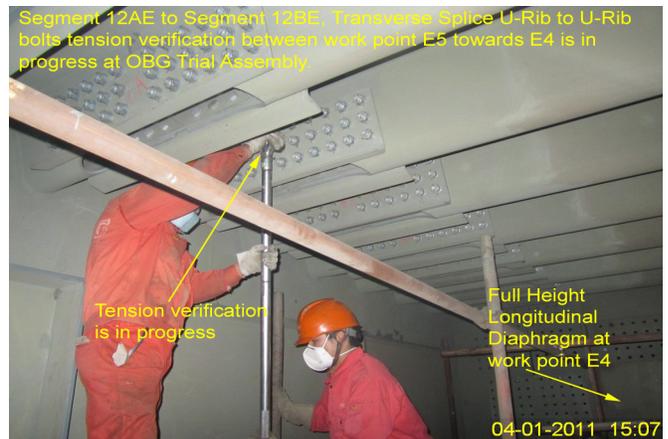
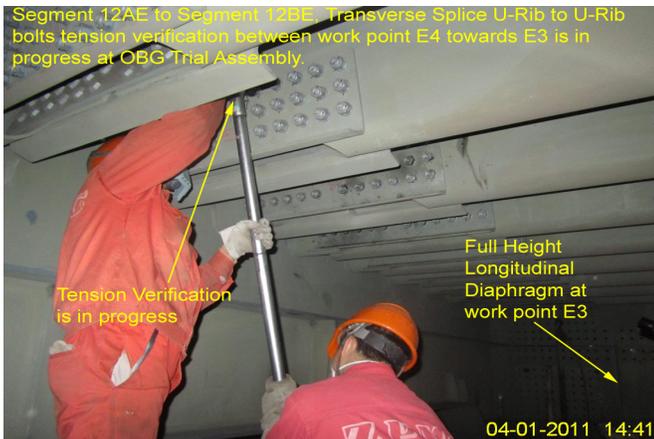
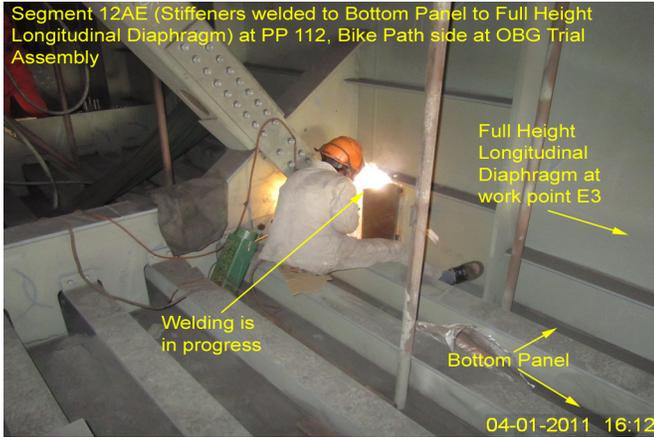
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Please reference the pictures attached for more comprehensive details.

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



## Summary of Conversations:

No relevant conversations were reported on this date.

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## 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 15000422372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Math,Manjunath	Quality Assurance Inspector
<b>Reviewed By:</b>	Miller,Mark	QA Reviewer

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