

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-022570**Date Inspected:** 11-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 12BE to 12CE (Transverse Splice T-Ribs)

This QA Inspector witnessed final bolt tension verification on bolts connecting T-Rib to T-Rib for Transverse Splice at Side Panel Bike Path Side (from work point E1 towards E3), Bottom Panel (from work point E3 towards E4) and Cross Beam side (from work point E4 to E6) between Panel Point (PP) 114.5 to PP 115 for Segment 12BE to 12CE. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00646, dated April 11, 2011.

The bolt sizes used were M22 x 65 RC Lot # DHGM220131 and the final torque value established was 380 N-m.

The bolt sizes used were M22 x 70 RC Lot # DHGM220041 and the final torque value established was 460 N-m.

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

WELDING INSPECTION REPORT

(Continued Page 2 of 6)

Please reference the pictures attached for more comprehensive details.

Segment 12BE to 12CE (Transverse Splice T-Ribs)

This QA Inspector performed Dimension Control Inspection on the Transverse Splice T-Ribs to T-Ribs after bolting for the Segment 12BE to Segment 12CE between Panel Point (PP) 114.5 to PP 115 at the following locations:

Work Point E1 towards Work Point E3 (Side Panel Bike Path Side) total 19 T-Ribs.

Work Point E3 towards Work Point E4 (Bottom Panel) total 18 T-Ribs.

The QA Inspector measured the Vertical Offset using 1(One) Meter Straight Edge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Note: Work Point E4 towards Work Point E6 (Side Panel, Cross Beam side) T-Ribs, dimension inspection after bolting was not performed due to design restrictions.

Segment 12AW to 12BW (Transverse Splice T-Ribs-Bolting)

This QA Inspector witnessed final bolt tension verification on bolts connecting T-Rib to T-Rib for Transverse Splice at Side Panel Cross Beam Side (from work point W6 towards W4), Bottom Panel (from work point W4 towards W3) and Counter Weight side (from work point W3 to W1) between Panel Point (PP) 112.5 to PP 113 for Segment 12AW to 12BW. Inspected the bolt tensioning on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00647 dated April 11, 2011.

The bolt sizes used were M22 x 65 RC Lot # DHGM220131 and the final torque value established was 380 N-m.

The bolt sizes used were M22 x 70 RC Lot # DHGM220041 and the final torque value established was 460 N-m.

The bolt sizes used were M22 x 85 RC Lot # DHGM220104 and the final torque value established was 380 N-m.

The Manual Torque wrench used was Serial No. XO2-777.

Please reference the pictures attached for more comprehensive details.

Segment 12AW to 12BW (Transverse Splice T-Ribs-Dimensional Inspection)

This QA Inspector performed Dimension Control Inspection on the Transverse Splice T-Ribs to T-Ribs after bolting for the Segment 12AW to Segment 12BW between Panel Point (PP) 112.5 to PP 113 at the following locations:

WELDING INSPECTION REPORT

(Continued Page 3 of 6)

Work Point W4 towards Work Point W3 (Bottom Panel) total 18 T-Ribs.

Work Point W3 towards Work Point W1 (Side Panel Counter Weight Side) total 19 T-Ribs.

The QA Inspector measured the Vertical Offset using 1(One) Meter Straight Edge.

The measurements were recorded in the Dimension Control Plan (DCP) on a separate form and submitted to the Lead Inspector and Engineer for review and disposition.

Segment 13BW (Deck Panel Diaphragm to Deck Panel)

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 DP3138-001-076. The welder identification was 045196 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 Deck Panel diaphragm to Deck Panel between U-Rib 1 and 2 (numbering reference taken from Counter Weight side to Cross Beam side).

Please reference the pictures attached for more comprehensive details.

Segment 13AE (Deck Panel Diaphragm to Deck Panel Diaphragm)

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 Seg3007Q-001. The welder identification was 066416 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 at PP 118 between work point W3 and work point W4.

Please reference the pictures attached for more comprehensive details.

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

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 Seg3013-004. The welder identification was 069683 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 Deck Panel to Deck Panel.

Segment 13AW (Pier E2 Floor Beam to Bulk Head Stiffener)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) weld. The weld joint was designated as Seg3013AD-076. The welder identification was 050242 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-Repair-FCM-1. The piece mark was identified as the weld connecting the Pier E2 Floor

WELDING INSPECTION REPORT

(Continued Page 4 of 6)

Beam to Bulk Head Stiffener between PP 119(+1500) to PP 119.65.

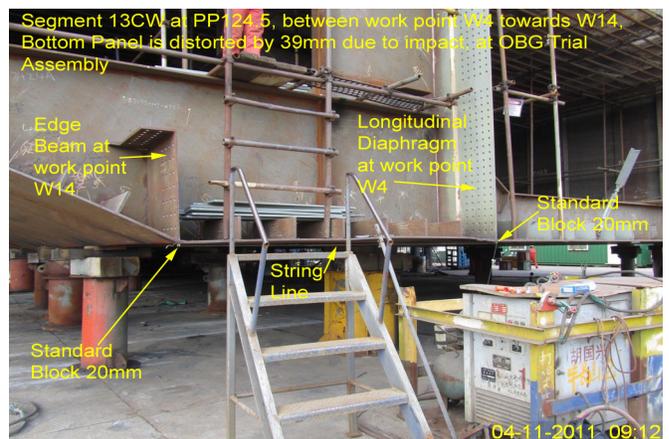
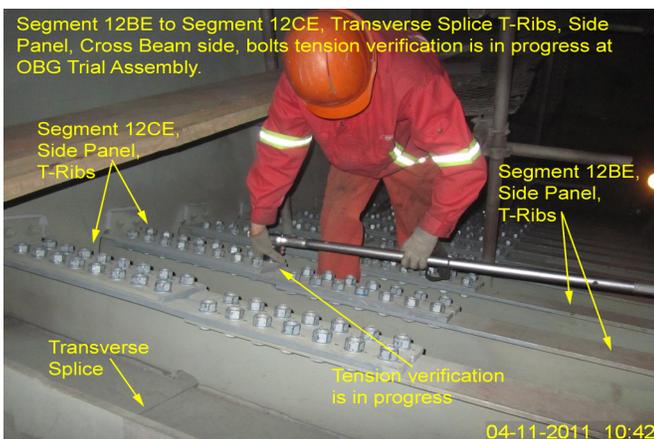
Segment 13CW (Distortion)

This QA Inspector during random Visual Inspection observed distortion at the Bottom Panel at PP 124.5 for Segment 13CW between work point W4 and work point W14. Measured the distortion by using a string line and recorded a distortion of 39mm.

Informed the Bottom Panel distortion to ZPMC QC Mr. Wang Xing Peng, ABF QA Mr. Cao Hai Zhou and ABF fabrication supervisor Mr. Peter Shaw and Caltrans Lead Inspector Mr. Mark Miller for further disposition.

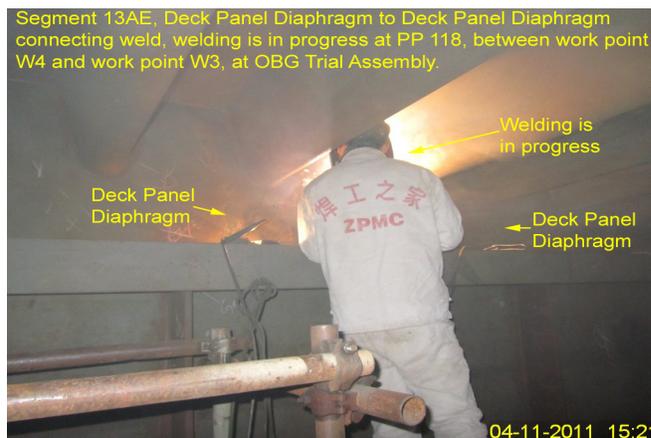
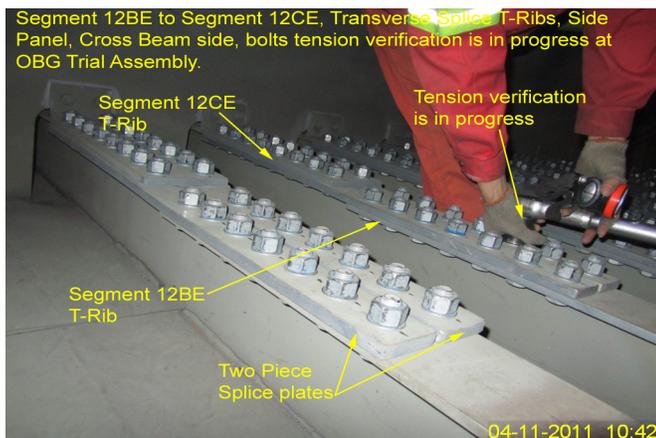
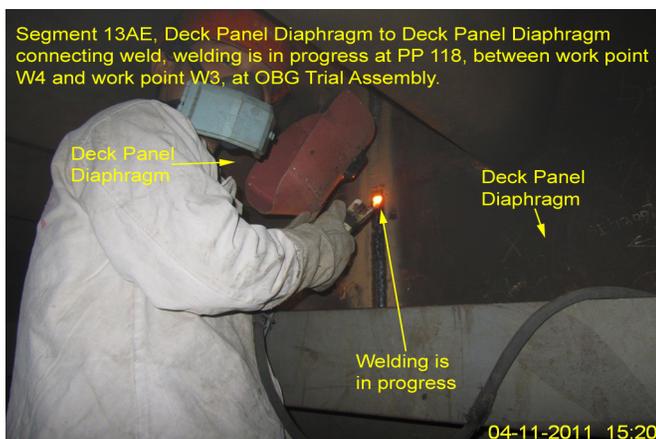
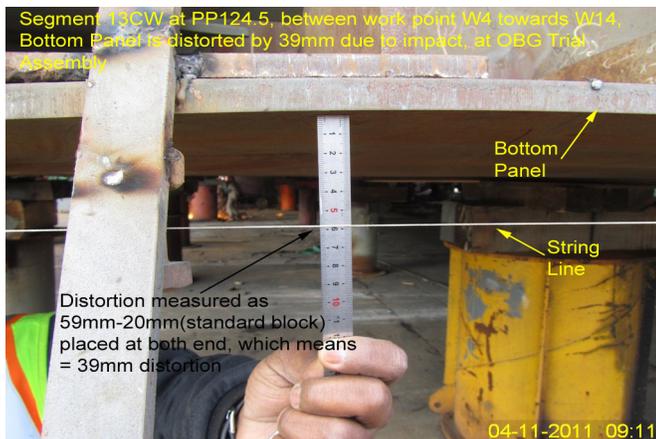
Please reference the pictures attached for more comprehensive details.

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



WELDING INSPECTION REPORT

(Continued Page 5 of 6)



Summary of Conversations:

No relevant conversations were reported on this date.

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.

WELDING INSPECTION REPORT

(Continued Page 6 of 6)

Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Miller,Mark	QA Reviewer
