

**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 #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019073**Date Inspected:** 09-Jan-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) Chanxing Island**Location:** Shanghai, China

|                                    |             |                                  |             |    |
|------------------------------------|-------------|----------------------------------|-------------|----|
| <b>CWI Name:</b>                   | Mr. Qui Wen | <b>CWI Present:</b>              | Yes         | No |
| <b>Inspected CWI report:</b>       | Yes No N/A  | <b>Rod Oven in Use:</b>          | Yes No N/A  |    |
| <b>Electrode to specification:</b> | Yes No N/A  | <b>Weld Procedures Followed:</b> | Yes No N/A  |    |
| <b>Qualified Welders:</b>          | Yes No N/A  | <b>Verified Joint Fit-up:</b>    | Yes No N/A  |    |
| <b>Approved Drawings:</b>          | Yes No N/A  | <b>Approved WPS:</b>             | Yes No N/A  |    |
|                                    |             | <b>Delayed / Cancelled:</b>      | Yes No N/A  |    |
| <b>Bridge No:</b>                  | 34-0006     | <b>Component:</b>                | OBG Segment |    |

**Summary of Items Observed:**

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

Ultrasonic Testing (UT) – NWIT Document No: 008101

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 members are identified as OBG Segment. The weld designations reviewed are as follows:

1. SEG3007Y-357, 359, 361, 363, 365, 417, 419
2. SEG3007Y-347, 349, 351, 353, 355, 413, 415

Magnetic Particle Testing (MT) – NWIT Document No's: 008113

This QA inspector performed MT of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an MT report for this date. The members are identified as OBG Segment. The weld designations reviewed are as follows:

1. SEG3007Y-124, 127, 128, 131, 132, 135, 136, 139, 140, 439

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This QA Inspector observed the following work in progress:

Flux Core Arc Welding (FCAW) welding of weld joint SEG3013P-158, 163 located on Floor Beam I-ribs Stiffener at panel point 118 of the OBG Segment 13AW. ZPMC Welder is identified as 045280. ZPMC Quality Control (QC) is identified as Mr. Liu Fang. The welding variables recorded by QC appeared to comply with the Applicable WPS- B-T-2233-ESAB.

Shielded Metal Arc Welding (SMAW) repair welding of weld joint SEG3013P-278 located on Floor Beam of OBG Segment 13AW. ZPMC Welder is identified as 067183. ZPMC Quality Control (QC) is identified as Mr. Liu Fang. The welding variables recorded by QC appeared to comply with the Applicable WPS-345-SMAW-3G (3F) – FCM – Repair, which is used as per Welding Repair Report (WRR) B-WRR-19924.

SMAW welding of weld joint SEG3013R-008 and 004 located on Key Plate to Floor Beam joint of OBG Segment 13AW. ZPMC Welder is identified as 066163. ZPMC Quality Control (QC) is identified as Mr. Liu Fang. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2213-Tc-U4b-FCM-1.

SMAW repair welding of weld joint SEG3014C-089 and 097 located on Bottom Plate to Floor Beam joint at panel point 122 of OBG Segment 13BW. ZPMC Welder is identified as 067993. ZPMC Quality Control (QC) is identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with the Applicable WPS-345-SMAW-3G (3F) – FCM – Repair, which is used as per Welding Repair Report (WRR) B-WRR-18318.

SMAW repair welding of weld joint SEG3015E-069 and 070 located on Side plate to Floor Beam joint panel point 124 of OBG Segment 13CW. ZPMC Welder is identified as 068917. ZPMC Quality Control (QC) is identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with the Applicable WPS-345-SMAW-3G (3F) – FCM – Repair, which is used as per Welding Repair Report (WRR) B-WRR-18318.

SMAW welding of weld joint SEG3020G-026 located on Floor Beam FB3334B to Floor Beam FB3339A of the OBG Segment 14W. ZPMC Welder is identified as 047860. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-B-U2-FCM.

SMAW welding of weld joint SEG3020F-026 located on Floor Beam FB3337A to Longitudinal Diaphragm LD3050A of the OBG Segment 14W. ZPMC Welder is identified as 066398. ZPMC Quality Control (QC) is identified as Mr. Zhu Lin. The welding variables recorded by QC appeared to comply with the Applicable WPS-B-P-2212-B-U2-FCM.

FCAW welding of weld joint SEG3020BB-064 located on Vertical Shear Plate to Bottom Plate of the OBG Segment 14W. ZPMC Welder is identified as 066236. ZPMC Quality Control (QC) is identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with the Applicable WPS- B-T-2232-ESAB.

FCAW welding of weld joint SEG3020BB-046 located on Vertical Shear Plate to Bottom Plate of the OBG Segment 14W. ZPMC Welder is identified as 066695. ZPMC Quality Control (QC) is identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with the Applicable WPS- B-T-2232-ESAB.

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FCAW welding of weld joint SEG3020BB-001 located on Vertical Shear Plate to Bottom Plate of the OBG Segment 14W. ZPMC Welder is identified as 067949. ZPMC Quality Control (QC) is identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with the Applicable WPS- B-T-2232-ESAB.

This QA inspector observed ABF personnel performed Magnetic Particle Testing on Floor beam and Longitudinal Diaphragm Stiffeners of the OBG Segment 13BW at panel point 120.5 north side.

ZPMC personnel performing heat straightening on deck plate of OBG Segment 13BW member identified as DP3130A, DP3131A and DP3132A. Distortion appeared to be caused by mishandling of the welding/material. ZPMC Quality Control (QC) inspector identified as Mr. Li Ming Yang was present to monitor the heat straightening process. The heat straightening appeared to comply with HSR1 (B) number 10040. See the attached picture.

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This QA Inspector observed the following work in progress:

SMAW repair welding of weld joint BK004A1-062-043 located on Side plate to Deck Plate of OBG Bike Path BK004A-062. ZPMC Welder is identified as 069894. ZPMC Quality Control (QC) is identified as Mr. Liu Chuan Gang. The welding variables recorded by QC appeared to comply with the Applicable WPS-345-SMAW-2G (2F) – Repair, which is used as per Critical Welding Repair Report (CWR) B-CWR-2481.

FCAW welding of weld joint BK004A8-064-002 and 007 located on the OBG bike path BK004A-064. ZPMC Welder is identified as 054459. ZPMC Quality Control (QC) is identified as Mr. Liu Chuan Gang. The welding variables recorded by QC appeared to comply with the Applicable WPS- B-T-2132-ESAB.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



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**Summary of Conversations:**

Only general conversation was held between QA and QC concerning this project.

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

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| <b>Inspected By:</b> | Kumar,Vibin   | Quality Assurance Inspector |
| <b>Reviewed By:</b>  | Patel,Hiranch | QA Reviewer                 |

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