

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-018337**Date Inspected:** 17-Nov-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:** Xu Le Feng, 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/TOWER**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

This Quality Assurance (QA) Inspector observed the following work in progress:

BAY 11

**OBG BIKE PATH, BOTTOM COVER PLATE**

FCAW welding of weld joint 018 located on BK008A2-002.

Welder is identified as 053316. ZPMC CWI is identified as Yu Dong Ping.

The welding variables recorded by QC appeared to comply with WPS-B-T-2231-B-L1b-F-1.

**TOWER BRACKET**

SMAW welding of weld joint 019B located on SD10BRSA5-1.

Welder is identified as 054460. ZPMC QC is identified as Mr. Xu Jie.

The welding variables recorded by QC appeared to comply with WPS-B-T-3213-Tc-U5b.

BAY 10

---

---

# WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

---

---

## U-RIB SPLICE PLATE

FCAW welding of weld joints 001 & 002 located on GGL-MQ-2021-25.

Welder is identified as 057180. ZPMC QC is identified as Mr. Li Peng Fei.

The welding variables recorded by QC appeared to comply with WPS-B-T-2232-Tc-U4b-F.

FCAW welding of weld joints 001 & 002 located on GGL-MQ-2021-33.

Welder is identified as 052763. ZPMC QC is identified as Mr. Li Peng Fei.

The welding variables recorded by QC appeared to comply with WPS-B-T-2232-Tc-U4b-F.

## TOWER FACADE

FCAW welding of weld joints 005 & 006 located on ND1-SFSA4-90-3.

Welder is identified as 057266. ZPMC QC is identified as Mr. Jiang Xiao Bo.

The welding variables recorded by QC appeared to comply with WPS-B-T-2132.

SMAW welding of weld joints 013 & 006 located on ND1-SFSA4-710-2.

Welder is identified as 057220. ZPMC QC is identified as Mr. Jiang Xiao Bo.

The welding variables recorded by QC appeared to comply with WPS-B-P-2114.

## BAY # 14

During random in process inspection this QA inspector recorded the data of weld joints identified for repair by ZPMC UT NDT personnel. These indications were clearly marked on the weld joints. The details are as follows:

### Lift 13 EAST

#### Segment 13CE

#### AT PP123:

Weld joint # SEG3011J-400, joining edge beam (EB3027) to floor beam (FB3154) excavated in full length 230mm.

Weld joint # SEG3011J-402, joining edge beam (EB3027) to floor beam (FB3154) excavated in 200mm length.

Weld joint # SEG3011J-401, joining edge beam (EB3026) to floor beam (FB3154) excavated in full length 230mm.

Weld joint # SEG3011J-403, joining edge beam (EB3026) to floor beam (FB3154) excavated in 120mm length.

Weld joint # SEG3011J-069 of floor beam FB3154 marked as UT reject for 10mm length.

#### AT PP122.5:

Weld joint # SEG3011L-226, joining edge beam (EB3027) to floor beam (FB3150) excavated in full length 230mm.

Weld joint # SEG3011L-228, joining edge beam (EB3027) to floor beam (FB3150) excavated at two locations in 300mm and 200mm length.

#### AT PP123.5:

Weld joint # SEG3011G-400, joining edge beam (EB3026) to floor beam (FB3158) marked as UT reject for 25mm length.

Weld joint # SEG3011G-402, joining edge beam (EB3026) to floor beam (FB3158) excavated in 180mm length.

---

---

## WELDING INSPECTION REPORT

( Continued Page 3 of 4 )

---

---

Weld joint # SEG3011G-401, joining edge beam (EB3025) to floor beam (FB3158) excavated in 70mm length.

Weld joint # SEG3011G-403, joining edge beam (EB3025) to floor beam (FB3158) excavated in 150mm length and marked as UT reject for 20mm length.

Weld joint # SEG3011G-069 of floor beam FB3158 marked as UT reject for 25mm length.

AT PP124:

Weld joint # SEG3011E-400, joining edge beam (EB3025) to floor beam (FB3162) marked as UT reject for 100mm length.

Weld joint # SEG3011E-401, joining edge beam (EB3025) to floor beam (FB3162) excavated in 100mm length.

Weld joint # SEG3011E-069 of floor beam FB3162 marked as UT reject for 80mm length.

AT PP124.5:

Weld joint # SEG3011C-257 of floor beam FB3166 at panel point PP124.5 marked as UT reject at two locations for 30mm and 130mm length.

During random in process inspection this QA inspector observed that the preheat was not proper during repair welding of Complete Joint Penetration (CJP) weld between stiffener to floor beam. The weld joint is identified as SEG3011C-094. The welder is identified as 054013. This issue has been discussed with ZPMC CWI Mr. Geng Wei. This repair welding was then done as per WPS-345-SMAW-3G(3F)-REPAIR.

### ARC STRIKE

During random in process inspection of Orthotropic Box Girder (OBG) member identified as Floor beam this QA observed arc strikes on Piece Mark (PCMK) identified as 13E-FB3158 near panel point PP123.5. This QA marked the affected areas and informed ZPMC Quality Control (QC) indentified as Mr. Lv Li Qing of this issue. Mr. Lv Li Qing informed this QA that the arc strikes would be corrected in a manner compliant with the contract documents. Attached photograph provides additional information.

### LIFT 14 EAST

During random in process inspection this QA inspector recorded the data of repair weld joints. The Ultrasonic Testing (UT) performed by ZPMC NDT personnel on Complete Joint Penetration (CJP) weld joints of Longitudinal Diaphragm (LD3042) to Bottom plate of lift 14 and founds numbers of non conforming UT indications. Those indications were clearly marked on the weld joints. The details are as follows:

Weld joint # SEG3019AB-091, 12 nos of UT rejectable indications were observed with cumulative length 460mm. Attached photograph provides additional information.

Weld joint # SEG3019AB-092, 06 nos of UT rejectable indications were observed with cumulative length 260mm.

Weld joint # SEG3019AB-093, 05 nos of UT rejectable indications were observed with cumulative length 230mm.

Weld joint # SEG3019AB-094, 02 nos of UT rejectable indications were observed with cumulative length 125mm.

Weld joint # SEG3019AB-095, 08 nos of UT rejectable indications were observed with cumulative length 300mm.

Weld joint # SEG3019AB-096, 02 nos of UT rejectable indications were observed with cumulative length 60mm.

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

---

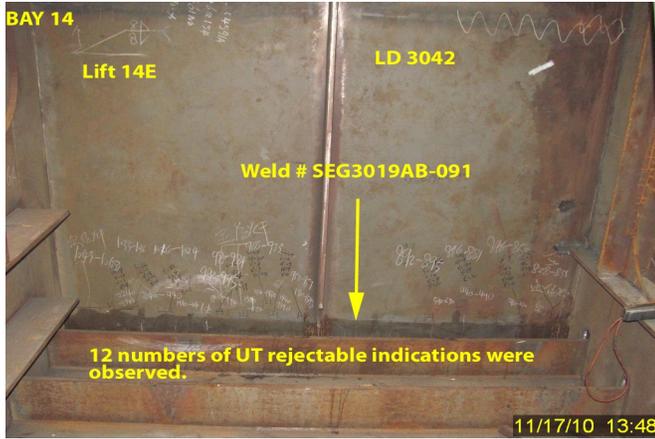
---

# WELDING INSPECTION REPORT

( Continued Page 4 of 4 )

---

---



## 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 Eric Tsang : 15000422372/ Thomas Ho - 150002048250, who represents the Office of Structural Materials for your project.

---

**Inspected By:** Gaikwad, Umesh

Quality Assurance Inspector

---

**Reviewed By:** Clifford, William

QA Reviewer