

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-010964**Date Inspected:** 28-Dec-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Liu Fawen**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:** Orthotropic Box Girder (OBG) Components**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

BAY 2

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 004950

Magnetic Particle Testing (MT)

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 Components. The weld designations reviewed are as follows:

1. FB3073 – 004 – 001; 003~006
2. FB3073 – 003 – 001~003; 005 & 006
3. FB3014 – 002 – 001~006

This QA Inspector observed the following work in progress:

Flux Core Arc Welding (FCAW):

Weld joint # 069 located on Longitudinal Diaphragm LD3019 – 001. Welder is identified as 045209. ZPMC Quality Control (QC) Inspector is identified as Zhang Hai Feng. The welding variables recorded by QC appeared

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to comply with the WPS – B – T – 2232 – Tc – U5 – F.

Weld joint # 036 located on Longitudinal Diaphragm LD3021 – 001. Welder is identified as 045227. ZPMC Quality Control (QC) Inspector is identified as Zhang Hai Feng. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2132 – 3.

This QA Inspector observed the following work not in compliance:

During Magnetic Particle Testing (MT) review of welds on Lift 12 Floor beam (FL2), this Quality Assurance Inspector (QA) discovered the following issues:

- One (1) transverse linear indication measuring approximately 5mm in length.
- The member is identified as Floor Beam FB3073-003.
- The weld is identified as FB3073-003-004.
- The weld is a Fillet weld T-joint joining the web plate (X3210C) to the diaphragm flange plate (X3160G).
- The member is located in OBG Bay 2.

The Notice of Witness Inspection Number (NWIT) is 004950. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform Twenty five (25%) percent MT inspection of this weld.

Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5 (02) Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

This QA notified ZPMC QC identified as Mr.Zhang Hai Feng and ABF inspector identified as Mr. Luo Gui Lin of the above issue and that an incident report will be generated.

See attached photos:

BAY 3

This QA Inspector observed the following work in progress:

Flux Core Arc Welding (FCAW):

Weld joint # 237 located on Corner Assembly CA3004C. Welder is identified as 208035. ZPMC Quality Control (QC) Inspector is identified as Guo Yuan Ting. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2132 – 3.

Weld joint # 044 located on Cross Beam CB202G – 041. Welder is identified as 058102. ZPMC Quality Control (QC) Inspector is identified as Guo Yuan Ting. The welding variables recorded by QC appeared to comply with the WPS – B – P – 2113 – FCM – 1.

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Weld joint # 010 located on Cross Beam CB202G – 044. Welder is identified as 204338. ZPMC Quality Control (QC) Inspector is identified as Guo Yuan Ting. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2113.

BAY 5

This QA Inspector observed the following work in progress:

Flux Core Arc Welding (FCAW):

Weld joint # 014 located on Traveler Rail 10TR1 – 016. Welder is identified as 066734. ZPMC Quality Control (QC) Inspector is identified as Zhong Chong Biao. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U5 – F.

Weld joint # 014 located on Traveler Rail 10TR2 – 002. Welder is identified as 204342. ZPMC Quality Control (QC) Inspector is identified as Zhong Chong Biao. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U5 – F.

Weld joint # 014 located on Traveler Rail 11TR12 – 002. Welder is identified as 067275. ZPMC Quality Control (QC) Inspector is identified as Zhong Chong Biao. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U5 – F.

Weld joint # 014 located on Traveler Rail 11TR1 – 010. Welder is identified as 217185. ZPMC Quality Control (QC) Inspector is identified as Zhong Chong Biao. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U5 – F.

BAY 7

This QA Inspector observed the following work in progress:

Flux Core Arc Welding (FCAW):

Weld joint # 001 located on Traveler Rail 22TR4 – 001. Welder is identified as 066695. ZPMC Quality Control (QC) Inspector is identified as Zhou Jie. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U5 – F.

Weld joint # 007 located on Traveler Rail 22TR3 – 003. Welder is identified as 053742. ZPMC Quality Control (QC) Inspector is identified as Zhou Jie. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U5 – F.

BAY 8

This QA Inspector observed the following work in progress:

Flux Core Arc Welding (FCAW):

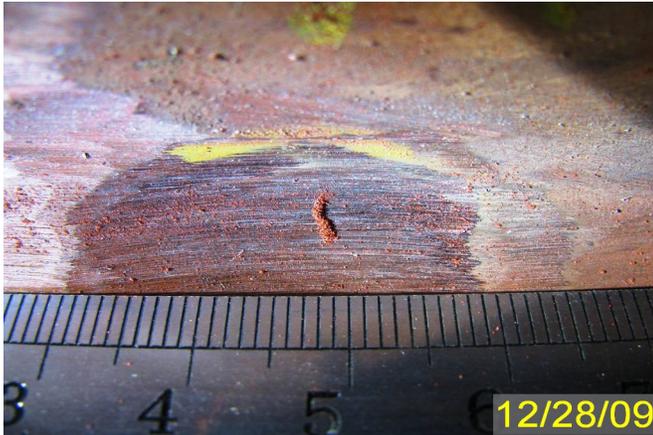
Weld joint # 021 located on Floor Beam FB3057 – 053. Welder is identified as 215082. ZPMC Quality Control

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(QC) Inspector is identified as Zhao Cheng Jian. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2232 – Tc – U4b – F.

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



Summary of Conversations:

No Relevant Conversations.

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.

Inspected By: Kumar, Sandeep

Quality Assurance Inspector

Reviewed By: Hall, Steven

QA Reviewer