

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-001626**Date Inspected:** 16-Feb-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai China

CWI Name:	Lay Ta Ho, Yu Dong Jun, Cui Yi			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:** Tower mock-ups, floor beams, WT stiffeners**Summary of Items Observed:**

89m mock-up

This Quality Assurance (QA) inspector arrived at ZPMC for observation at the tower shop for the 89m mock-up. This QA inspector witnessed ZPMC Magnetic Particle (MT) technician Cain Xin Xin perform MT on plate number Sa 194 root pass two horizontal and one vertical weld was inspected with non-destructive testing (NDT) (see digital photo 3 below) it was relayed to the QA inspector that the root pass was acceptable with no rejectable indications noted. ZPMC welding personnel Pan Meng then proceeded with the flux cored arc welding process (FCAW) using welding procedure specification number WPS-B-T-2233-B-U2a-F. This QA inspector verified the welding parameters along with ZPMC Quality Control personnel with the following parameters; 201 amps, 25.8 volts and a travel speed of 117 mm/min. The welder appeared to be using proper interpass cleaning with a chipping hammer and brush. The work continued for the remainder of this QA inspector shift and appeared to be within the general requirements of the contract documents.

WT stiffeners

This Quality Assurance (QA) Inspector arrived at ZPMC for periodic observation of the WT stiffeners located in bay 3. During this QA inspector observation it was noted in bay 3 that ZPMC was using a mag drill placing bolted connection holes in the flanges of the WT stiffeners. A template was being used as a guide for placement and accuracy of the bolt holes. Further down in the bay it was observed by this QA inspector that ZPMC personnel was using electric grinders for the removal of paint at the locations for the WT stiffeners to be fitted up to prevent welding over the painted surfaces as required by code. (not to weld over paint rust oil ..Etc.) No welding was present at the times this QA inspector was performing his observation. The work stated above appeared to be within general requirements of the contract documents.

Heat straightening

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This Quality Assurance (QA) Inspector arrived at ZPMC for periodic observation of the heat straightening of the diaphragm plates. Plate number P546 43m top was observed by this QA inspector as ZPMC Quality control personnel Xu Tao and Yu Dong Jun (CWI) was monitoring the heat inputs as applied with a oxygen acetylene rose bud to a temperature of no more than 600°C (see digital photo 2 below). The temperatures that were recorded by the QC personnel were as follows; 10:10am 550°C, 10:20am 524°C, 10:37am 520°C and 1:05pm 522°C. This appeared to be within the required heat tolerances. The member detailed above had straightness of less than 2mm out of flatness. The work stated above appeared to be within the general requirements of the contract documents.

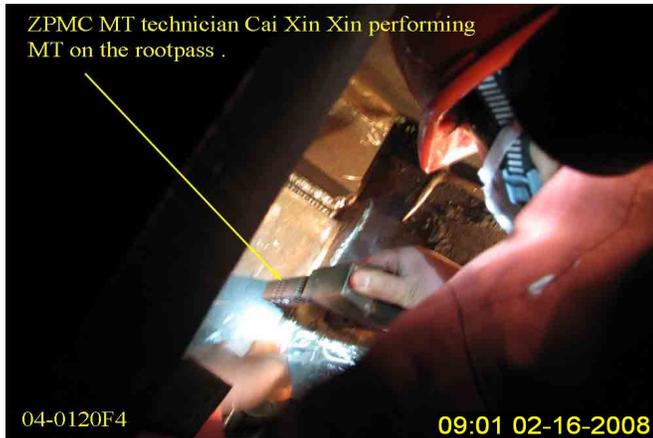
Floor Beams

This Quality Assurance (QA) Inspector arrived at ZPMC for periodic observation of the floor beams located in bay 7 at ZPMC. This QA inspector observed ZPMC personnel performing repairs at the flanges for the complete joint penetration weldments. There were 7 locations to be repaired today as relayed to the QA inspector by ZPMC QC personnel Cui Yi Ru. The following are the repair locations for the floor beams as numbered as FB007-02-043, FB008-05-043, FB007-06-045, FB015-01-043, FB007-03-043, FB002-03-043 and FB007-06-045. This QA inspector was informed by ZPMC QC inspector that the repair locations noted above were R2 repairs (previous repairs that had been re-examined with ultrasonic testing and found to have rejectable indications for a second time) This QA Inspector observed ZPMC welding personnel Hong Shui Li performing a repair on weldment number FB007-02-043 (see digital photo 1 below) using the Flux Cored Arc Welding (FCAW) process under Welding Procedure Specification (WPS) WPS-345-FCAW-2G-FCM-repair with the following welding parameters; 280 amps , 29 volts. Preheat was verified and appeared to be within the tolerances of the above WPS. The work stated above appeared to be within the general requirements of the contract documents.



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Summary of Conversations:

As noted in the content above.

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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Riley, Ken	Quality Assurance Inspector
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Reviewed By:	Cochran, Jim	QA Reviewer
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