

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002080**Date Inspected:** 03-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**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:** Hu Wei Qing**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:**

The Caltrans Quality Assurance (QA) Inspector Roscoe Dixon was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG).

Bay 7 OBG:

The QA Inspector observed ZPMC qualified welder Mr Chen Chaou Zong ID 044824 utilizing Flux Cored Arc Welding (FCAW) process with ZPMC Weld Procedure Specification (WPS) WPS-B-7-2232-7c-U46-F to weld various floor beams flange to web plate connections.

During the welding of floor beam weld joint number FB003-12-004 the QA Inspector verified the welding machine amperes at 303 with 29.8 volts during a random verification utilizing a Fluke Meter. The work being performed was in progress generally appeared to conform to contract specifications.

The QA Inspector randomly observed ZPMC qualified Welders Guodong Yun ID 037997 and Wuxian Jian ID# 066445 utilizing the Shielded Metal Arc Welding (SMAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2111 to weld various floor beams flange to web plate connections. The QA Inspector randomly verified the filler metal being floor beam piece mark FB003-016-005.

The QA Inspector visually verified the filler metal being used for the SMAW process welding as TL-508 with a diameter of 5.0mm. The QA Inspector observed that during the shift ZPMC CWI, Hu Wei Qing and various CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures in Bay #7 during the

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

shift.

During the welding of floor beam FB003-014-005 the QA Inspector verified the welding machine amperes at 210 utilizing a Fluke Meter, the preheat temperature was verified with a temple stick heat crayon. The work being performed was in progress generally appeared to conform to contract specifications.

The QA Inspector randomly observed ZPMC qualified Welder Wang Chang Fa ID 058102 utilizing the Shielded Metal Arc Welding (SMAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-P-2113 to weld various floor beams transition weld plate connections. The QA Inspector randomly witnessed the following floor beam weld joint numbers: FB006-007-001, FB006-007-002, FB007-007-003, FB007-007-004, and FB006-009-001, FB006-009-002, FB006-010-002, FB006-010-003.

The QA Inspector visually verified the electrode filler metal for the SMAW process welding as THJ506FE-1 with a diameter of 4.0mm. The QA Inspector observed that during the shift ZPMC CWI, Wang Safai and various CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures in Bay #7 during the shift.

During the welding of floor beam FB003-014-005 the QA Inspector verified the welding machine amperes at 210 utilizing a Fluke Meter. The work being performed was in progress generally appeared to conform to contract specifications.

The QA Inspector randomly observed ZPMC Welding Operator Sun Gu ZuoD ID 058100, utilizing the Submerged Arc Welding (SAW) Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-BL2-C-S-1 to complete cap weld passes for various 12mm to 30mm transition floor beam web plate weld joints. The QA Inspector visually verified a single electrode was being utilized for the filler passes. The filler metal being used was JW-3 with a diameter of 4.8 millimeters.

The QA Inspector observed that during the shift ZPMC CWI, Hu Wei Qing and various ZPMC CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures in Bay #7 during the shift. The floor beams randomly observed being welded during this QA Inspector's shift having completed cap welds included: FB015-011-026, FB015-013-026, FB015-005-026, and FB015-012-026.

The QA Inspector observed ABF QC Inspector Art Peterson verify the areas identified on OBG diaphragm weld repair report supplied by ZPMC number BWR118 for floor beam weld joint FB008-05-045. The QA Inspector also visually verified the above listed report number prior to ZPMC personnel performing the FCAW process report per WPS-345 Repair. The work performed generally appeared to conform to contract specifications.

Bay 8:

The QA Inspector observed after arrival in bay# 8 ZPMC welding operator had completed five runs of submerged arc welding (SAW) on diaphragm plate WSD1 SA32-10A and was in the process of turning plate over for air carbon arc gouging of weld joint SSD1-SA32-10 B side. No welding observed during the QA verification Inspection.

For more detail see photographs shown below:

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



Summary of Conversations:

All Relevant work related conversations are as noted within the report shown 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:	Dixon,Roscoe	Quality Assurance Inspector
Reviewed By:	Hager,Craig	QA Reviewer
