

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:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002079**Date Inspected:** 02-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/Shi Zhi**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 randomly observed ZPMC Welder Li Wen Guo, ID 066261 utilizing the Shielded Metal Arc Welding (SMAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2112 to weld various floor beams flange to web plate connections. The QA Inspector randomly witnessed floor beam piece mark FB003-014-005.

The QA Inspector visually verified the electrode filler metal 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 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 crayon. The work being performed was in progress generally appeared to conform to contract specifications.

Bay 7 OBG

The QA Inspector randomly observed ZPMC Welding Operator Sun Gu ZuoD ID 058100, utilizing the

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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 floor beam diaphragm web plate transition weld joints. The QA Inspector visually verified a single electrode was being utilized for the filler passes, the filler metal 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 ZPMC qualified welders Mr. Hong Yong Li ID 044801, Mr. Zhong Qing Qian ID 044714 and Mr Wu Wan Yong ID 050242 utilizing Flux Cored Arc Welding (FCAW) process with ZPMC Weld Procedure Specification (WPS) WPS B-T-2231-TCU4b-F to weld the complete joint penetration (CJP) welds on the following OBG diaphragm floor beam weld joint numbers: FB021-002-125, FB021-002-126, FB02-002-127, FB022-002-126, FB21-002-127, FB21-002-126 and, FB018-001-021, FB018-001-068, FB018-001- 069, and FB018-001- 070.

Mr.Sun Ling Ling ID 048047 utilized Shielded Metal Arc Welding(SMAW) process to tack weld the floor beam weld joint numbers FB025-002-125, FB025-002-126, FB025-002-127.

During the welding of floor beam weld joint number FB025-002-125 the QA Inspector verified the welding machine amperes for SMAW process welding at 184 ampers, and The FCAW process welding ampers registered 305 ampers with 31 volts during the welding of FB021-002-127 utilizing a Fluke Meter. The work being performed was in progress generally appeared to conform to contract specifications.

Bay 8:

Welding Operator Xu Peipei ID050323 was observed performing the Submerged Arc welding(SAW) process utilizing WPS) WPS-B-T-3221-BU3-C-S-1 to weld fill passes for 38M Top plate P207 SA 265-P207 (N).

The QA Inspector visually verified a single electrode was being utilized for the filler passes, the filler metal was LA-85 with a diameter of 4.8 millimeters.

The Flux was verified as MIL800-HPN1, the base material listed on the (WPS) as HPS 485WT2 Shear Link grade 485. The QA Inspector observed and noted that during the welding operation the ZPMC welding operator would before welding over previous deposited weld pass utilized the proper cleaning method to remove slag prior to resuming the welding operation.

The QA Inspector observed that during the shift ZPMC CWI, Sha Zhi and various ZPMC CAWI Inspectors monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay #8

The QA Inspector observed that the work performed generally appeared to conform to contract specifications.

Bay 8:

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The QA Inspector randomly observed ZPMC Welding Operators Ma Ying ID 045270 WPS) WPS-B-T-3221-BU3-C-S-1 to weld cap and fill passes for 47.6M SA32 (W), weld joint WSD1-SA32 A/B-10A.

The QA Inspector visually verified a single electrode was being utilized for the filler passes, the filler metal was LA-85 with a diameter of 4.8 millimeters.

The Flux was verified as MIL800-HPN1, the base material listed on the (WPS) as HPS 485WT2 Shear Link grade 485. The QA Inspector observed and noted that during the welding operation the ZPMC welding operator would before welding over previous deposited weld pass utilized the proper cleaning method to remove slag prior to resuming the welding operation.

Bay 8:

The QA Inspector randomly observed ZPMC Welder Yuh Chengxian ID 045138 utilizing the Shielded Metal Arc Welding (SMAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-3211-BU3B-1 to tack weld the 47.6 bottom plate SA326-P632.

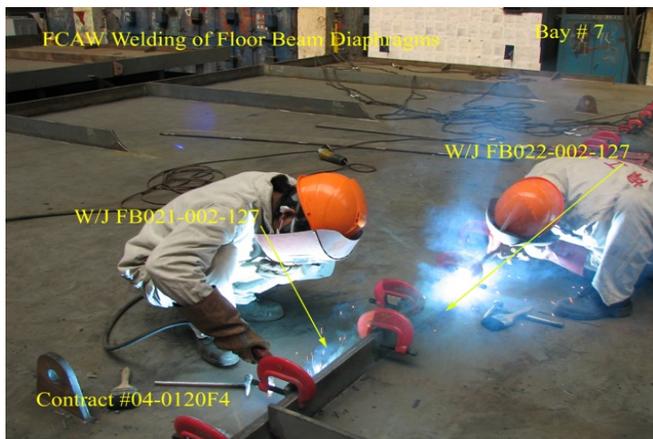
The QA Inspector visually verified the electrode filler metal for the SMAW process welding as E9018M.

The work being performed was in progress generally appeared to conform to contract specifications.

For more detail see photographs shown below:

Summary of Conversations:

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.

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Inspected By: Dixon,Roscoe

Quality Assurance Inspector

Reviewed By: Hager,Craig

QA Reviewer