

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-002457**Date Inspected:** 16-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**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 Girder (OBG) and Tower.

Bay # 7

The QA Inspector randomly observed ZPMC Welding Operator Sun Guo Zuo ID 058100 performing the Submerged Arc Welding (SAW Process utilizing ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-B-L2C-S-1 to complete cap weld passes for the complete joint penetration (CJP) welding of a floor beam FB016-012, the weld joint number appeared to be FB016-012-021.

The QA Inspector observed that ZPMC CWI, Huang Wen Pang and various CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures during the welding.

The QA Inspector also randomly verified the welding machine amperes and volts utilizing a Fluke Meter.

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 welding in progress was completed during the QA verification and appeared to conform with the welding procedure specifications (WPS) and the contract requirements.

Bay # 4 The QA Inspector observed welding operator Jiang Jingteng ID 046830 performing Submerged Arc

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Welding (SAW) process utilizing WPS) WPS-B-T-3221-BU3-C-S-1 in the 1G (Groove) position to weld fill passes for tower diaphragm sub assembly P283 (S) + SA 322 (S). Weld Joint SSD1-SA322 A/B-1A2A.

The QA Inspector visually verified a single electrode was being utilized for the fill and cap weld passes, and 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, Ye Yong Jun and various ZPMC CAWI Inspectors monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay # 4.

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

Bay # 8

The QA Inspector observed welding operator Wang Laying ID 045265 performing Submerged Arc Welding (SAW) process utilizing WPS) WPS-B-T-3221-BU3-C-S-1 in the 1G (Groove) position to weld fill passes for tower diaphragm 38M top sub assembly P965 (W) + SA 372 (W). Weld Joint WSD1-SA372 A/B-3B.

The QA Inspector visually verified a single electrode was being utilized for the fill and cap weld passes, and 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, Lv Linqing ID 045265 and various ZPMC CAWI Inspectors monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay # 8.

During the QA Inspector's observation during the welding of diaphragm plate side (A) was welded 35% complete and the plate was turned over and will be welded on side (B). The work performed generally appeared to conform to contract specifications.

Bay 3:

The QA Inspector observed ZPMC qualified Welder Lv Peng ID 048617 utilizing the Shielded Metal Arc Welding (SMAW) Process with ZPMC Weld Procedure Specification (WPS)-B-P-2112-FCM to tack weld various WT stiffener to plate material for side plates. The markings on the plate material identified as PL103B indicated the plate was Seismic Performance Critical Member (SPCM) plate material.

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The electrode filler metal used during the welding was verified as THJ506FE-1, and the weld joint appeared to be SP608-001-015.

During the welding the QA Inspector verified the welding machine amperes utilizing a Fluke meter which registered 190 amperes.

The QA Inspector observed that during the shift ZPMC CWI, Wu Ming Kai and various ZPMC CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay # 3. The work being performed was in progress generally appeared to conform to contract specifications.

Bay 3:

The QA Inspector observed ZPMC qualified Welder The QA Inspector observed ZPMC qualified Welder Zhang Feng ID 049769 utilizing the Shielded Metal Arc Welding (SMAW) Process with ZPMC Weld Procedure Specification (WPS)-B-P-2112-FCM to tack weld various stiffener to plate material for side plates. The markings on the plate material identified indicated the plate was Seismic Performance Critical Member (SPCM) plate material.

The electrode filler metal used during the welding was verified as THJ506FE-1, and the weld joint appeared to be SP755-001-011 and SP755-001-012.

During the welding the QA Inspector verified the welding machine amperes utilizing a Fluke meter which registered 195 amperes.

The QA Inspector observed that during the shift ZPMC CWI, Wu Ming Kai and various ZPMC CAWI Inspectors were monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay # 3. The work being performed was in progress generally appeared to conform to contract specifications.



Summary of Conversations:

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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
