

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-009242**Date Inspected:** 25-Sep-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**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 Fabrication**Summary of Items Observed:**

CWI Inspector: Mr. Li Zhi Jiang

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 1

ZPMC issued "Inspection Notification Sheet" number 4289 informing QA that ZPMC has completed ultrasonic inspections of weld #1, 2 and 3 on OBG counterweights CW002B-PP090, CW002B-PP056, CW002B-PP074, CW002B-PP054, CW002B-PP052, CW002B-PP076, CW002B-PP050, CW002B-PP062, CW002B-PP066 and CW002B-PP078. Note: ZPMC appears to have performed ultrasonic inspections of approximately 20 percent length of these welds. This QA Inspector observed ZPMC QC personnel had previously marked these welds as being ultrasonically accepted. This QA Inspector performed ultrasonic inspections of approximately 20 percent length of the areas that had been Ultrasonically Inspected by ZPMC personnel on following welds:

CW002B-PP052-001, CW002B-PP052-002, CW002B-PP052-003, CW002B-PP054-001, CW002B-PP054-002, CW002B-PP076-001, CW002B-PP076-002, CW002B-PP076-003, CW002B-PP078-001, CW002B-PP078-002, CW002B-PP078-003, CW002B-PP090-001, CW002B-PP090-002 and CW002B-PP090-003. Weld CW002B-PP090-001 appears to have a class "A" rejectable indication located approximately 280 mm from the end of the weld and the remaining portions of the welds that were ultrasonically inspected by this QA Inspector

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appear to comply with AWS D1.5 UT requirements. For additional information on this inspections see the TL6027 Ultrasonic Test Report, and the photographs below. This QA Inspector informed ABF representative Mr. Luo Gui Liln and ZPMC QC representative Yang Qing Feng that this QA inspector is submitting an incident report to document this ultrasonic rejection and Mr. Luo Gui Lin said he will request that dayshift ZPMC UT Inspection personnel perform additional ultrasonic inspections of this weld.

OBG BAY 2

This QA Inspector observed ZPMC welder Ms. Wang Chaili stencil 045203 is using flux cored welding procedure WPS-B-T-2231-B-U2-T-1 to make OBG weld SEG061*-005. This QA Inspector observed that earlier in the shift QC Inspector Mr. Yang Qing Feng recorded that Ms. Wang Chaili had a welding current of 280 amps and 28.0 volts. This QA Inspector measured a welding current of 260 amps and 27.7 volts. This QA Inspector observed that Ms. Wang Chaili is certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

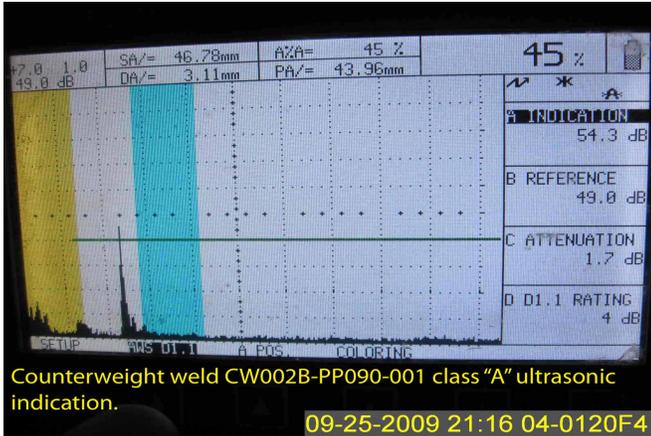
This QA Inspector observed ZPMC welder Mr. Lv Feng Yin, stencil 215676 is using flux cored welding procedure WPS-B-T-2231-B-U2-T-1 to make OBG weld SEG061*-005. This QA Inspector measured Mr. Lv Feng Yin to have a welding current of 260 amps and 28.0 volts. This QA Inspector observed that Mr. Lv Feng Yin is certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Ms. Li Jiang, stencil 045151 tack is using shielded metal arc welding procedure WPS-B-T-2231 to add weld material to groove weld SEG-061*-008 between deck plate DP236-001 and deck plate DP128-001. The QA Inspector observed a welding current of approximately 175 amps and Ms. Li Jiang is certified to make this weld. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container which is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

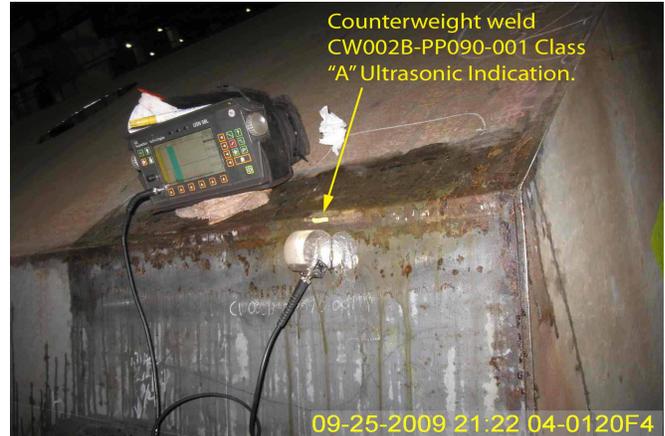
This QA Inspector observed ZPMC welder Ms. Ma Ying stencil 045270, is using submerged arc welding procedure specification WPS-B-T-2221-B-L2C-S-2 to make groove weld SEG-061*-008 between deck plate DP236-001 and deck plate DP128-001. This QA Inspector observed a welding current of approximately 587 amps and 31.2 volts. This QA Inspector observed the submerged arc welding machine hopper does not have any screen or magnet as required by AWS D1.5, Paragraph 4.8.4; which states: "SAW flux that has not been melted during the welding operation may be reused after recovery by vacuuming, use of catch pans, sweeping from weldment surfaces or other means. Recovered flux shall be passed through an appropriate screen and over a suitable magnet to remove unwanted particles and materials before being returned to the flux supply system." This QA Inspector asked QC Inspector Mr. Yang Qing Feng why there is no magnet being used and Ms. Ma Ying showed this QA Inspector the magnet is on the side of the flux hopper and Ms. Ma Ying placed it on top the flux hopper screen. Items observed by this QA Inspector do not appear to be fully progressing in compliance with project specifications.

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Counterweight weld CW002B-PP090-001 class "A" ultrasonic indication.



Summary of Conversations:

See 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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Carreon,Albert

QA Reviewer