

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-012303**Date Inspected:** 18-Feb-2010**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**Summary of Items Observed:**

CWI Inspector: Mr. Li Yang

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 Bays 1 through 9

This QA Inspector observed no ZPMC personnel were working on Caltrans OBG segments or tower assemblies in OBG Bays 1 through 9.

OBG Bays 13 and 14

This QA Inspector observed no ZPMC personnel were working on Caltrans OBG segments or tower assemblies in OBG Bays 13 or 14 and the majority of the overhead lights were turned off.

Tower Bays 10 and 11

This QA Inspector observed no ZPMC personnel were working on Caltrans tower components in Bays 10 or 11 and the majority of the overhead lights were turned off.

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Heavy Dock Tower

This QA Inspector observed no ZPMC personnel were working on Caltrans tower assemblies at the heavy dock.

This QA Inspector observed ZPMC has positioned a floating 1500 ton capacity crane adjacent to this dock and ZPMC has South Tower Lift 2 hanging in the air approximately ten meters above the dock surface. See the photograph below for additional information.

OBG Trial Assembly

Yesterday this QA Inspector observed ZPMC welder Mr. Zhang Zhengjia, stencil 205769 is using shielded metal arc procedure WPS-B-P-2112-FCM-1 to tack weld an angle bracket to cross beam CB6 bottom plate adjacent to item X27D. Yesterday this QA Inspector asked Mr. Zhang Zhengjia if he had a ZPMC issued welder identification card and Mr. Zhang Zhengjia indicated that he had left his welder identification card home. Today ZPMC CWI Mr. Li Yang presented this QA Inspector with a ZPMC issued welder identification card that states Mr. Zhang Zhengjia is certified to perform tack welding using the shielded metal arc process. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Hanming, stencil 220066 is using flux cored welding procedure WPS-B-T-2231T-1 to make weld OBW6F-005 on segment 6BW. This QA Inspector observed ZPMC CWI Mr. Li Yang has recorded a welding current of 234 amps and 28.0 volts. This QA inspector measured a welding current of approximately 220 amps and 33 volts. The welding current is lower than what QC had recorded and the welding voltage is higher than what QC had recorded. ZPMC CWI Mr. Li Yang observed this QA Inspector making these measurements and Mr. Li Yang informed this QA Inspector that the maximum welding voltage is 29.9 volts and that Mr. Zhang Hanming has too high of a voltage and the minimum welding current 224 amps and the welding current is too low. Mr. Li Yang adjusted the welding machine to have a welding current of approximately 240 amps and 28 volts. This QA Inspector asked Mr. Li Yang if he had a copy of the WPS listed above and after Mr. Li Yang went to his office and looked through various books for approximately ten minutes Mr. Li Yang showed this QA Inspector that welding procedure WPS-B-T-2231T-1 lists a welding current range of 224 to 250.5 amps and 26 to 29.9 volts. This QA Inspector observed that Mr. Zhang Hanming appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents. See the photograph below for additional information.

This QA Inspector observed ABF personnel performing ultrasonic inspection of repaired weld OBW6C-003 which joins the bottom plates of OBG segment 6BW to 6CW. This weld had previously been identified as having ultrasonic rejections, and additional ultrasonic rejections were identified by ABF personnel.

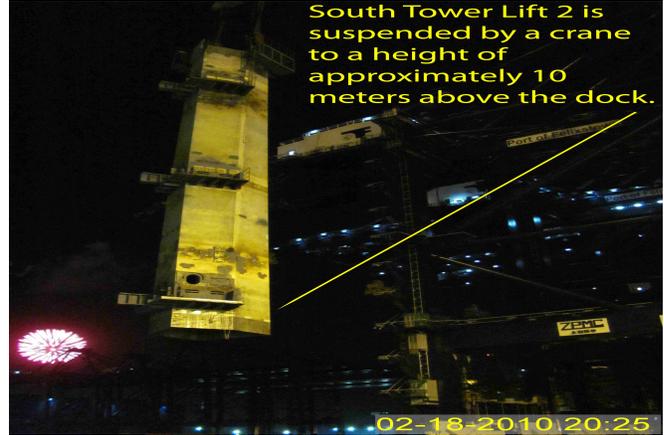
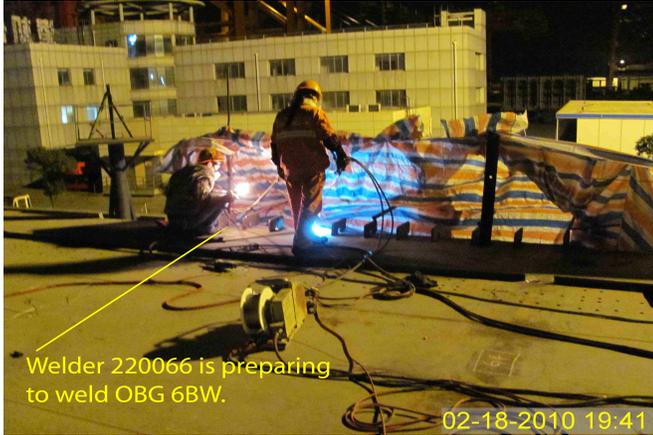
ABF issued "Inspection Notification Sheet" number 02182010-1 item #5 informing QA that at 1600 hours ABF Inspectors will be performing ultrasonic (UT) inspections of repaired weld OBW6C-003 which joins the bottom plates of OBG segment 6BW to 6CW. This QA Inspector observed weld OBW6C-003 has been marked by ABF ultrasonic inspectors as having unacceptable transverse indications at Y=340, 345, 1165, 1205 and 1230 mm. This QA Inspector performed ultrasonic inspections at locations 3240, 3570, 4330 and 7010mm for detection of longitudinal and planar transverse indications utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and

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no UT rejections were observed. Caltrans QA Inspector Mr. Mike Hasler performed ultrasonic inspections of the weld repair areas between Y=160mm and Y=2300mm. Items observed on this date appeared to generally comply with applicable contract documents.

Many of the ZPMC workers are not at work due to the Chinese New Year holiday.



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
