

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-013017**Date Inspected:** 03-Apr-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 Inspectors: Mr. Li Yan Hua, Mr. Liu Hua Jie

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:

Yard between Bay 15 and Blast Shop #1

This QA Inspector observed ABF/Sense personnel were performing UT inspections of OBG segment 9EE side plate to base plate welds and other ABF/Sense personnel were performing magnetic particle inspections of segment 9BC longitudinal diaphragm to bottom plate welds. See the photograph below for additional information.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Sun Guzuo, stencil 058100 is using submerged arc welding procedure WPS-B-T-2221-B-L2C-S-2 to make groove weld SEG3001\*-023 between deck plate DP3008A and deck plate DP3009A. These deck plates will be installed at OBG segment 12AE. This QA Inspector observed a welding current of approximately 670 amps and 34 volts. This QA Inspector confirmed that Mr. Sun Guzuo appears to be certified to make this weld and the base material has been preheated prior to welding. Items

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Xie Jin Xia, stencil 048038 is using flux cored welding procedure WPS-B-T-2132 to make welds between OBG 12CE deck plate DP3030-001 and closed ribs. This QA Inspector measured a welding current of approximately 290 amps and 24 volts. This QA Inspector observed the base material was been preheated with a torch prior to welding and Ms. Xie Jin Xia appears to be 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. Tu Zhi Wu, stencil 214945 is using flux cored welding procedure WPS-B-T-2132 to make welds between OBG 12CE diaphragm plates and deck plate DP3030-001. This QA Inspector measured a welding current of approximately 310 amps and 30 volts. This QA Inspector observed the base material was been preheated with a torch prior to welding and Mr. Tu Zhi Wu appears to be 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. Li Jun, stencil 051348 is using shielded metal arc welding procedure specification WPS-B-P-2214-B-U2-FCM-1 to complete butt weld DP3059-001-074 between segment 12BW "T" stiffener plates near panel point PP112. This QA Inspector observed a welding current of approximately 140 amps, the base material had been preheated with a torch and that Mr. Li Jun appears to be certified to perform this welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Hue Junrong, stencil 201215 is using flux cored welding procedure WPS-B-T-2133 to make welds between OBG 12BW deck plate DP3059-001 closed ribs and diaphragm plates. This QA Inspector measured a welding current of approximately 215 amps and 26 volts. This QA Inspector observed the base material was preheated with a torch prior to welding and Ms. Hue Junrong appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

Yard, north of bay 13

This QA Inspector observed ZPMC welder Mr. Yang Yunfei, stencil 215553 is using shielded metal welding process WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make OBG repair weld CA063-004 near location Y=11050 mm. This weld is between the deck and edge plate on the exterior of segment 9CE as directed by critical weld repair document BCRW-1360. This CWR had been approved by Caltrans Engineering on 4-2-2010. This weld has multiple locations that had ultrasonic rejections. This QA Inspector observed a welding current of approximately 185 amps and Mr. Yang Yunfei appears to be certified to make this weld. ABF representative Mr. Wang Heng informed this QA Inspector the base material had been preheated with an electrical heater prior to welding, and once this weld repair is completed post weld heating will be made using electric heating elements. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that appears to be connected to the welding cable. Note: access to this weld repair is limited due to the height above the ground. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Zaijun, stencil 037996 is using shielded metal welding process

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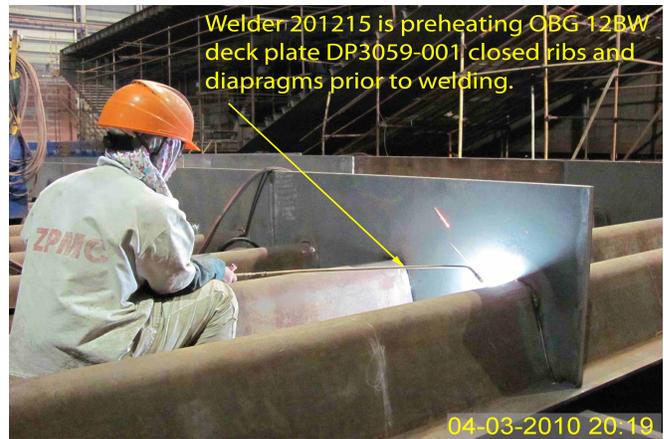
# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make OBG repair weld CA063-004 near location Y=2135 mm. This weld is between the deck and edge plate on the exterior of segment 9CE as directed by critical weld repair document BCRW-1360. This CWR had been approved by Caltrans Engineering on 4-2-2010. This weld has multiple locations that had ultrasonic rejections. This QA Inspector observed a welding current of approximately 180 amps and Mr. Li Zaijun appears to be certified to make this weld. ABF representative Mr. Wang Heng informed this QA Inspector the base material had been preheated with an electrical heater prior to welding, and once this weld repair is completed post weld heating will be made using electric heating elements. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that appears to be connected to the welding cable. Note: access to this weld repair is limited due to the height above the ground. Items observed on this date appeared to generally comply with applicable contract documents.



### 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.

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<b>Inspected By:</b>	Dawson,Paul	Quality Assurance Inspector
<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer

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