

**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-012596**Date Inspected:** 06-Mar-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: Ms. Yu Dong Ping, Mr. Li Lin and, 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:

## Tower Bay 11

This QA Inspector observed ZPMC welder Ms. Shen Mei, stencil 041716 using submerged arc welding procedure specification WPS-B-T-2221-C-U2B-S to make Tower groove weld P185-1A. This QA Inspector observed Quality Control monitoring the base material temperature and other welding attributes. This QA Inspector measured a welding current of approximately 560 amps and 30.0 volts and ZPMC welder Ms. Shen Mei appears to be certified to make these welds. Items observed on this date appear to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang You Zhi, stencil 040675 is using shielded metal arc weld process to tack weld temporary weld extension plates on the end of groove weld ND1-SP4A-6-135M-1-1AB. This QA Inspector observed that the base material where the weld was made appears to have been preheated to a minimum of 140 degrees Celsius. This QA Inspector observed Mr. Zhang You Zhi appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project

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specifications.

### OBG Bay 13

This QA Inspector observed no ZPMC personnel appear to be welding on Caltrans OBG segments or tower assemblies in OBG Bay 13.

Around 1945 hours ZPMC utilized two synchronized heavy haulers to move OBG Lift 11AW from the middle of OBG Bay 13, where it had been assembled, to the front of OBG Bays 13 / 14 where it was placed on metal stands. The move appeared to progress smoothly. See the photographs below for additional information.

### OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Rao Wei, stencil 049972 is using shielded metal arc welding procedure WPS-B-P-2213-FCM-1 to tack weld edge plate floor beam FB3095-001 to longitudinal diaphragm LD3022 near panel point 113 / OBG segment 12BW. This QA Inspector observed ZPMC QC Inspector Mr. Li Ming Yang is monitoring this welding. This QA Inspector observed Mr. Rao Wei appears to be certified to make these tack welds and the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container which is warm to the touch and the base material was preheated with a torch prior to commencement of the welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jiang Shi Zhen, stencil 048694 and welder Mr. Wang Wei, stencil 205097 have recently used the shielded metal arc welding process to tack weld various floor beams, longitudinal diaphragms and other components together near panel point 114 and 115 OBG segments 12BW and 12CW. This QA Inspector observed Mr. Jiang Shi Zhen and Mr. Wang Wei both appear to be certified to make these welds. This QA Inspector did not observe either of these welders performing any welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed approximately fifteen E7018 welding electrodes sitting on a side plate near panel point 116, OBG segment 12CW. This QA Inspector gave these ambient temperature welding electrodes to ZPMC QC Inspector Mr. Li Ming Yang and he bent the welding electrodes prior to discarding them in a trash container. This QA Inspector did not observe any the welders at this location appear to be utilizing these electrodes to perform welding of OBG components.

### OBG BAY 15

This QA Inspector observed ZPMC welder Mr. Hu Yanming, stencil 062092 is using shielded metal arc procedure WPS-345-SMAW-2G(2F)-Repair and WPS-345-SMAW-4G(4F)-Repair to make repair welds to various stiffener hold back welds at the north and south end of cross beam CB6. This QA Inspector observed the welding electrodes are being stored in a portable rod oven which is connected to an electric power cable. This QA Inspector observed one person with a torch appears to be preheating the base materials prior to commencement of welding. This QA Inspector measured a welding current of approximately 180 amps and Mr. Hu Yanming appears to be certified to make this weld. Items observed on this date appeared to generally comply with

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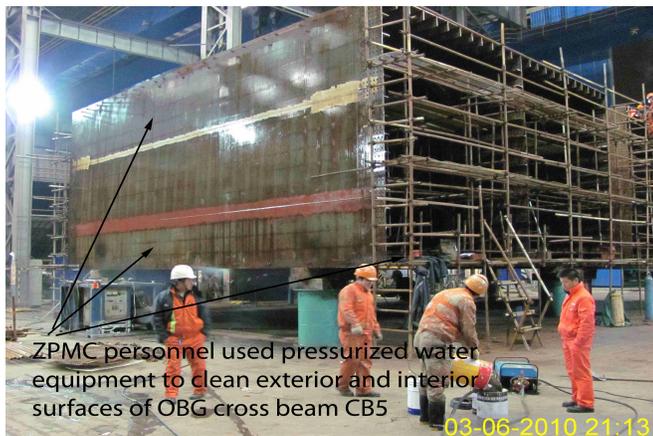
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applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Zheng Hua, stencil 220067 is using shielded metal arc procedure WPS-345-SMAW-2G(2F)-Repair and WPS-345-SMAW-4G(4F)-Repair to make repair welds to various stiffener hold back welds at the north and south end of cross beam CB6. This QA Inspector observed the welding electrodes are being stored in a portable rod oven which is connected to an electric power cable. This QA Inspector observed one person with a torch appears to be preheating the base materials prior to commencement of welding. This QA Inspector measured a welding current of approximately 180 amps and Mr. Chen Zheng Hua 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 personnel using pressurized water equipment to clean exterior and interior surfaces of OBG cross beam CB5. See the photograph below for additional information.

This QA Inspector observed several ABF Inspectors appear to have performed magnetic particle inspections of hold back welds on cross beam CB6.



## Summary of Conversations:

See Above.

## Comments

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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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