

**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-012406**Date Inspected:** 26-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 & Tower**Summary of Items Observed:**

CWI Inspectors: Mr. Li Yang, Mr. Gong Liang, Zhu

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 Bay 10

This QA Inspector observed ZPMC welder Mr. Sun Guang Ping, stencil 50289 is using shielded metal welding process WPS-B-T-3211-TC-U4b-1 to make groove weld SSD1-TL5-B/F-52A between south tower lift 5 skin plate

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D to skin plate E corner weld. This QA Inspector observed CWI Mr. Gong Liang Zhu is monitoring this welding and this QA Inspector measured a welding current of approximately 250 amps. Mr. Sun Guang Ping appears to be certified to make this weld. This QA Inspector observed Mr. Gong Liang Zhu is monitoring the base material temperature and the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container that is warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

### OBG Trial Assembly

This QA Inspector observed ZPMC welder Mr. Han Xiaofeng, stencil 054467 is using shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair to make OBG weld repairs in response to non conformance report NCR000647. This NCR identified OBG segment 6CW cross beam member X27 had various flame cuts and this welding is being performed to resolve these problems. Mr. Han Xianfeng stopped welding when this QA Inspector arrived the welding electrodes are being stored in a portable electrode storage oven. This QA Inspector observed Mr. Han Xiaofeng 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. Dong Haitao, stencil 067183 is using shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-Repair to make OBG segment 6BW stiffener hold back weld repair on the weld relief hold on the segment 6BW top stiffener plate (nearest to the cross beam side) between panel points 43 and 44. It appears this weld relief hole had previously been ground in order to remove magnetic particle indications. This QA Inspector observed a welding current of approximately 160 amps and that Mr. Dai Lu is certified to make this weld. This QA Inspector observed ZPMC personnel have used a torch to preheat the base material prior to commencement of the welding. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container is connected to the welding power supply cable. Items observed on this date appeared to generally comply with applicable contract documents.

ZPMC had previously informed dayshift Caltrans personnel that various longitudinal diaphragm hold back welds on OBG segments 5AW/5BW/5CW are ready for QA magnetic particle inspections. Dayshift Caltrans QA personnel informed this QA Inspector that ZPMC has personnel assigned to remove blasting grit and use a torch to remove rain water from longitudinal diaphragm hold back welds on the OBG segments. This QA Inspector and Caltrans QA Inspector Mr. Mike Hasler visually observed the longitudinal diaphragm welds that were listed on the ZPMC green tag #3 tracking sheets have not been cleaned and several of them are wet due to rain water accumulations. This QA Inspector attempted to communicate with the ZPMC foreman to request that ZPMC personnel clean and dry the longitudinal diaphragm hold back welds prior to QA performing magnetic particle inspections. ZPMC workers initially used a broom and rags to clean the weld surfaces. The rags were not effective on removing the moisture from the welds as required by the magnetic particle inspection procedure. Caltrans QA Inspector Mr. Mike Hasler used his cell phone to call ZPMC representative Mr. Lay Tao who came to OBG segments 5AW/5BW/5CW. Mr. Lay Tao informed the ZPMC supervisor of the need to use a torch to remove the water/moisture from the weld surfaces. Following cleaning and drying of the weld surfaces, this QA Inspector performed magnetic particle inspections of longitudinal diaphragm hold back welds at the splice joint between OBG segments 5AW/PP32 and 5BW/PP33 weld numbers: Seg023B-007, Seg023B-008, Seg023C-007, Seg023C-008, Seg021B-029, Seg021B-030, Seg021C-029 and Seg021C-030. The areas that were inspected appear to comply with project specifications and this QA Inspector issued a TL6028 Magnetic Particle Test Report

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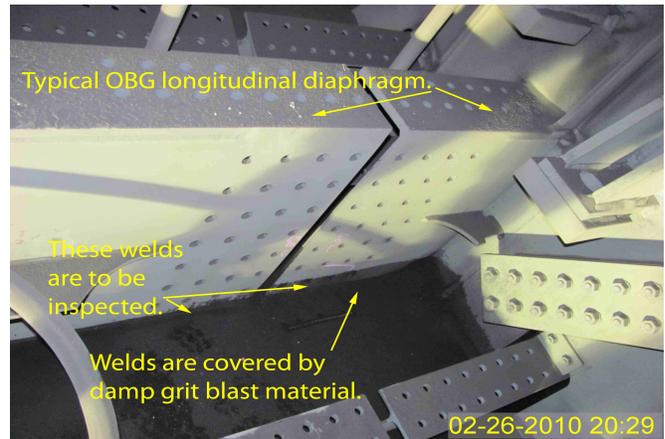
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to document these inspections. See the photographs below for additional information.



## 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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