

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016657**Date Inspected:** 08-Sep-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:**

ZPMC CWI Inspectors: Mr. Zhu Zhong Hai, Mr. Geng Wei

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 Segment Trial Assembly**

This QA Inspector observed ZPMC welder Mr. Yun Qiang, stencil 44504 used shielded metal arc welding procedure WPS-B-T-4114-1 to make stiffener plate hold back repair welds DP714-001-014 and DP715-001-012. These welds are located between OBG segments 10AE and 10BE. This QA Inspector observed a welding current of approximately 180 amps and the welding electrodes were stored in a heated portable electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Hua Linming, stencil 044515 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-Repair to make OBG segment 10AE hold back repair weld SP378-001-008. This QA Inspector measured a welding current of approximately 160 amps and Mr. Hua Linming appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Cheng Chong Lang, stencil 251194 prepared to use shielded metal arc welding procedure WPS-345-SMAW-3G(3F)-FCM-Repair to make base metal weld repairs on OBG segment 10BW side plate SP499-001-004. ZPMC CWI Mr. Zhu Zhong Hai showed this QA Inspector weld repair report B-WR14801 that addresses this weld repair. This QA Inspector observed Mr. Cheng Chong Lang appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wu Jun, stencil 053486 preparing to use flux cored welding procedure WPS-B-T-2231-B-U2-F-1 to make weld EP117-001-011 and EP117-001-012. These welds join edge plate stiffener plates at OBG segment 10AW to 10BW. This QA Inspector observed ZPMC CWI Mr. Zhu Zhong Hai was monitoring this welding. This QA Inspector observed Mr. Wu Jun appeared 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. Chen Rui stencil 041713 used shielded metal arc welding procedure specification WPS-345-SMAW-4G(4F)-FCM-Repair-1 to make repairs of visual rejections in the top deck welds between OBG segments 10BW and 10CW. This QA Inspector observed a welding current of approximately 150 amps, Mr. Chen Rui appeared to be certified to make this weld and the base material was preheated with a torch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wei Dashuai, stencil 051246 used shielded metal arc procedure WPS-B-T-2113-TC-U4b-F to make fillet weld Retro-A1-9BW-023. This weld installs a "T" brace to the side plate between OBG segment 9BW bikepath side plate stiffener plates. This QA Inspector observed a welding current of approximately 150 amps, Mr. Wei Dashuai appeared 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 Shuqiang, stencil 053609 used flux cored procedure WPS-B-T-2132 to make fillet weld Retro-A1-9DW-013. This weld installs a "T" brace to the side plate between OBG segment 9DW cross beam side plate stiffener plates. This QA Inspector observed a welding current of approximately 250 amps, 25.0 volts and Mr. Li Shuqiang appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

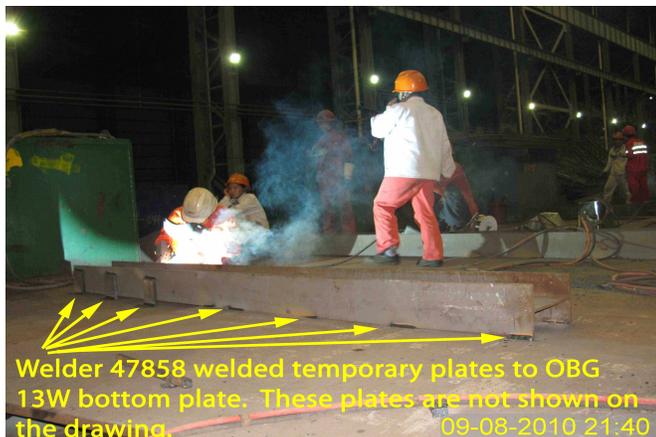
### Bay 14

This QA Inspector observed ZPMC appears to have completed welding approximately 25% of OBG segment 13AW baseplate groove butt weld SEG3013AC-001 and welders 45268, 47864, 51348 and 45196 were using the shielded metal arc welding process to install temporary lifting attachment plates to the edge of the 60 mm thick OBG segment 13AW baseplate BP3075. Welder Mr. He Hande, stencil 47858 performed welding of temporary beams and other plates to the top of OBG segment 13AW baseplates BP3075 and BP3076. Note: portions of these plates are classified as (SPCM) Seismic Performance Critical Materials. These temporary plates are not shown on the construction drawings and have not been approved by Engineering. Caltrans TC-RFI-0075R0 dated 24-Jun-2010 states lift 13A bottom plate transverse welds should not be allowed to cool to ambient temperature until all welding is complete. Following completion of this welding, all ZPMC workers left the area and the overhead lights in Bay 14 were turned off. This QA Inspector observed ZPMC has not installed any heating

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elements on OBG lift 13AW. This QA Inspector informed ABF representative Mr. Kelvin Chueng and phoned ZPMC CWI Mr. Geng Wei that this QA Inspector will be issuing an incident report to document ZPMC installing temporary beams to OBG segment 13AW without prior approval and ZPMC's failure to maintain the preheat as required by Caltrans TC-RFI-0075R0 dated 24-Jun-2010.



## 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