

**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-016313**Date Inspected:** 12-Aug-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. 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:

**OBG Segment Trial Assembly**

This QA Inspector observed ZPMC welder Mr. Shen Tianju, stencil 215083 used shielded metal arc welding procedure WPS-345-SMAW-1G(1F)-Repair-1 to make weld repairs of visual rejections on OBG segments 9AE to 10AE cross beam side plate stiffener plate hold back welds. This QA Inspector observed a welding current of approximately 175 amps and Mr. Shen Tianju appeared to be certified to make this weld. ZPMC appears to have used torch to preheat the base material prior to welding and the welding electrodes are being stored in a portable electrode storage oven that was warm to the touch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jin Yinghuang, stencil 040704 used flux cored welding procedure specification WPS-B-T-2231-B-U2-F to complete weld SEG059-042. This weld was located at OBG segment 9EW and 10AW corner assembly between panel points PP085 and PP86. This QA Inspector observed ZPMC QC had recorded a welding current of 320 amps and 30.4 volts. Mr. Jin Yinghuang appeared to be certified to make

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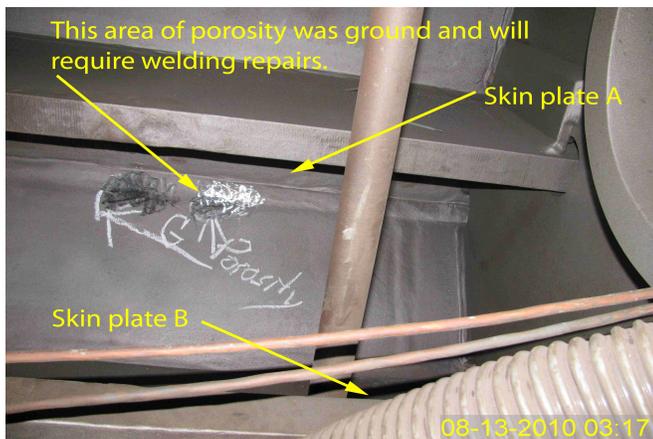
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this weld and the base materials appeared to have been preheated with a torch. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Qiu Jun stencil 057333 used shielded metal arc welding procedure specification WPS-345-SMAW-4G(4F)-FCM-Repair-1 to complete weld repairs per weld repair document B-WR14563. This weld repair document has a hand written weld repair number in the upper right corner of the document. This QA Inspector observed a welding current of approximately 145 amps, Mr. Zhang Qiu Jun appeared to be certified to make this weld and the base materials appeared to have been preheated with a torch. Items observed on this date appeared to generally comply with applicable contract documents.

ZPMC presented QA personnel with “Notification of Witness Inspection” document number 6389 that stated ZPMC was requesting Caltrans to perform visual and magnetic particle (MT) inspections of OBG segment 9AW to 9BW “Transverse Splice Welds (except BP to SP at W4). This QA Inspector performed random visual and magnetic particle (MT) inspections of the exterior surfaces of welds OBW9-001, OBW9-002, OBW9-003, OBW9-004, OBW9-005, OBW9B-001, OBW9B-002, OBW9B-003, OBW9B-004 and OBW9B-005. Items observed by this QA Inspector appeared to comply with AWS D1.5 MT requirements. For additional information on these inspections see this QA Inspector’s TL6028 Magnetic Particle Test Report.

ZPMC requested Caltrans personnel to perform visual inspections of North Tower 56M Single diaphragm through the 77m lower double diaphragm on August 13 at around 0100 hours following the initial pre-blast cleaning of the steel surfaces. Caltrans QA Inspectors Mike Hasler, Ken Riley and this QA Inspector performed random visual inspections of these areas. ABF and ZPMC Inspectors performed visual inspections of the areas indicated above and this QA Inspector visually observed approximately 50 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections. ZPMC and ABF personnel identified a total of nine indications which require welding repairs.



## 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
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<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer
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