

**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-024049**Date Inspected:** 25-May-2011**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: Sun Tian Liang

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 Trial Assembly**

ZPMC issued "Inspection Notification Sheet" (NWIT) number 09257 item #1 informing Caltrans QA that ZPMC is requesting ultrasonic inspections (UT) of OBG segment 14E complete joint penetration welds. This tracker lists approximately sixty five welds. This QA Inspector performed random visual and ultrasonic inspections of the following welds: AH3157A-117, 118, 119 and 120. These welds appear to comply with project specifications. This QA Inspector requested ZPMC assistance on locating complete joint penetration weld AH3157A-005 which was listed on the NWIT as having been ultrasonically accepted. ZPMC QC Inspector Mr. Zhan Hai Feng reviewed the drawings and weld maps and finally determined that weld AH3157A-005 is a fillet weld and he wrote on the NWIT to cancel this one weld from the inspection request. See a copy of ZPMC's weld map below for additional information. For additional information on these inspections see this QA Inspector's TL6027 Ultrasonic Test Report and the photographs below.

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This QA Inspector observed ZPMC welder Mr. Jiang Jingong, stencil 066361 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make repairs to weld SEG3013B-055. ZPMC QC informed this QA Inspector that weld repair document B-WR-21060 documents repairs of this weld. This QA Inspector observed a welding current of approximately 170 amperes (amps), the welding electrodes are being stored in a heated portable electrode storage oven, Mr. Jiang Jingong appeared to be certified to make this weld and the base material is being preheated with an electrical heater prior to welding. Items observed on this date appeared to generally comply with applicable contract documents

This QA Inspector observed ZPMC welder Mr. Jiang Junlin, stencil 067876 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 13CW stiffener plate welds VP3014-001-020, 031 and 042. This QA Inspector observed a welding current of approximately 290 amps, 26.0 volts, the base material had been preheated with electrical heaters and Mr. Jiang Junlin 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 Hong Ye, stencil 040270 used shielded metal arc welding procedure WPS-345-SMAW-3G(3F)-FCM-Repair-1 to make repairs to OBG segment 13AW welds SEG3013D-305 and 315. ZPMC QC informed this QA Inspector that weld repair document B-WR-21191 documents repairs of these welds. This QA Inspector observed a welding current of approximately 150 amp, the welding electrodes are being stored in a heated portable electrode storage oven, Mr. Chen Hong Ye appeared to be certified to make this weld and the base material is being preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Ji Yi, stencil 045268 used shielded metal arc welding procedure WPS-345-SMAW-3G(3F)-FCM-Repair-1 to make repairs to the exterior of OBG segment 13AW cross beam side plate where temporary welds had been removed. ZPMC QC informed this QA Inspector that weld repair document B-CWR-2962 documents repairs of these areas. This QA Inspector observed a welding current of approximately 170 amps, the welding electrodes were stored in a heated portable electrode storage oven, Mr. Ji Yi appeared to be certified to make this weld and the base material was preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Pan Ming, stencil 066673 used shielded metal arc welding procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to make repairs to segment 13AW weld SEG3013AH-035W. ZPMC QC informed this QA Inspector that weld repair document B-WR-20703 documents repairs of this weld. This QA Inspector observed a welding current of approximately 150 amps, the welding electrodes were stored in a heated portable electrode storage oven, Mr. Pan Ming appeared to be certified to make this weld and the base material was preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Chang Ming, stencil 047864 used shielded metal arc procedure WPS-345-SMAW-1G(1F)-FCM-Repair-1 to make segment 13AW top deck repair weld SEG3013-004. ZPMC QC informed this QA Inspector that weld repair document B-WR-20849 documents repairs of this weld. This QA Inspector observed a welding current of approximately 170 amps, Mr. Wang Chang Ming appeared to be certified to make this weld and the base material was preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

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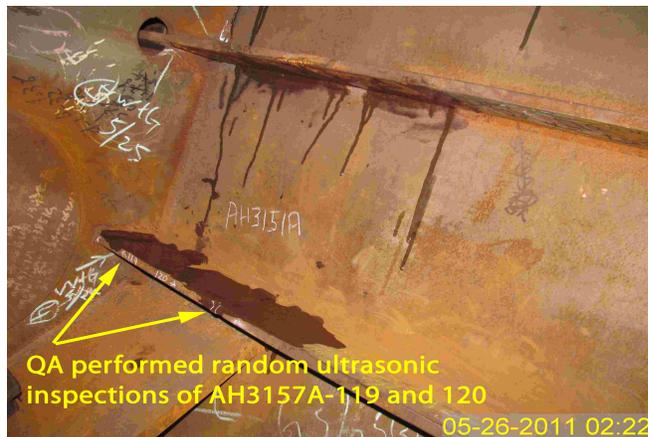
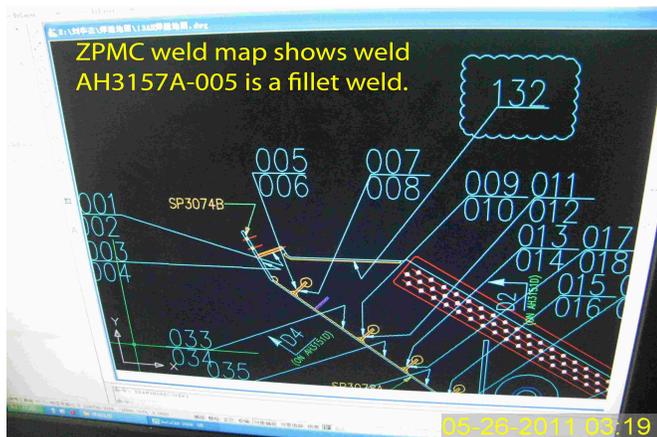
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This QA Inspector observed ZPMC welder Mr. Jiang Zhen, stencil 068917 used flux cored welding procedure WPS-B-P-2214 to make segment 14W weld SEG3020S-007 and 008. This QA Inspector observed a welding current of approximately 170 amps and Mr. Jiang Zhen 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. Wang Guijun, stencil 067275 used flux cored welding procedure WPS-B-P-2214 to make segment 14W weld SEG3020N-001, 002, 003 and 004. This QA Inspector observed a welding current of approximately 175 amps and Mr. Wang Guijun 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 Jian stencil 067829 used shielded metal arc welding procedure specification WPS-B-P-2214-FCM-1 to make segment 13AW welds KP3015-001-003, 005, 007. This QA Inspector observed a welding current of approximately 180 amps, the base material had been preheated with a torch and Mr. Li Jian 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. Liu Ya, stencil 067520 used shielded metal arc welding procedure specification WPS-B-P-2214-FCM-1 to make segment 13BW welds KP3016-001, 002, 004, 006. This QA Inspector observed a welding current of approximately 180 amps, the base materials appear to have been preheated with an electrical heater and Mr. Liu Ya appeared to be certified to make this weld. 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 James Devey +8615000026784, 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>	Riley, Ken	QA Reviewer
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