

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-015080**Date Inspected:** 19-Jun-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: Mr. Liu Hua Jie, 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. Tian Zhaoquan, stencil 045246 is using shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-Repair-1 to make shielded metal arc repair weld SEG047B-046 as directed by weld repair document B-WR1631. This weld is located between the counterweight side plate and bottom plate of OBG segment 8CW. This weld had been identified as having ultrasonic rejections. This QA Inspector observed Mr. Tian Zhaoquan has a welding current of approximately 160 amps and Mr. Tian Zhaoquan appears to be certified to make this weld. This QA Inspector observed the welding electrodes are being stored in a heated portable electrode storage oven and the base material is being preheated with electric heating elements that are on the opposite side of the plates that are being welded. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Mao Li Wei, stencil 045213 is using shielded metal arc process to perform tack welding of temporary alignment plates between OBG 8CW edge plate and counterweight near panel

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point PP68. This QA Inspector observed Mr. Mao Li Wei appears to be certified to make these welds. This QA Inspector observed the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container and a torch had been used to preheat the base material prior to welding. Items observed on this date appeared to comply with applicable contract documents.

Earlier in the day ZPMC issued "Notice of Inspection Sheet" document number 6015 stating that OBG segment 8BW and 8CW splice welds (including stiffener hold back welds) have been MT accepted by ZPMC Inspectors and these welds are ready for Caltrans QA personnel to perform MT inspections of these welds. Dayshift Caltrans QA Inspectors identified multiple MT rejections of various OBG segment 8BW and 8CW splice welds and ZPMC then determined that ZPMC personnel will perform additional MT inspections of these welds prior to requesting Caltrans to perform additional MT inspections. This QA Inspector observed ZPMC magnetic particle (MT) Inspectors are performing MT inspections of segment 8BE and 8CE bottom plate stiffener hold back welds near panel point PP67. This QA Inspector observed ZPMC has identified multiple indications and several of the stiffener hold back welds are MT rejected. Later in the shift this QA Inspector observed the areas that had been rejected have been ground and ZPMC MT personnel appear to have completed MT inspections of the ground areas.

ZPMC welder Mr. Wang Fu Peng, stencil 205718 used shielded metal arc procedure WPS-345-SMAW-2G(2F)-FCM-Repair-1 to perform welding repairs of the MT indication removal areas. This QA Inspector observed a welding current of approximately 150 amps, the areas to be welded were preheated with at torch and Mr. Wang Fu Peng appears to be certified to make these welds. Items observed on this date appear to comply with applicable contract documents. See the photographs below for additional information.

ABF issued "UT Report" number UT-9E-047 dated 6-19-2010 that indicates ABF Inspectors have completed ultrasonic (UT) inspections of hold back welds CA057-001 and CA057-005 which are on the bikepath side plate to the edge plate of OBG segment 9AE. ABF/Sense UT Inspectors documented that the welds are UT accepted. This QA Inspector performed random visual and ultrasonic inspections utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and the weld repair appears to comply with project specifications. Note: These inspections are being documented and tracked on "Verification Witness Request" documents. See the TL-6027 UT report for additional information concerning this inspection.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. He Guo Hong, stencil 219136 is using shielded metal arc process WPS-B-T-4112-1 to tack weld OBG segment 13AW side plate stiffener plates to side plate SP3092A/PL3384A. This QA Inspector observed a welding current of approximately 160 amps and Mr. He Guo Hong appears to be certified to make this weld. This QA Inspector observed ZPMC used a torch to preheat the base material prior to welding and the welding electrodes are being kept warm in a portable electrode storage container that is warm to the touch. Items observed by the QA Inspector appear to comply with project specifications.

This QA Inspector observed ZPMC welder Mr. Zhang Quin Quan, stencil 044774 is using flux cored welding procedure WPS-B-T-2132 to make OBG weld SP3060E-011 between a stiffener plate and OBG segment 13 side plate. This QA Inspector observed a welding current of approximately 290 amps and 29.0 volts, the base material appears to have been preheated with electric heating elements and that Mr. Zhang Quin Quan appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

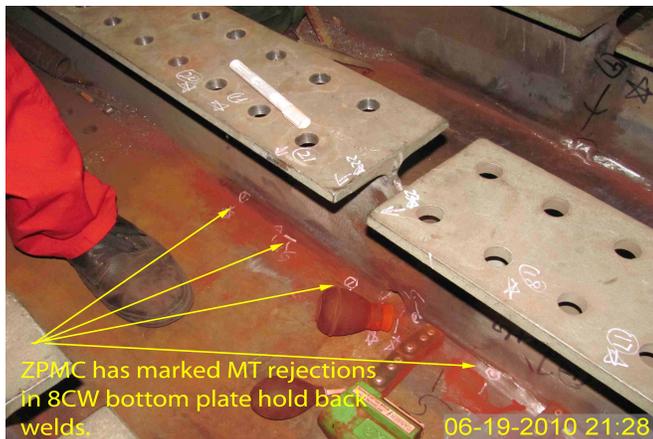
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This QA Inspector observed ZPMC welder Mr. Jin Chen Mao, stencil 058551 is using flux cored welding procedure WPS-B-T-2132 to make OBG weld SP3060E-001-016 between a stiffener plate and OBG segment 13 side plate. This QA Inspector observed a welding current of approximately 290 amps and 29.5 volts, the base material appears to have been preheated with electric heating elements and that Mr. Jin Chen Mao 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 welder Mr. Liu Kaige, stencil 044830 is using flux cored welding procedure WPS-B-T-2132 to make OBG weld SP3092B-001-077 between a stiffener plate and OBG segment 13 side plate. This QA Inspector observed ZPMC QC has recorded a welding current of 305 amps and 31.0 volts, the base material appears to have been preheated with electric heating elements and that Mr. Liu Kaige 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 welder Mr. Dan Deyin, stencil 044795 is using flux cored welding procedure WPS-B-T-2132 to make OBG weld SP3092B-001-081 between a stiffener plate and OBG segment 13 side plate. This QA Inspector observed ZPMC QC has recorded a welding current of 305 amps and 31.0 volts, the base material appears to have been preheated with electric heating elements and that Mr. Dan Deyin appears 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 Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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Inspected By:	Dawson,Paul	Quality Assurance Inspector
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Reviewed By:	Carreon,Albert	QA Reviewer
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