

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-016312**Date Inspected:** 11-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 and Tower**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:

This QA Inspector observed ZPMC welder Mr. Wang Yan Wu stencil 218712 was using shielded metal arc process to perform tack welding of temporary plates to use for alignment of OBG deck plates between segments 10AW and 10BW. This QA Inspector observed Mr. Wang Yan Wu appeared to be certified to make these welds, the base material where the tack welds were being deposited appear to have been ground to remove rust 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.

This QA Inspector observed ZPMC welders Mr. Han Yiaofeng, stencil 054467, Mr. Dai Lu, stencil 048659, Mr. Zhang Feng, stencil 049769 and Mr. Hu Yanming, stencil 062092 used shielded metal arc welding process to a weld temporary alignment plates to various locations in the weld joints between OBG segments 9DE and 10AE. This QA Inspector observed the welders appeared to be certified to make these welds, welder 54467 had a welding current of approximately 170 amps, and all welders appeared to use torches to preheat the adjacent base material prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Zhang Qiu Jun stencil 057333 used shielded metal arc welding procedure specification WPS-B-P-2214-FCM-1 to complete welds EP114-001-009 through -012. These welds were located on the edge plate between OBG segments 9DW and 9EW. 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.

This QA Inspector observed ZPMC welder Mr. Wu Jun stencil 053486 used flux cored arc welding procedure specification WPS-345-FCAW-3G(3F)-FCM-Repair-1 to complete weld repairs of ultrasonic rejections in weld OBW9C-004 as per weld repair document B-WR14505. This weld was located on the cross beam side plate butt weld between at OBG segments 9CW and 9DW. This QA Inspector observed a welding current of approximately 230 amps and 28.0 volts and Mr. Wu Jun appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

ZPMC QC Inspector Mr. Wang Zhu informed this QA Inspector that ZPMC welder Mr. Xia Shi Hua has recently used flux cored arc welding procedure specification WPS-345-FCAW-3G(3F)-FCM-Repair-1 to complete weld repairs of ultrasonic rejections in weld OBW9C-004 as per weld repair document B-WR14505. This weld was located on the cross beam side plate butt weld between at OBG segments 9CW and 9DW. This QA Inspector observed and Mr. Xia Shi Hua 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 workers were performing heat straightening of OBG segment 9CW counterweight side the longitudinal diaphragm between OBG segments 9BW and 9CW. This activity is being monitored by ZPMC QC Inspector Mr. Wang Zhu. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Ming Qian stencil 054460 was using shielded metal arc procedure WPS-B-P-2214-B-U2-FCM-1 to make weld OBW9A-010. This edge plate splice weld is located between OBG segments 9DW and 9EW. This QA Inspector observed ZPMC appears to have used a torch to preheat the adjacent base material prior to welding. This QA Inspector observed Mr. Li Ming Qian had a welding current of approximately 175 amps and he 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. Cheng Chong Lang, stencil 251194 was using shielded metal arc procedure WPS-345-FCAW-1G(1F)-Repair to add a buttering weld on the edge of LD18C longitudinal diaphragm.

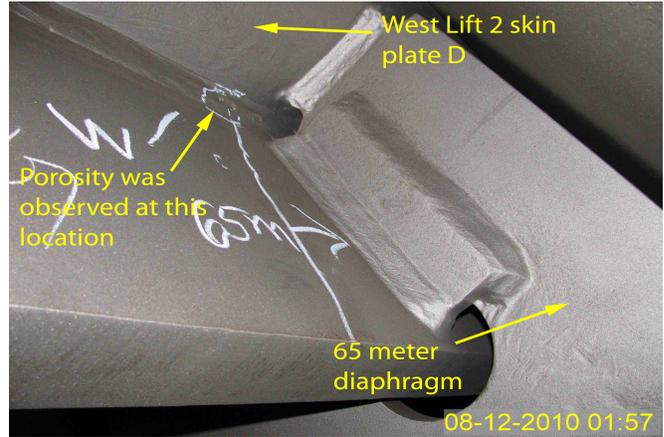
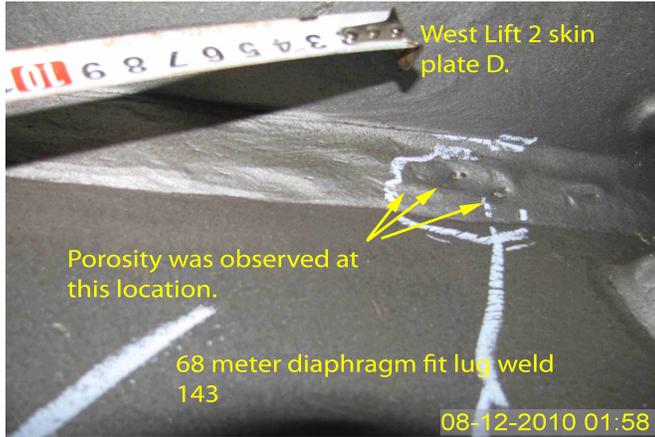
The welding was being performed as per weld repair document B-WR14366 which identified that this longitudinal diaphragm had been misaligned. LD18C is located on the cross beam side of OBG segment 9EW near panel point PP85. This QA Inspector observed that Mr. Cheng Chong Lang had a welding current of approximately 140 amps, a torch was used to preheat the base material and he appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

ZPMC requested Caltrans personnel to perform visual inspections of West Tower 56M Single diaphragm ~ 77m lower double diaphragm on August 12 at around 0130 hours following the initial pre-blast cleaning of the steel surfaces. Caltrans QA Inspectors George Goulet, Ken Riley and this QA Inspector performed random visual

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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 and one area of porosity that will require weld repairs. These weld repair area was covered by gray duct tape. ZPMC and ABF personnel had not identified this area as being visually rejectable an incident report was issued as requested by Caltrop management. 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.

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