

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-014864**Date Inspected:** 30-May-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 & Tower**Summary of Items Observed:**

CWI Inspectors: Mr. Wang Jie, Mr. Liu Fa Wen

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 Bay 2

This QA Inspector observed ZPMC workers are performing heat straightening the top and bottom flanges of traveler rail 20TR1-001 as listed on heat straightening document HSR(B)-370. ZPMC is using several brackets with mechanical jacks to apply pressure to allow the top and bottom flanges to become parallel with each other. This activity is being monitored by ZPMC QC Inspector Mr. Zhu Lin who has a laser heat measurement device to monitor the temperature of the base material as it is being heat straightened. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yan Shitian, stencil 062708 is using flux cored welding procedure WPS-B-T-2132-3 to make floor beam weld FB3202-001-132. This QA Inspector observed ZPMC QC Inspector Mr. Xia Yong Zheng has recorded a welding current of 300 amps and 30.3 volts. This QA Inspector observed that Mr. Yan Shitian 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. Jiang Yong Sheng, stencil 045240 is using flux cored welding procedure WPS-B-T-2132-3 to make floor beam weld FB3209-001-063. This QA Inspector observed ZPMC QC Inspector Mr. Xia Yong Zheng has recorded a welding current of 290 amps and 30.5 volts and Mr. Jiang Yong Sheng 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 Ms. Gu Xueying, stencil 045218 is using flux cored welding procedure WPS-345-SMAW-2G(2F)-Repair to add weld material and extend the length of traveler rail 20TR1-001 in accordance with critical weld repair document BCWR-1580. This QA Inspector observed a welding current of approximately 160 amps and Ms. Gu Xueying appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 5

This QA Inspector observed ZPMC workers are performing heat straightening the top and bottom flanges of traveler rail 20TR2-002 and 20TR2-008 as listed on heat straightening document HSR1(B)-8350. ZPMC is using several brackets with mechanical jacks to apply pressure to allow the top and bottom flanges to become parallel with each other. This activity is being monitored by ZPMC QC Inspector Mr. Yang Qing Feng who has a laser heat measurement device to monitor the temperature of the base material as it is being heat straightened. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 7

This QA Inspector observed ZPMC welder Mr. Jang Xuhe, stencil 057795 is using shielded metal arc welding procedure WPS-SMAW-1G(1F)-Repair-1 to make repair welds of visual rejections on traveler rail 22TR1-007. This QA Inspector observed the base material appears to have been preheated with a torch prior to commencement of welding and this QA Inspector measured a welding current of approximately 140 amps. Mr. Zhang Feng appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

South Lift 1 Visual Inspection, 0-9 Meters, Blast Shop #2

ZPMC requested Caltrans personnel to perform visual inspections of South Tower Lift 1 from 0 meters to 9 meters at around 2030 hours following the initial blast cleaning of the steel surfaces. Caltrans QA Inspectors George Goulet and Paul Dawson 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 several areas that have light areas of rust which indicates the grit blasting was not adequate to prepare the metal surfaces prior to application of paint and approximately 50 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections. Approximately 4 locations were marked by ZPMC QC, ABF and/or Caltrans Inspectors as needing to be weld repaired. These weld repair areas have been covered by black electrical or similar tape. See the photograph below for additional information.

Repair Item A: One of the upper stiffeners on the inside of the baseplate appears to have severe base material

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damage in a 50mm by 75mm area and it appears to be in need of a weld repair. We do not have a drawing that shows the stiffener plate locations and this stiffener plate does not have an identification number, but it is near the center of skin plate E, on the upper portion of the steel. The area has now been taped over pending repairs. See the photograph below for additional information.

Repair Item B: The “U” shaped channel steel plates that are on the lower surface of the 9 meter diaphragm appears to have flame cut ends which have not been ground smooth. The photograph below shows the corner near the D to E that skin plates the 9 meter diaphragm plate. The area was not taped over. See the photograph below for additional information.

Repair Item C: ABF has marked two base material gouges, one on the base plate, vertical surface, near the middle near skin plate B and the other is on the top of skin B stiffener plate about 4 meters from the baseplate and one undersize bracket weld on the 9 meter diaphragm (see photo below). The areas need to be weld repaired and they have been taped over pending welding repairs. See the photograph below for additional information.

Repair Item D: ZPMC and ABF identified several arc strikes as needing to be removed and none of these areas were marked by these Inspectors as needing to be MT inspected. QA marked several of these areas as needing MT inspections. See the photograph below for additional information.

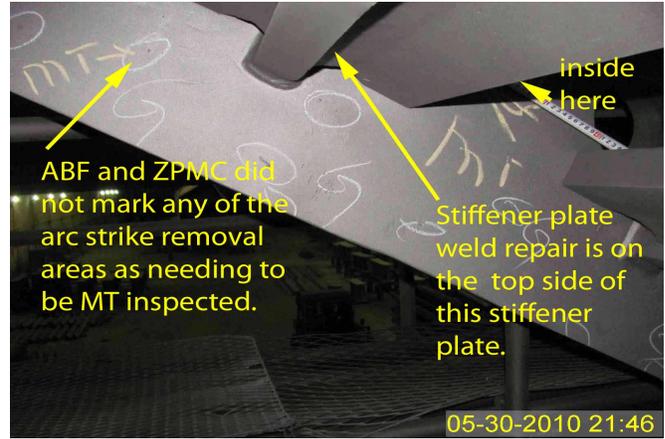
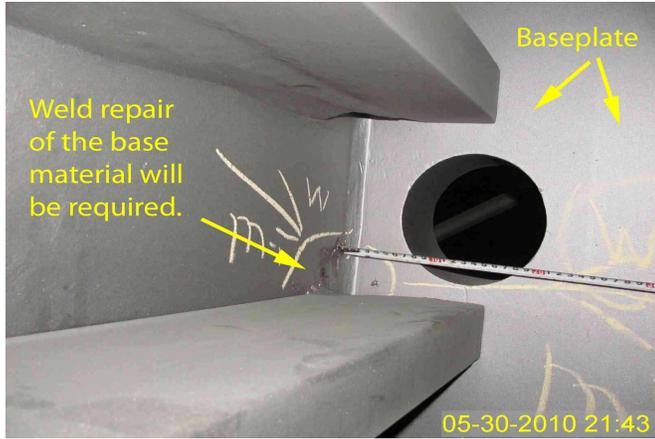
Segment Trial Assembly

ABF issued “Inspection Notification Sheet” number 05302010-1 item #1 informing QA that on 05-30-2010 at 22:30 hours ABF Inspectors will be performing ultrasonic (UT) inspections of weld OBW7C-008 which joins OBG segment 7DW to 7EW bottom plates. This weld is located in the trial assembly area. ABF/Sense UT Inspectors informed this QA Inspector that the weld repair areas are 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 repairs appear to comply with project specifications. Items observed on this date appeared to generally comply with applicable contract documents. 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.



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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
