

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-017794**Date Inspected:** 21-Oct-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: ABF: Mr. Shang Qing Quan, Mr. Li Shi You

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 14

This QA Inspector observed ZPMC welder Mr. Wang Li, stencil 044772 used shielded metal arc procedure WPS-345-SMAW-4G(4F)-Repair to make OBG segment 14E weld repair SEG3019A-007. ZPMC has issued weld repair document B-WR16036 and this document references UT report 787-UT-1636. This QA Inspector observed Mr. Wang Li has a welding current of approximately 160 amps and the base materials had been preheated with electric heaters prior to commencement of welding. This QA Inspector observed the shielded metal arc welding electrodes were stored in an electrically heated electrode storage container and it 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. Hong Yong Li, stencil 044801 used flux cored welding procedure WPS-B-T-2232-TC-U4B-F to make OBG segment 13CE stiffener plate welds VP3008-001 and VP3008-003. This QA Inspector measured a welding current of approximately 300 amps, 30.0 volts and Mr. Hong Yong Li appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with

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electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Min, stencil 044771 used submerged arc welding procedure specification WPS-B-T-2221-B-U2C-S-1 to make OBG segment 14E weld SEG3019AP-001. This QA Inspector measured a welding current of approximately 685 amps, 30.5 volts and Ms. Wang Min appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Chuanzong, stencil 044824 used flux cored welding procedure WPS-B-T-2231-B-U2-F make OBG segment 14E weld SEG3019AP-003. This QA Inspector measured a welding current of approximately 295 amps, 28.5 volts and Mr. Chen Chuanzong appeared to be certified to make this weld. This QA Inspector observed the base materials were preheated with electric heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Wang Lanying, stencil 045265 used submerged arc welding procedure WPS-B-T-2221-B-U2C-S-1 to make OBG segment 14W weld SEG3020AQ-027. This butt weld joins anchor plate AP3013 to AP3014. This QA Inspector observed a welding current of approximately 670 amps and 31.0 volts. Ms. Wang Lanying appeared to be certified to make this weld, and electrical heaters had been used to preheat the base material. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Mr. Li Xianyou, stencil 047866 used flux cored welding procedure WPS-B-T-2232-TC-U5-F to make OBG segment 13AW weld SEG3013H-001. This weld joins floor beam FB3188 to bottom plate BP3074A. This QA Inspector measured a welding current of approximately 280 amps and 29.5 volts. Mr. Xi Xianyou appeared to be certified to make this weld and the base materials were 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 Ms. Hue Junrong, stencil 201215 used flux cored welding procedure WPS-B-T-2232-TC-U5-F to make OBG segment 13AW weld SEG3013H-001. This weld joins floor beam FB3188 to bottom plate BP3074A. This QA Inspector measured a welding current of approximately 275 amps and 30.5 volts. Ms. Hue Junrong appeared to be certified to make this weld and the base materials were preheated with electrical heaters prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

Segment 12AW, Yard behind bay 13

This QA Inspector observed a welder performing overhead welding of visual rejections in a stiffener plate in segment 12AW adjacent to panel point PP112. Just after when this Inspector took a photo of the welder, the welder saw that a photograph had been taken and he immediately ducked through the access hole and left the area. This QA Inspector contacted ABF representative Mr. Kelvin Cheung and informed him of this situation and he said he would have dayshift remove the weld(s). This QA Inspector did not locate any QC Inspectors in this area. Segment 12AW is located in the trial assembly area northwest of bay 13. This welding took place at around 9:30

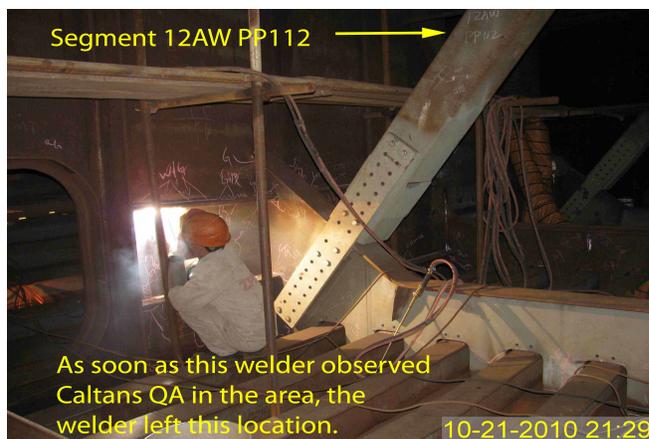
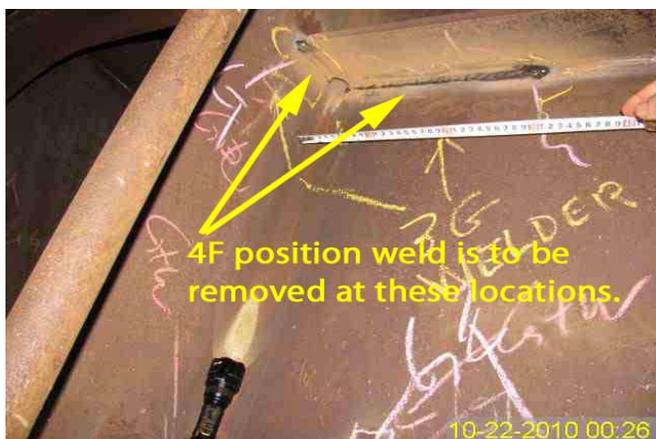
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PM and the workers were preparing to leave for home at 10:00 PM. Below are photos showing this welding. The plate that was being welded has SEG3004H written on it and this QA Inspector was not able to determine the weld numbers. Items observed on this date do not appear to fully comply with applicable contract documents.

Blast Shop 1

ZPMC requested Caltrans personnel to perform visual inspections of East Tower Lift 3 exterior surfaces on October 22, 2010 at around 02:30 hours following the initial pre-blast cleaning of the steel surfaces. Caltrans QA Inspector Mr. Bascar Govindarajan and this QA Inspector performed random visual inspections of these areas. This QA Inspector visually observed approximately 40 locations that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, and other minor surface rejections and approximately ten areas that require magnetic particle inspections. ABF and ZPMC Inspectors also performed visual inspections of the areas indicated above. This QA Inspector marked skin D at approximately 1710 mm from lower the end of the shaft and 200 mm from the C/D corner as needing magnetic particle inspections and following grinding of this location, ZPMC MT Inspectors identified approximately seven linear indications at that location which were not removed after approximately 2 mm of material was removed from the surface of skin D. Mr. Bascar Govindarajan issued a "Blast Inspection" incident report to document the results of these inspections.



Summary of Conversations:

See Above.

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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
