

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-012682**Date Inspected:** 13-Mar-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. Li Qing

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. Fang Long Pu stencil 049128 is using shielded metal arc weld procedure WPS-B-P-2112-FCM to tack weld 12AE corner assembly CA6501 plates together. This QA Inspector observed that Mr. Fang Long Pu used a torch to preheat the base material prior to making tack welds. This QA Inspector measured a welding current of approximately 150 amps and the welding electrodes are warm to the touch but the electrode storage heated container was not connected to any power supply. This QA Inspector observed Mr. Fang Long Pu connecting the electrode storage container to an electrical power supply and Mr. Fang Long Pu appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Ms. Hue Junrong, stencil 201215, has recently used flux cored welding procedure WPS-B-T-2231-TC-U4b-F to make OBG corner assembly weld CA3006-004. This QA Inspector observed Ms. Hue Junrong, was not welding but this welder appears to be certified to make this weld. Items

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observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xu Li Fuli, stencil 045136 has recently used shielded metal arc process WPS-B-T-2112 to tack weld various floor beams and longitudinal diaphragms near OBG segment 12CW panel point 115. This QA Inspector observed Mr. Xu Li Fuli is certified to make this weld and the shielded metal arc welding electrodes are being stored in an electrically heated electrode storage container. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Changming, stencil 047864 has recently completed using shielded metal arc welding procedure specification WPS-345-SMAW-3G(3F)-Repair to complete weld SEG071B-003. ZPMC QC Inspector Mr. Li Ming Yang informed this QA Inspector that this weld is being repaired as a result of an ultrasonic rejection. This QA Inspector observed ZPMC QC has recorded a welding current of 158 amps and the welding electrodes are being stored in a heated portable electrode storage oven and Mr. Wang Changming appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 19

This QA Inspector observed ZPMC welder Mr. Hou Li Hai, stencil 062746 is using shielded metal arc welding procedure WPS-345-SMAW-3G(3F)-Repair to make repair welds to support bracket weld SB007-036-055 Repair #3. This work is being performed as directed by ZPMC weld repair document BCWR-1308 as a result of UT rejects that are documented on UT report B787-UT-10807R. Note: this CWR document has been submitted to Caltrans for approval and this document does not appear to have been stamped as being approved by the Caltrans Engineering Department. This QA Inspector observed the welding electrodes are being stored in a portable rod oven which is connected to an electric power cable. When his QA Inspector arrived approximately half of this weld repair had been completed and this QA Inspector observed the base material appears to have been preheated with a torch prior to commencement of welding. ZPMC QC Inspector Mr. Xu Tao appears to be monitoring the base material temperature using a laser temperature indicating device. This QA Inspector measured a welding current of approximately 175 amps and Mr. Dai Lu appears to be certified to make this weld. This QA Inspector observed the weld repair document states "QC and a Lead CWI (Certified Welding Inspector) shall be present and monitor all gouging, grinding and welding operations during the repair". This QA Inspector did not observe any CWI Inspectors in OBG Bay 19 and when questioned about this statement Mr. Xu Tao informed this QA Inspector that CWI Mr. Zhu Zhong Hui had been in this bay earlier in the shift and that and ask him to come back to OBG Bay 19. Approximately ten minutes late CWI Mr. Zhu Zhong Hui arrived in OBG bay 19 and he commenced monitoring of this welding. Items observed on this date do not fully appear to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yu Youbing, stencil 062761 is using flux cored welding procedure WPS-345-FCAW-3G(3F)-Repair to make repair welds to support bracket weld SB008-044-043 Repair #3 This work is being performed as directed by ZPMC weld repair document BCWR-1293 as a result of UT rejects that are documented on UT report B787-UT-11213R. Note: this CWR document has been submitted to Caltrans for approval and this document does not appear to have been stamped as being approved by the Caltrans Engineering Department. This QA Inspector observed the welding electrodes are being stored in a portable rod oven which is connected to an electric power cable. When this QA Inspector arrived approximately half of this weld repair had

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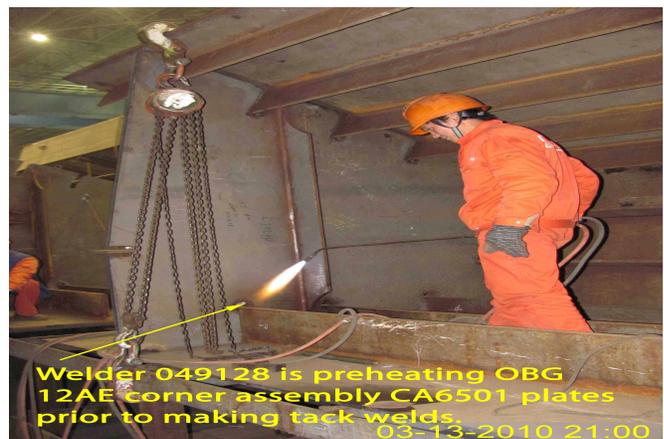
been completed and this QA Inspector observed the base material appears to have been preheated with a torch prior to commencement of welding. ZPMC QC Inspector Mr. Xu Tao appears to be monitoring the base material temperature using a laser temperature indicating device. This QA Inspector measured a welding current of approximately 220 amps, 25.7 volts and Mr. Yu Youbing appears to be certified to make this weld. This QA Inspector observed the weld repair document states “QC and a Lead CWI (Certified Welding Inspector) shall be present and monitor all gouging, grinding and welding operations during the repair”. This QA Inspector did not observe any CWI Inspectors in OBG Bay 19 and when questioned about this statement Mr. Xu Tao informed this QA Inspector that CWI Mr. Zhu Zhong Hui had been in this bay earlier in the shift and that and ask him to come back to OBG Bay 19. Approximately ten minutes late CWI Mr. Zhu Zhong Hui arrived in OBG bay 19 and he commenced monitoring of this welding. Items observed on this date do not fully appear to comply with applicable contract documents.

This QA Inspector observed ZPMC ultrasonic (UT) Inspector Mr. Wu Yong Jun to be performing ultrasonic (UT) inspections of support brackets repaired welds SB40W-007 and SB36E-037 which had recently been weld repaired. This QA Inspector observed Mr. Wu Yong Jun completing the UT inspections and he marked both of the welds as being “UT Accept”. This QA Inspector asked Mr. Wu Yong Jun if he had performed a scan “E” transverse scan with the transducer as required by AWS D1.5 figure 6.7. Mr. Wu Yong Jun said he had forgotten to perform this “E” transverse scan and that he will now perform this scan, which he did. Items observed on this date do not fully appear to comply with applicable contract documents. See the photograph below for additional information.

OBG Bay 19

This QA Inspector observed ZPMC magnetic particle Inspectors appear to have completed performing magnetic particle (MT) inspections of welds on support bracket SB036W and no MT weld rejections were identified. See the photograph for additional information.

This QA Inspector observed no ZPMC personnel were welding on Caltrans OBG segments or tower assemblies in OBG Bay 19.



Summary of Conversations:

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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
