

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-018850**Date Inspected:** 22-Dec-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 Inspector: Mr. Bao Qian

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.

OBG Bay 14

Segments 13E and 14E

This QA Inspector observed ZPMC welder Mr. Sun Lingling, stencil 048047 used shielded metal arc welding procedure specification WPS-345-SMAW-3G(3F)-FCM-Repair-1 to complete weld repairs of OBG segment 14E Anchor Plate weld AP3013-948. This weld had previously been marked by ZPMC QC as having visual rejections and several areas had been marked as needing to be welded and ground. As this QA Inspector walked toward where this welding was taking place Mr. Sun Lingling stopped welding and he moved off of the anchor plate. This QA Inspector went to where Mr. Sun Lingling appeared to have been welding and all base materials around that location appeared to be at an ambient temperature and the weld material where several small welds had recently been made were warm to the touch. At the time that this observation was made no ZPMC or ABF welding Inspectors were near where this welding was taking place. This QA Inspector located ABF CWI Mr. Bao Qian and when he arrived at segment 14E Anchor Plate this QA Inspector showed Mr. Bao Qian the area where Mr. Sun Lingling had been welding and Mr. Bao Qian informed this QA Inspector that ZPMC will grind out the newly

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installed weld materials and after the base materials are preheated that new weld repairs will be made. This QA Inspector asked Mr. Sun Lingling to measure the welding current being used by Mr. Sun Lingling and both this QA Inspector and Mr. Bao Qian observed a welding current of approximately 196 amps. This QA Inspector observed that the maximum welding current listed in the welding procedure specification is 160 amps and Mr. Sun Lingling had a welding current that was approximately 36 amps above this maximum limit. Mr. Bao Qian informed Mr. Sun Lingling the welding current was too high. Mr. Sun Lingling adjusted this welding machine to approximately 155 amps. Following adjustment of the welding machine, items observed on this date appeared to generally comply with applicable contract documents. See the photograph below for additional information.

This QA Inspector observed ZPMC welder Mr. Yang Gencheng, stencil 066418 used shielded metal arc welding procedure specification WPS-345-SMAW-3G(3F)-FCM-Repair-1 to complete repairs of various rejections on OBG segment 14E Anchor Plate weld AP3013-948. This QA Inspector measured a welding current of approximately 188 amps and that the maximum welding current listed in the welding procedure specification is 160 amps. Mr. Yang Gencheng had a welding current that was approximately 28 amps above this maximum limit.

At the time this measurement was made no ZPMC or ABF welding Inspectors were near where this welding was taking place. This QA Inspector showed Mr. Yang Gencheng the welding amperage meter and a copy of the WPS and Mr. Yang Gencheng agreed the welding current was too high. Mr. Yang Gencheng adjusted this welding machine to approximately 160 amps. Later in the shift this QA Inspector informed ABF CWI Mr. Bao Qian the welding current had been too high. Following adjustment of the welding machine, items observed on this date appeared to generally comply with applicable contract documents. See the photographs below for additional information.

This QA Inspector observed ZPMC welder Mr. Hong Liang, stencil 200113 used shielded metal arc welding procedure specification WPS-345-SMAW-4G(4F)-Repair-1 to make repairs of OBG segment 13AE weld SEG3007AC-007. This weld had been ultrasonically rejected and was repaired in accordance with weld repair document B-WR19173. This QA Inspector observed ZPMC QC recorded the depth of the repair was 12mm, Mr. Hong Liang had a welding current of 158 amps, 25.4 volts and a travel speed of 114mm per minute. This QA Inspector measured a welding current of approximately 140 amps and Mr. Hong Liang 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. Yuan Wensong, stencil 055491 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 13AE welds SEG3007D-024 through 029. This QA Inspector measured a welding current of approximately 240 amps and 24 volts. The base materials had been preheated with an electric heater and Mr. Yuan Wensong 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. Hong Liang stencil 050242 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 13AE welds SEG3007Q-138 through 143. ZPMC QC had recorded a welding current of 258 amps, 26.5 volts and a welding travel speed of 142 mm per minute. This QA Inspector measured a welding current of approximately 260 amps and 26.5 volts. Mr. Hong Liang 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. Zhu Jibo, stencil 055564 used flux cored welding procedure

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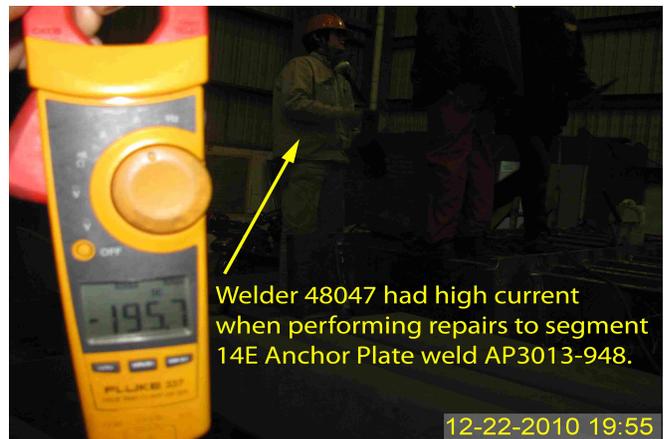
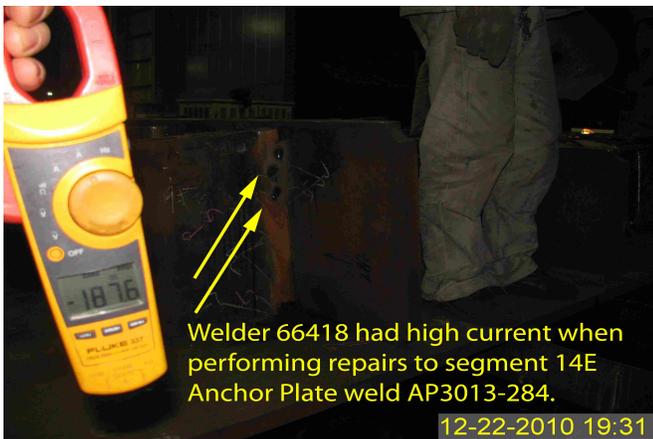
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WPS-B-T-2233-ESAB to make OBG segment 13AE welds SEG3007P-290 through 295. ZPMC QC had recorded a welding current of 254 amps, 26.59 volts and a welding travel speed of 140 mm per minute. This QA Inspector measured a welding current of approximately 240 amps, 26.0 volts and Mr. Zhu Jibo 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. Ye Bing stencil 066733 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 14E weld SEG3019K-1-002. This QA Inspector observed ZPMC QC has recorded a welding current of 259 amps, 26.1 volts and a welding travel speed of 135mm per minute. This QA Inspector observed Mr. Ye Bing appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Jin Rong, stencil 066471 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 14E welds SEG3019J-270 through 278. ZPMC QC had recorded a welding current of 250 amps, 26.7 volts and a welding travel speed of 135mm per minute. This QA Inspector observed Mr. Jin Rong 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. Han Lin stencil 062782 used flux cored welding procedure WPS-B-T-2233-ESAB to make OBG segment 14E weld SEG3019E-1-178. This QA Inspector observed ZPMC QC had recorded a welding current of 257 amps, 26.3 volts and a travel speed of 142mm per minute. This QA Inspector observed Mr. Han Lin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.



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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 James Devey +8615000026784, who represents the Office of Structural Materials for your project.

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