

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-018773**Date Inspected:** 21-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 Inspectors: Mr. Bao Qian, Mr. Lv 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.

OBG Bay 13

Segment 14E

This QA Inspector observed ZPMC welder Ms. Duan Ziuzhi, stencil 050502 used submerged arc welding procedure specification WPS-B-T-2221-B-L2C-S-2 to complete OBG segment 13AE groove weld SA3011-003-002. This QA Inspector measured a welding current of approximately 600 amps, 30 volts and Ms. Duan Ziuzhi appeared to be certified to make this weld. This QA Inspector observed the base materials had been 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. Liu Xiaolin stencil 067079 used flux cored welding procedure specification WPS-B-T-2232-ESAB to make OBG segment 13AE groove weld SA3011-001-005. This QA Inspector observed ZPMC has recorded a welding current of approximately 303 amps and 25.9 volts, a welding travel speed of 330mm per minute. This QA Inspector measured a welding current of approximately 300 amps, 26.

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4 volts and Mr. Liu Xiaolin appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 14

Segments 13E and 14E

This QA Inspector observed ZPMC welder Mr. Wu Hai Jun, stencil 201087 used shielded metal arc welding procedure specification WPS-345-SMAW-3G(3F)-FCM-Repair-1 to complete repairs of various rejections on OBG Anchor Plate segment 14E. This QA Inspector measured a welding current of approximately 179 amps and that the maximum welding current listed in the welding procedure specification is 160 amps. Mr. Wu Hai Jun had a welding current that was approximately 19 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. Wu Hai Jun the welding amperage meter and a copy of the WPS and Mr. Wu Hai Jun he agreed the welding current was too high. Mr. Wu Hai Jun adjusted this welding machine to approximately 160 amps. Later in the shift this QA Inspector informed ZPMC CWI Mr. Lv Li Qing and ABF CWI Mr. Bao Qian the welding current had been too high and both Inspectors stated they did not know the identification number for the weld that was being repaired. Mr. Bao Qian referenced a construction drawing and determined this weld was located between plates X4738B and X4769A. 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-3G(3F)-FCM-Repair-1 to complete repairs of various rejections on OBG Anchor Plate segment 14E. This QA Inspector measured a welding current of approximately 172 amps and that the maximum welding current listed in the welding procedure specification is 160 amps. Mr. Hong Liang had a welding current that was approximately 12 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. Hong Liang the welding amperage meter and a copy of the WPS and Mr. Hong Liang he agreed the welding current was too high. Mr. Hong Liang adjusted this welding machine to approximately 155 amps. Later in the shift this QA Inspector informed ZPMC CWI Mr. Lv Li Qing and ABF CWI Mr. Bao Qian the welding current had been too high and both Inspectors stated they did not know the identification numbers for the weld that was being repaired. Mr. Bao Qian referenced a construction drawing and determined this weld was located between plates X4733B and X4769A. 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 Ms. Wang Min, stencil 044771 used submerged arc welding procedure specification WPS-B-T-2221-B-L2C-S-2 to complete OBG segment 14E groove weld SEG3019M-027. This QA Inspector observed ZPMC QC has recorded a welding current of 610 amps, 31.7 volts and a welding travel speed of 562mm per minute. This QA Inspector observed that Ms. Wang Min 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. Chen Chuanzong, stencil 044824 used flux cored welding

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procedure specification WPS-B-T-2232-ESAB to make OBG segment 14E weld SEG3019D-1-323. This QA Inspector observed ZPMC QC recorded a welding of 294 amps, 25.71 volts and a welding travel speed of 300mm per minute. This QA Inspector observed Mr. Chen Chuanzong 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 SEG3019L-1-077. This QA Inspector observed ZPMC QC has recorded a welding current of 254 amps, 25.5 volts and a welding travel speed of 139mm per minute. This QA Inspector measured a welding current of approximately 230 amps, 25.0 volts and that 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 Ms. Gao Yuling stencil 217805 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 14E weld SEG3019BC-021. This QA Inspector observed ZPMC QC has recorded a welding current of 299 amps, 25.8 volts and a welding travel speed of 306mm per minute. This QA Inspector observed Ms. Gao Yuling 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.

This QA Inspector observed ZPMC welder Mr. Jin Rong, stencil 066471 used flux cored welding procedure WPS-B-T-2232-ESAB to make OBG segment 14E weld SEG3019AA-028. ZPMC QC had recorded a welding current of 301 amps, 25.7 volts and a welding travel speed of 309mm per minute. This QA Inspector measured a welding current of approximately 300 amps, 26.5 volts and 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. Jian Zhou, stencil 067571 used shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair-1 to make repairs of OBG segment 13AE floor beam FB3120 welds. Weld repair document B-WR18309 indicates that these repairs are to correct floor beam FB3120 misalignment. This QA Inspector observed ZPMC QC has recorded a welding current of 157 amps and 24.9 volts.

This QA Inspector observed Mr. Jian Zhou 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 stencil 068097 used shielded metal arc welding procedure WPS-345-SMAW-4G(4F)-FCM-Repair-1 to make repairs of OBG segment 13AE floor beam FB3107 welds. Weld repair document B-WR18309 indicates that these repairs are to correct floor beam FB3107 misalignment. This QA Inspector observed ZPMC QC has recorded a welding current of 157 amps and 24.9 volts. 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
Reviewed By: Carreon,Albert

Quality Assurance Inspector
QA Reviewer
