DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-013643
Date Inspected: 22-Apr-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1900
OSM Departure Time: 700
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. Geng Wei

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. Sun Gusong, stencil 058592 is using shielded metal arc welding process to weld temporary alignment plates to deck panel DP3008-001 that is located at OBG segment 12AE, panel point PP110. This QA Inspector observed Mr. Sun Gusong 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 stencil 221031 is using shielded metal arc welding process to weld a temporary lifting attachment plate to deck panel DP3027-001. This QA Inspector observed the base material appears to have been preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

ABF issued “Inspection Notification Sheet” number 04212010-1 item #4 informing QA that on 4-22-2010 at 19:30 hours ABF Inspectors will be performing ultrasonic (UT) inspections of repaired weld CA073-004 which joins the

deck plate and edge plate on the counterweight side of OBG segment 10BW. This weld is located in OBG bay 14. QA Inspector Mr. Mike Hasler was informed by ABF/Sense UT Inspectors that this weld has unacceptable transverse indications at locations Y=4385, Y=17,190 and Y=17,210 and the other repair areas are acceptable. This QA Inspector performed ultrasonic inspections at the eight weld repair locations as listed on the UT report data sheets for detection of longitudinal and planar transverse indications utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and no additional UT rejections were observed. 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 and no TL-6027 UT report was issued for these inspections.

ABF issued "Inspection Notification Sheet" number 04212010-1 item #5 informing QA that on 4-22-2010 at 19:30 hours ABF Inspectors will be performing ultrasonic (UT) inspections of repaired weld CA073-004 which joins the deck plate and edge plate on the counterweight side of OBG segment 10BW. This weld is located in OBG bay 14. QA Inspector Mr. Mike Hasler was informed by ABF/Sense UT Inspectors that the three weld repair areas are acceptable. This QA Inspector performed ultrasonic inspections at the three weld repair locations as listed on the UT report data sheets for detection of longitudinal and planar transverse indications utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and no UT rejections were observed. 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 and no TL-6027 UT report was issued for these inspections.

Segment Trial Assembly

This QA Inspector observed ZPMC welder Mr. Yan Ailong, stencil 067103 is using flux cored welding procedure WPS-B-T-223(2)-1T-2 to make weld OBE8-002. This weld joins OBG segment 8AE and OBG segment 8BE top deck plates. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 231 amps and 28.1 volts. This QA Inspector measured a welding current of approximately 260 amps and 28 volts. This QA Inspector observed that Mr. Yan Ailong 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 Mr. Peng Jian Cheng, stencil 222396 is using flux cored welding procedure WPS-B-T-223(2)-1T-2 to make weld OBE8-003. This weld joins OBG segment 8AE and OBG segment 8BE top deck plates. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 233 amps and 28.5 volts. This QA Inspector measured a welding current of approximately 270 amps and 32 volts. WPS-B-T-223(2)-1T-2 lists that the maximum welding voltage is 30 volts, and the welding voltage appears to be approximately two volts higher than the maximum listed in the WPS. This QA Inspector asked ZPMC CWI Mr. Liu Hua Jie if he had a welding amperage and voltage meter available to verify the welding voltage and he indicated the meter is located in the QC office. Mr. Liu Hua Jie adjusted the welding voltage and this QA Inspector then measured a welding voltage of approximately 28 volts. This QA Inspector observed that Mr. Peng Jian Cheng appears to be certified to make this weld. Items observed on this date do not fully appear to comply with applicable contract documents.

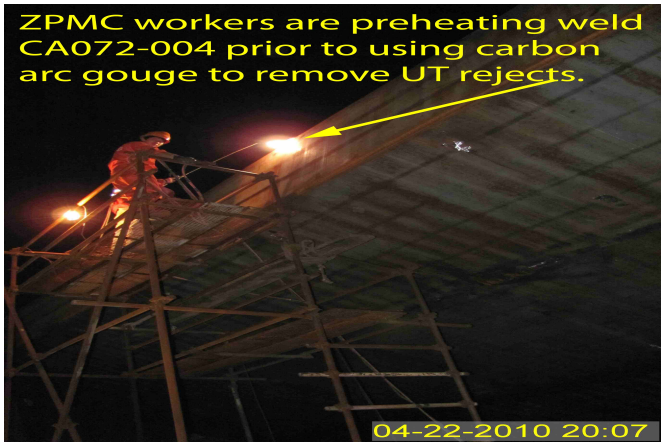
This QA Inspector observed ZPMC welder Mr. Li Gui Min, stencil 222369 is using flux cored welding procedure WPS-B-T-223(2)-1T-2 to make weld OBE8-003. This weld joins OBG segment 8AE and OBG segment 8BE top deck plates. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 233 amps and 28.5 volts. This QA Inspector observed that Mr. Li Gui Min 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 Mr. Chen Cheng Hua, stencil 220067 is using flux cored welding procedure WPS-B-T-223(2)-1T-2 to make weld OBE8-003. This weld joins OBG segment 8AE and OBG segment 8BE top deck plates. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 233 amps and 28.5 volts. This QA Inspector observed that Mr. Chen Cheng Hua 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 Mr. Huang Hongpei, stencil 37705 is using flux cored welding procedure WPS-B-T-223(2)-1T-2 to make weld OBE8-004. This weld joins OBG segment 8AE and OBG segment 8BE top deck plates. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 230 amps and 28.4 volts. This QA Inspector observed that Mr. Huang Hongpei 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 Mr. Zhao Pan, stencil 220063 is using flux cored welding procedure WPS-B-T-2233-TC-U4b-F to make OBG segment 7DE weld SEG040C-040 and -043 between a longitudinal diaphragm and floor beam 12B at panel point PP58. This QA Inspector observed a welding current of approximately 310 amps and 28.0 volts. This QA Inspector observed the base material appears to have been preheated with a torch and that Mr. Zhao Pan appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.



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

WELDING INSPECTION REPORT

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Reviewed By: Carreon,Albert QA Reviewer