

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-004937**Date Inspected:** 14-Dec-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Geng Wei, Zhang Bao Wei**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 Assembly**Summary of Items Observed:**

This report serves to document the events occurring on this date at the following location. Caltrans Quality Assurance (QA) Inspector Robert Vatcher 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. The QA Inspector observed the following:

OBG Assembly Bay I

Welding and placement of the temporary fixture for the new Orthotropic Box Girders (OBG) continues.

OBG Assembly Bay II

5AE-

Lift Interior- No observed welding activity

QA observed multiple locations where grinding is occurring for breaking edges for paint.

Lift Topside- Surveying being conducted. No Observed Welding Activity however QA observed multiple locations where grinding is occurring for breaking edges for paint.

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5BE-

Lift Interior- No observed welding activity

Lift Topside-

QA observed multiple locations where grinding is occurring for breaking edges for paint.

In process fit up of panel point 32 at deck panel DP352-001.

5CE-

Lift Interior- No observed welding activity

Lift Topside-

QA observed that DP353-001 to DP380-001 & DP434-001 to DP461-001 are welded out completely.

QA observed multiple locations where grinding is occurring for breaking edges for paint.

3AE-

Lift Interior-

QA observed diaphragm plate to diaphragm plate joining operations being conducted at panel point 22.

QA observed diaphragm plate to diaphragm plate grinding operations being conducted at panel point 20 for final weld disposition. As well 6.0 millimeter size fillet weld being performed at this panel point between panels 21 and 20.

QA observed diaphragm plate to diaphragm plate grinding operations being conducted at panel point 19 for final weld disposition.

Lift Topside-

Grinding of stiffener plates for joint cleanliness occurring at DP630A.

3BE-

Lift Interior- No observed welding activity

Lift Topside- No observed welding activity however edge panel assembly CA4A is being set into place and will be fit up for welding in the near future.

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4AE-

Lift Interior- No observed welding activity

Lift Topside- Surveying being conducted.

4BE-

Lift Interior- No observed welding activity

Lift Topside- No Observed Welding Activity

Mid bay-

QA observed the in process joining of SEG032B-001 side plates SP336A & SP309A by the SAW process. QA measured welding parameters in accordance with welding procedure specification WPS-B-T-2221-B-L2C-S-2 utilizing non corroded or detritus bearing 4.0 mm diameter H14 electrode wire by qualified welding operator Wang Min 048296. Qualified welding status was verified by the presence of certification card from the welders pocket Measured amperage at 600.0, Voltage at 32.5, travel speed at 530 millimeters per minute. Preheat was measured at 80.0 degrees celsius. Flux was reclaimed and strained through a large rare earth magnet and immediately reused. QA performed a cursory visual examination of the previously joined area prior to further depositing of weld metal. ZPMC QC personnel Wang Jie was present for this welding evolution. The above mentioned items as observed and documented by QA appears to be in conformance with the contract documents.

5CW-

Lift Interior- No observed welding activity

Lift Topside- No Observed Welding Activity

5BW-

Lift Interior- No observed welding activity

Lift Topside- Back grinding being performed at SEG021*-028 deck panels DP135A to DP162 as well as SEG021*-027 DP216A to DP243A.

5AW-

Lift Interior- No observed welding activity

Lift Topside- No Observed Welding Activity

4BW-

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Lift Interior-

QA observed Jiang Shizhen 048694 utilizing an oxygen acetylene flame cutting torch at deck panel DP216-001 between diaphragm plate fit up & panel point 21 however upon closer look was utilizing a guide for assistance.

Lift Topside- No Observed Welding Activity

4AW-

Lift Interior- No Observed Welding Activity

Lift Topside- No Observed Welding Activity

3BW-

Lift Interior- No Observed Welding Activity

Lift Topside-

QA observed diaphragm plate to diaphragm plate welds installed at panel point 23. No Diaphragm plate to floor beam flange full length fillet welds installed at this time. No joining operations occurring at this location at this time as well.

QA observed diaphragm plate to diaphragm plate welds installed at panel point 24. Diaphragm plate to floor beam flange full length fillet welds installed at this time as well with the exception of both ends for the remainder of the last diaphragm plate. Also only the north side diaphragm plate to floor beam flange has been joined.

3AW-

Lift Interior- No Observed Welding Activity

Lift Topside-

QA observed the in process joining of CA001-W4, CA1A deck plate to edge plate (situated atop of the segment for permanent installation) by the FCAW process. QA observed ZPMC QC personnel Wu Shi Gao measure welding parameters in accordance with welding procedure specification WPS-B-T-2232-TC-U4b-S-2 utilizing non corroded or detritus bearing FCAW process utilizing 1.4 mm diameter Supercored 71H E71T-1 electrode wire in DCEP mode as well utilizing a stringer bead method per the welding procedure specification. QA observed the measured amperage to be 290 (average), voltage at 30.0 and a travel speed of 289 millimeters per minute. Preheat was measured to be approximately 78 degrees celsius by way of Fluke infrared temperature gun.

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QA observed the in process joining of SEG13A-032 deck plates (situated atop of the segment for permanent installation) DP4A & DP59A by the SAW process. QA observed ZPMC QC personnel Wu Shi Gao measure welding parameters in accordance with welding procedure specification WPS-B-T-2221-B-L2C-S-2 utilizing non corroded or detritus bearing 4.0 mm diameter H14 electrode wire by qualified welding operator Wang Lanying 045265. Measured amperage at 620.0. Voltage at 32.0, travel speed at 450 mm per minute. Flux was reclaimed and strained through a large rare earth magnet and immediately reused. QA performed a cursory visual examination of the previously joined area prior to further depositing of weld metal. 20C minimum preheat was established and measured by way of a Fluke infrared temperature thermometer.

QA observed that air handlers have been installed at the entrance to this lift for confined space purposes.

QA observed one joining operation at panel point 19, FB015-003 to SEG013-032 edge panel.

North Bay of OBG Assembly-

QA observed that joining operations are to be conducted shortly at SEG003A-008 side plates SP404A & SP405A by the SAW process. Preheating is currently being applied to the 28 millimeter thick base material. QA measured welding parameters in accordance with welding procedure specification WPS-B-T-2221-B-L2C-S-2 utilizing non corroded or detritus bearing 4.0 mm diameter H14 electrode wire by qualified welding operator Wang lan Ying 045265. Qualified welding status was verified by the presence of certification card from the welders pocket Measured amperage at 582.0, Voltage at 32.5, travel speed at 483 millimeters per minute. Preheat was measured at 110.0 degrees celsius. Flux was reclaimed and strained through a large rare earth magnet and immediately reused. QA performed a cursory visual examination of the previously joined area prior to further depositing of weld metal. ZPMC QC personnel Zhang Xian Ming was present for this welding evolution. AB/F QC personnel li Hanjie was available as well. The above mentioned items as observed and documented by QA appears to be in conformance with the contract documents.

Side Plate to Side Plate back grinding in progress at SP124-001 to SP097-001. QA performed a cursory visual examination of the preparation to sound metal.

QA observed at SEG037A-009 side plates SP719A to SP4381A that ceramic backing has been installed to facilitate joining without requiring back gouging and back welding.

North Sub-Assembly Area (Outside of OBG)

No observed joining operations

Summary of Conversations:

No relevant conversations this date.

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 Peter Dauterman, who represents the Office of Structural Materials for your project.

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Inspected By:	Vatcher,Robert	Quality Assurance Inspector
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Reviewed By:	Cuellar,Robert	QA Reviewer
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