

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-014855**Date Inspected:** 22-May-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. Li Yang, 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 13**

This QA Inspector observed ZPMC welder Ms. Huang Xinlan, stencil 044780 is using submerged arc welding procedure specification WPS-B-T-2221-2 to make OBG segment 13AE bottom plate groove butt weld BP3032-001-002. This QA Inspector observed the base material had been preheated with electric heating elements, ZPMC Quality Control Certified Welding Inspector Mr. Geng Wei is monitoring this welding and this QA Inspector measured a welding current of approximately 600 amps and 33.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.

**OBG Bay 14**

This QA Inspector observed one ZPMC worker is using the air carbon arc process to backgouge OBG segment 13BE corner assembly to side plate welds and another worker is using an acetylene torch to remove temporary alignment plates that span the weld joint between OBG segment 13BE and the top deck plate. This QA Inspector

---

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

---

observed no ZPMC personnel performing welding of OBG components in Bay 14.

### OBG Segment Assembly

This QA Inspector observed ZPMC welder Mr. Peng Jian Cheng, stencil 222396 is using flux cored welding procedure WPS-B-T-2233T to make weld OBE9B-001. This weld joins OBG segment 9AE and OBG segment 9BE cross beam side plates near panel point PP073. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 213 amps and 24.5 volts. This QA Inspector measured a welding current of approximately 280 amps and 29.0 volts. WPS-B-T-2233-T lists that the maximum welding current is 226 amps and the maximum voltage is 26.3 volts. Mr. Peng Jian Cheng appears to have a welding current that is approximately 55 amps above the maximum listed in the WPS and the voltage is approximately 3 volts above the maximum. This QA Inspector asked ZPMC CWI Mr. Liu Hua Jie to confirm these welding current and voltages and Mr. Liu Hua Jie attempted to measure these welding parameters with his meter and he then indicated his meter was not working properly. Mr. Liu Hua Jie used this QA Inspector's welding meter to adjust the welding current to 225 amps and the voltage to 24.0 volts. This QA Inspector observed that Mr. Peng Jian Cheng appears to be certified to make this weld. A review of this QA Inspector's April 22, 2010 observations reveals this is the second time that Mr. Peng Jian Cheng had welding parameters that were not in compliance with the welding procedure specifications. Items observed on this date do not fully appear to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhong Chongli, stencil 068554 is using flux cored welding procedure WPS-B-T-2233T to make weld OBE9B-001. This weld joins OBG segment 9AE and OBG segment 9BE cross beam side plates near panel point PP073. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 213 amps and 24.5 volts. This QA Inspector measured a welding current of approximately 240 amps and 23.6 volts. WPS-B-T-2233-T lists that the maximum welding current is 226 amps. Mr. Zhong Chongli appears to have a welding current that is approximately 15 amps above the maximum listed in the WPS. This QA Inspector informed ZPMC CWI Mr. Liu Hua Jie that the welding current appears to be above the maximum listed in the WPS. Mr. Zhong Chongli stopped welding shortly after this QA Inspector made these measurements. Items observed on this date do not fully appear to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liu Xie, stencil 066236 is using flux cored welding procedure WPS-B-T-2233T to make weld OBE9B-001. This weld joins OBG segment 9AE and OBG segment 9BE cross beam side plates near panel point PP073. This QA Inspector observed ZPMC QC personnel have recorded a welding current of 215 amps and 25.0 volts. This QA Inspector measured a welding current of approximately 245 amps and 27.0 volts. WPS-B-T-2233-T lists that the maximum welding current is 226 amps and the maximum voltage is 26.3 volts. Mr. Liu Xie appears to have a welding current that is approximately 20 amps above the maximum listed in the WPS and 1 volt above the maximum listed in the WPS. This QA Inspector informed ZPMC CWI Mr. Liu Hua Jie that the welding current and voltage appears to be above the maximum listed in the WPS. Mr. Liu Xie stopped welding shortly after this QA Inspector made these measurements. Items observed on this date do not fully appear to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yu Hui Ye, stencil 045143 is using flux cored welding procedure WPS-B-T-2232-TC-U4b-F-2 to make traveler rail mounting plate welds TR1B-PP53-001 and TR1B-PP53-002. This QA Inspector measured a welding current of approximately 290 amps and 30.0 volts. This QA Inspector observed that Mr. Yu Hui Ye appears to be certified to make this weld. Items observed on this date appeared to

---

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---

---

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.

---

|                      |                |                             |
|----------------------|----------------|-----------------------------|
| <b>Inspected By:</b> | Dawson,Paul    | Quality Assurance Inspector |
| <b>Reviewed By:</b>  | Carreon,Albert | QA Reviewer                 |

---