

**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-015424**Date Inspected:** 29-Jun-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. Geng Wei, Mr. Lu Zhao Gan

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 Segment Trial Assembly**

This QA Inspector observed ZPMC welder Mr. Wang Chang Ming, stencil 047864 has used the air carbon arc gouging process to remove material from traveler rail bracket weld TR2A(PP68)-002. This weld had been identified as having ultrasonic rejections and weld repair document B-WR13734 was issued to make this repair. The weld repair document indicates the ultrasonic rejection is not deep enough to require a critical weld repair. This QA Inspector measured the actual depth of the gouge was approximately 20 mm below the outside surface, the weld repair document indicates the base material thickness is 13 mm and the gouge appears to extend into the backing bar on the back side of complete joint penetration weld. Approximately 15 minutes later, after all ZPMC QC Inspectors had left the OBG trial assembly work area, this QA Inspector observed ZPMC welder Mr. Wang Chang Ming performing shielded metal arc welding in the bottom of the 20 mm deep weld groove in traveler rail bracket weld TR2A(PP68)-002. This QA Inspector informed ABF representative Mr. Zhang Xiao Bin that ZPMC has performed welding after all ZPMC QC / CWI Inspectors have left the OBG Trial Assembly area. ZPMC personnel then removed the welding cables and appeared to depart the jobsite.

---

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

---

### OBG Bay 14

This QA Inspector observed ZPMC welder Ms. Wang Min, stencil 044771 was using submerged arc welding procedure specification WPS-B-T-2221-U3C-S-2 to make OBG segment 13AE bottom plate groove butt weld BP3032-001-004. This QA Inspector observed Ms. Wang Min appears to be certified to make this weld and measured a welding current of approximately 640 amps and 31.0 volts. ZPMC has used electric heating elements to maintain the base material preheat temperature of the steel plates that are being welded. This QA Inspector observed the submerged arc welding machine hopper does not have any magnet as required by AWS D1.5, Paragraph 4.8.4; states: "SAW flux that has not been melted during the welding operation may be reused after recovery by vacuuming, use of catch pans, sweeping from weldment surfaces or other means. Recovered flux shall be passed through an appropriate screen and over a suitable magnet to remove unwanted particles and materials before being returned to the flux supply system." This QA Inspector asked QC Inspector Mr. Guo Xing Hui and ZPMC CWI Mr. Geng Wei why there is no magnet being used and both of the Inspectors informed this QA Inspector that this was the last welding pass that will be made today and after BP3032 is turned over that a magnet will be used when additional submerged arc welding is performed. Items observed on this date do not fully appear to comply with applicable contract documents. See the photographs below for additional information.

### OBG Bay 19

This QA Inspector observed ZPMC welder Mr. Wang Qixiang, stencil 062812 is using the shielded metal arc welding process to make 3F, vertical position OBG bikepath fillet weld BK004A4-004-073. This QA Inspector did not observe any ZPMC Quality Control Certified Welding Inspector in OBG Bay 19 and none of the welders spoke any English. This QA Inspector measured a welding current of approximately 150 amps and Mr. Wang Qixiang appears to be certified to make this weld. Items observed on this date appear to comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Li Jian Feng, stencil 260151 is using the shielded metal arc welding process to make 4F, overhead position OBG bikepath fillet weld BK004A4-004-072. This QA Inspector did not observe any ZPMC Quality Control Certified Welding Inspector in OBG Bay 19 and none of the welders spoke any English. This QA Inspector measured a welding current of approximately 150 amps and Mr. Li Jian Feng appears to be certified to make this weld. Items observed on this date appear to comply with applicable contract documents.

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---



## 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

---