

**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-000233**Date Inspected:** 18-Jun-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Zhou Daging**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:** Welder Qualification Testing**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Robert Cuellar is present at the fabrication facility of Zhenhua Port Machinery Company (ZPMC), LTD for the purpose of monitoring activities relative to the subsequent fabrication of the SFOBB Self Anchored Suspension Bridge. The following items have been observed,

Item	Description	WBS	Dwg No.	Status
1	Radiograph Review for PQR's and Welding Operator Qualification Radiograph Review	N/A	N/A	N/A

1) PQR Test Plate HP2007225- The Caltrans QA Inspector performed the review of retested radiographs that were subsequently taken after the PQR weld cap was ground. Initial review on June 11th, 2007 of the preliminary radiographs revealed linear indications that were not in compliance with AWS D1.5 (2002) requirements. These retest radiographs appear to be in compliance with the requirements of AWS D1.5 (2002). These radiographs have been previously reviewed by ZPMC and ABF representative Mr. Nate Lindell. Specific information relative to the radiographs for this PQR test have been recorded within a Caltrans TL-6032 for this date.

2) PQR Test Plate HP2007246-1- The Caltrans QA Inspector observed that the presented radiographs appear to be in general compliance with AWS D1.5 (2002). These radiographs have been previously reviewed by ZPMC and ABF representative Mr. Nate Lindell.

Specific information relative to the radiographs for this PQR test has been recorded within a Caltrans TL-6032

for this date.

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3) Welding Operator ID 070503151-The Caltrans QA Inspector performed the review of radiographs for a welding operator qualification test that is being attempted utilizing the submerged arc welding (SAW) process. The radiographs for this welding operator qualification test have been found to be non-compliant due to linear indications that do not comply with AWS D1.5 (2002). The Caltrans QA Inspector physically observed the welding operator qualification test plate assembly and identified that the SAW weld cap has not been ground.

It is inconclusive as to whether or not the SAW, weld cap represents the non-compliant linear indications within the presented radiographs. These radiographs have been previously reviewed and accepted by ZPMC

and ABF representative Mr. Nate Lindell. Included below is a digital picture of the observed welding operator qualification test plate assembly that still contains the weld cap.

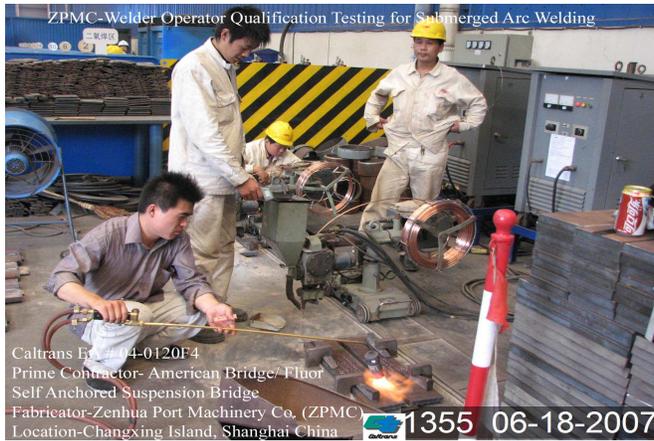


2	Welder/Welding Operator Qualification Testing	N/A	N/A	N/A
	Welder/Welding Operator Qualification Testing			

The Caltrans QA Inspector was accompanied by ZPMC representative Mr. Xu Jun and ABF representative Mr. Kevin Dye for the purpose of traveling to a remote ZPMC location on Changxing Island for the purpose of observing in process Welder and Welding Operator qualification tests. The Caltrans QA Inspector observed that ZPMC has an established Welder/ Welding Operator qualification test facility at an area located approximately 15 to 20 minutes traveling by car from the main facility in Changxing Island. At the entry of this area there are representatives who are maintaining Welder/Welding Operator Qualification records that are applicable to these tests. The Caltrans QA Inspector observed numerous Welder's and Welding Operator's in process of attempting qualification utilizing the shielded metal arc welding (SMAW) process, the flux cored arc welding (FCAW) process and also the submerged arc welding (SAW) process. The Caltrans QA Inspector observed that there are Moody International Representatives who are performing the monitoring of these Welder/Welding Operator Qualification tests. The Caltrans QA Inspector observed that there is a Moody International Certified Welding Inspector (CWI) identified as Mr. Zhou Daging with three assistants that are monitoring the Welder and Welding Operator qualification testing. Below are digital pictures of the Caltrans QA Inspector's observation of the activities being performed.

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|---|---|-----|-----|-----|
| 3 | Welder/Welding Operator Qualification Testing | N/A | N/A | N/A |
|---|---|-----|-----|-----|
- Based on document control documents generated by Moody International there are twenty four (24) FCAW, welders attempting qualification in the 3G position for unlimited thicknesses, there are twelve (12) SMAW, welders attempting qualification in the 3G position for unlimited thicknesses and eight (8) SAW, welding operators attempting qualification in the 1G position for unlimited thicknesses. The visual results for these welder/ welding operator qualification tests was not available during the Caltrans QA Inspector's presence. Based on random observations it appears that the observed welder/ welding operator qualification testing being performed is progressing in general compliance with AWS D1.5 (2002).

### Summary of Conversations:

During a daily meeting between ABF, ZPMC and Caltrans on-site representatives, ZPMC advised that Welder/ Welding Operator qualification testing would be performed through Friday June 22nd, 2007. Other items relative to on-going PQR testing and additional items were also discussed during the daily meeting between the on-site parties listed and such items are being recorded manually within a daily Caltrans OSM record that is being maintained on-site. The daily meeting record that documents discussed items between ABF, ZPMC and Caltrans was initially created during the first meeting between such parties starting on Wednesday June 6th, 2007.

### 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 Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Cuellar,Robert	Quality Assurance Inspector
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<b>Reviewed By:</b>	McClary,David	QA Reviewer
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