

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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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-001970**Date Inspected:** 30-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

|                                    |                              |           |            |                                  |             |           |            |
|------------------------------------|------------------------------|-----------|------------|----------------------------------|-------------|-----------|------------|
| <b>CWI Name:</b>                   | Hung Wen Pang/ Zhao Chen Sun |           |            | <b>CWI Present:</b>              | <b>Yes</b>  | <b>No</b> |            |
| <b>Inspected CWI report:</b>       | <b>Yes</b>                   | <b>No</b> | <b>N/A</b> | <b>Rod Oven in Use:</b>          | <b>Yes</b>  | <b>No</b> | <b>N/A</b> |
| <b>Electrode to specification:</b> | <b>Yes</b>                   | <b>No</b> | <b>N/A</b> | <b>Weld Procedures Followed:</b> | <b>Yes</b>  | <b>No</b> | <b>N/A</b> |
| <b>Qualified Welders:</b>          | <b>Yes</b>                   | <b>No</b> | <b>N/A</b> | <b>Verified Joint Fit-up:</b>    | <b>Yes</b>  | <b>No</b> | <b>N/A</b> |
| <b>Approved Drawings:</b>          | <b>Yes</b>                   | <b>No</b> | <b>N/A</b> | <b>Approved WPS:</b>             | <b>Yes</b>  | <b>No</b> | <b>N/A</b> |
|                                    |                              |           |            | <b>Delayed / Cancelled:</b>      | <b>Yes</b>  | <b>No</b> | <b>N/A</b> |
| <b>Bridge No:</b>                  | 34-0006                      |           |            | <b>Component:</b>                | OBG / Tower |           |            |

**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Roscoe Dixon was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG).

Bay 2 OBG

The QA Inspector observed ZPMC personnel flame cutting macro samples from the 77M mock up.

Bay 3 OBG:

The QA Inspector randomly observed ZPMC Welder Duan Yangang, utilizing the Shielded Metal Arc Welding (SMAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2112, to tack weld "T" stiffener web to plate material identified as piece mark SP118-001-010 and SP118-001-011 during fit up.

The QA Inspector visually verified the electrode filler metal as TL-508 with a diameter of 4.0 millimeters.

The QA Inspector observed that during the shift ZPMC CWI, Hung Wen Pang and various ZPMC CAWI Inspectors monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay #3.

The QA Inspector observed that the work performed generally appeared to conform to contract specifications.

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# WELDING INSPECTION REPORT

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Bay 4 Tower:

The QA Inspector randomly observed ZPMC Welding Operator Wu Zhi ID 049804, utilizing the Submerged Arc Welding (SAW Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-3221-U3C-S-1 in the 1F(Flat) position to weld fill passes for weld joint ESD1-SA234A/B-10B.

The QA Inspector visually verified a single electrode was being utilized for the filler passes, the filler metal was LA-85 with a diameter of 4.8 millimeters.

The QA Inspector observed and noted that during the welding operation the ZPMC welding operator would before welding over previous deposited weld pass utilized the proper cleaning method to remove slag prior to resuming the welding operation.

The QA Inspector observed that during the shift ZPMC CWI, Zhao Chen Sun and various ZPMC CAWI Inspectors monitoring the electrical parameters, travel speed and temperatures at several welding stations in Bay #4. The QA Inspector observed that the work performed generally appeared to conform to contract specifications. For more detail see photographs shown below:



## Summary of Conversations:

As noted within the report shown 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 Mazen Wahbeh, (818) 292-0659/Patric Lowrey, who represents the Office of Structural Materials for your project.

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**Inspected By:** Dixon, Roscoe

Quality Assurance Inspector

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**Reviewed By:** Hager, Craig

QA Reviewer