

**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-003860**Date Inspected:** 12-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Chih-Ming**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 deck panels**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

OBG assembly bay 2

QA performed Phased Array Ultrasonic Testing (PAUT) after Caltrans NDE technicians performed the preliminary scan with conventional Ultrasonic Testing (UT) in the tacked areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plates. This QA inspector performed 100 % PAUT in the areas that exhibited crack like indications with conventional UT. This QA inspector confirmed crack like indications as follows:

DP-001-001: (PAUT)

Weld# 1 – 1 tacks PAUT'ed – 1 indications verified

Weld# 2 – 1 tacks PAUT'ed – 0 indications verified

Weld# 3 – 2 tacks PAUT'ed – 3 indications verified

Weld# 4 – 3 tacks PAUT'ed – 1 indications verified

Weld# 5 – 2 tacks PAUT'ed – 2 indications verified

QA received two Non Destructive Testing (NDT) notifications from ZPMC QA department. Notification document #01021 and 01023. QA performed 10% Ultrasonic Testing (UT) verification on the following weld joints:

Notification #01021, welds SEG015-001 and SEG015-002. Both welds appear to be in compliance with AWS D1.

---

---

## WELDING INSPECTION REPORT

( Continued Page 2 of 2 )

---

---

5 2002 and the contract documents. QA noted that welds SEG013A-024 and SEG013A-026 were rejected by ZPMC UT technicians.

QA performed 10% UT verification on the following weld joints:

Notification #01023, weld DP308-001-117. This weld appears to comply with AWS D1.5 2002 and the contract documents. QA noted that weld DP497-001-117 was rejected by ZPMC NDT technicians.

No other observations were made in this bay tonight.

NOTE: 2 Deck Panels were purchased by Caltrans for testing and initial UT and PAUT procedural development purposes. At this time no written PAUT procedure has been issued. However, all the test samples identified with the PAUT method as crack indications were confirmed after macro-etching and magnetic particle testing.

QA noted that ZPMC is continuing to fit and weld external diaphragms to OBG deck panels, ignoring the “temporary suspension of fabrication” specific to the fit-up and welding of these diaphragms to the deck panels as outlined in state letter no. 05.03.01-002561 dated Aug. 15, 2008.

### Summary of Conversations:

Only general conversations were held between QA and QC concerning this project.

### 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 Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

---

|                      |                |                             |
|----------------------|----------------|-----------------------------|
| <b>Inspected By:</b> | Hall,Steven    | Quality Assurance Inspector |
| <b>Reviewed By:</b>  | Cuellar,Robert | QA Reviewer                 |

---