

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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016785**Date Inspected:** 05-Sep-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 Components**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance Inspector (QA Inspector) George Goulet was present during the times noted above for observations relative to the work being performed.

Bay 10

This QA Inspector randomly observed the following work in progress in Bay 10:

FCAW welding of temporary alignment beams to OBG 13AE bottom plate, side A, using connection plates. Welders were identified as 050242, 051356, 044795. QC was identified as ZPMC CWI Xu Le Feng (QC1). Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Zhang Lin (QCA1), who was not a CWI. Welding variables recorded by QCA1 appeared to comply with WPS-B-T-2132.

During the random visual inspection of OBG 13AE bottom plate this QA Inspector observed the following issues:

- ZPMC has temporarily welded steel plates attached to beams on the bottom plate.
- The approved shop drawings do not specify any welds in these areas.
- The members are identified as BP3032A and BP3033A.
- BP3033A is 60mm thick
- BP3032A is 100mm thick
- There are a total of 5 beams welded with plates to the BP
- The location of the bottom plates are in Bay 10.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

-The additional material and welding was not approved by the engineer

The above noted issues were not in conformance with contract documents. Note the following references:

AWS D1.5-2002 Section 6.5.1: "The Inspector shall make certain that the size, length, and location of all welds conform to the requirements of this code and to the detail drawings and that no unspecified welds have been added without approval".

AWS D1.5-2002 Section 3.3.8 Temporary welds: "Temporary welds shall be subject to the same WPS requirements as final welds." "Temporary welds at other locations shall be shown on the shop drawings." "They shall be removed unless approved by the engineer"

This QA Inspector also observed the following:

- Butt weld joint SEG3007A-001 which had been performed the previous day at or above a preheat temperature of 110°C and on this day appeared to be unfinished and at ambient temperature, approximately 30°C.
- Multiple 66°C Tempilstik temperature indicator marks applied by this QA Inspector to the adjacent base material within approximately 10mm from the weld did not melt. See photos below.
- The temperature of both plates in the area of the weld was cold to touch.

The above noted issues were not in conformance with contract documents. Note the following reference:

TC-RFI-0075R0, Response: Weld should not be allowed to cool to ambient temperature until all welding is complete.

This QA Inspector notified QC1 and ABF Representative Kelvin Cheung, who was also present at the above noted location, of the above noted non-conforming items and that this QA Inspector would generate an Caltrans Incident Report.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Summary of Conversations:

As noted 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, 150-0042-2372, who represents the Office of Structural Materials for your project.

Inspected By:	Goulet,George	Quality Assurance Inspector
----------------------	---------------	-----------------------------

Reviewed By:	Dawson,Paul	QA Reviewer
---------------------	-------------	-------------