DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/Ala Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-007198
Date Inspected: 06-Jun-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1845
OSM Departure Time: 645
Location: Shanghai, China

CWI Name:	Yu Dong Ping, Jin Dong Liang	**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:**	Tower and OBG Components

Summary of Items Observed:

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

Trial Assembly Area
This QA Inspector, George Goulet, randomly observed the following in segment 4BE:

A ZPMC worker was tightening ASTM A325 bolt sets on a side plate t-rib stiffener flange using a wrench longer than one meter. The t-rib stiffener was the 14th t-rib stiffener north of the north longitudinal diaphragm. The QC Inspector, identified as Shen Jian Bo (QC), and ABF Representative Zhang Xiao Bin (ABF) told this QA Inspector, George Goulet, that the worker was trying to close the gap between the lap plate and t-rib flange so that the bolt sets in the lap plate can be final tightened. QC told this Inspector, George Goulet, that the bolt sets had been snug tightened. The bolt set in question had not been marked for turn-of-nut tightening and was the outermost bolt set in the lap plate. This QA Inspector, George Goulet, informed QC that tightening that bolt would constitute final tightening out of sequence. QC informed this QA Inspector, George Goulet, that QC suspected there was debris between the bolted materials. The ZPMC worker began removing all the bolts in the lap plate. The lap plate was removed from the t-rib and what appeard to be sand blast material was brushes away. The lap plate was reinstalled and when the bolt sets were snug tightened, the gap was no longer present.

ZPMC workers were performing final bolt tightening of ASTM A325 bolt sets using a wrench longer than one meter on the 4AE/4BE transverse seam on the lap plates to the south side plate t-rib stiffeners. The workers appeared to be tightening the nuts to the turn-of-nut specification of 180° to 210°. However, it appeared to this

QA Inspector, George Goulet, that the workers were not following the sequence of tightening from the center of the lap plate outward to the ends. This QA Inspector, George Goulet, informed QC and the workers were instructed by QC to only tighten bolts in the above noted sequence. This QA Inspector, George Goulet, left the area and upon returning observed the workers performing final tightening of ASTM A325 bolt sets out of sequence on the 14th side plate t-rib stiffener south of longitudinal diaphragm. Upon closer inspection, this QA Inspector, George Goulet, observed that the bolt sets had not been marked for final tightening by turn-of-nut procedure. This QA Inspector, George Goulet, informed QC and ABF of the improper final tightening of the bolt sets. QC instructed the workers to stop work on the above noted t-rib stiffener lap plate and move to the next one. The workers then began marking the bolt sets on the t-rib stiffener lap plate on the 15th t-rib stiffener. The workers then proceeded to perform what appeared to be final tightening using the turn-of-nut procedure. This QA Inspector, George Goulet, informed QC and ABF that this QA Inspector, George Goulet, would write an Incident Report concerning improper final tightening of ASTM A325 bolt sets at the above noted location. This QA Inspector, George Goulet, issued an Incident Report concerning the above.

Bay 11
This QA Inspector, George Goulet, randomly observed the following work in progress in Bay 11:

SMAW tack welding of weld joints ESD1-FDSA4-2A/D-21A, 22A located on PCMK east tower, lift 4, skin D. Welder was identified as 203272. ZPMC QC was identified as CWI Yu Dong Ping (QC1). Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Ma Qian Li, who was not a CWI. The welding variables recorded by QC1 and QC1's assistant appeared to comply with WPS-B-T-2211-B-U3b -2. Also at this location and appearing to be monitoring the welding was ABF Representative Wang Jiang Hua (ABF1).

SAW welding of weld joints ESD1-FASA4-2A/C-51A, 52A located on PCMK east tower, lift 4, skin A. Welder was identified as 207463. ZPMC QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Ma Qian Li, who was not a CWI. The welding variables recorded by QC1 and QC1's assistant appeared to comply with WPS-B-T-2221-B-U3c-S-2. Also at this location and appearing to be monitoring the welding was ABF1.

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

SAW welding of weld joints SSD1-FDSA4-1A/C-10A(2), 12 located on PCMK south tower, lift 4, skin D. Welder was identified as 209106. ZPMC QC was identified as CWI Jin Dong Liang (QC2). Assisting QC2 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Zong Yi, who was not a CWI. The welding variables recorded by QC1 and his assistant appeared to comply with WPS-B-T-2221-B-U3c-S-2 for the CJP weld and WPS-B-T-2321-B-P3-S-2 for the PJP weld. Also at this location and appearing to be monitoring the welding was ABF Representative Zhang Qin Jian (ABF2).

SAW welding of weld joint SSD1-FDSA4-1A/C-10A(1), 7 located on PCMK south tower, lift 4, skin D. ZPMC QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Inspector Zong Yi, who was not a CWI. The welding variables recorded by QC1 and his assistant appeared to comply with WPS-B-T-2221-B-U3c-S-2 for the CJP weld and

WPS-B-T-2321-B-P3-S-2 for the PJP weld. Also at this location and appearing to be monitoring the welding was ABF2.

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

Summary of Conversations:

As noted above, and this QA Inspector, George Goulet, asked each QC if all the welding variables observed by QC appeared to comply with the appropriate WPS, including the preheat requirements according to thickness of the thickest member being welded. Each QC showed this QA Inspector, George Goulet, that QC was carrying the proper temperature sticks to monitor the minimum and maximum preheat and interpass temperatures and replied that all QC observed did appear to comply.

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Goulet,George	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer