

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-000979**Date Inspected:** 28-Nov-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Cui Yi Ru**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:** Floor Beam Diaphragms, 114 meter mock up**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) inspector, Scott Croff, was present at Zhenhua Port Machinery Company, Ltd (ZPMC) to observe the scheduled mock up construction and production construction of the SAS Superstructure.

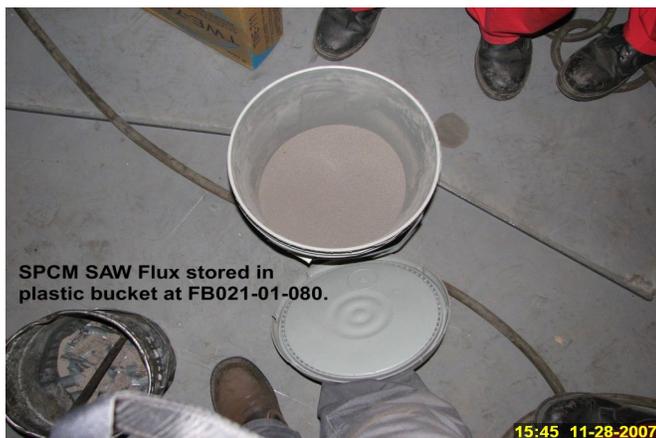
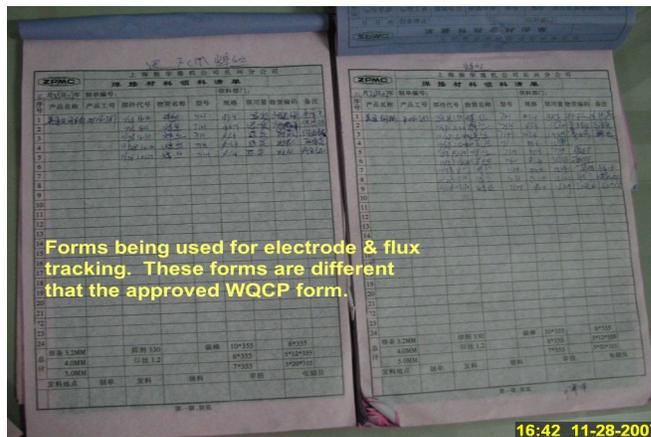
Bay 7: The QA inspector observed a submerged arc welding (SAW) machine being operated by Sun Guzuo. The QA inspector noted that a complete joint penetration (CJP) butt weld is being made on seismic performance critical material (SPCM) on Floor Beam diaphragm (FB)021-01, weld 080. The QA inspector observed the flux that is being used at this location is being stored in a plastic bucket. The QA inspector noted that this does not conform to the requirements stated in the approved welding quality control plan (WQCP) for SPCM welding. The QA inspector asked the Quality Control Liaison (QCL) "Ken" Zhang Jiadi why the flux was being kept in a plastic bucket. The QCL "Ken" relayed this question to the Quality Control (QC) inspector Cui Yi Ru, who is monitoring the work at this location. There was a conversation between the QCL, the QC inspector and several other ZPMC personnel who were nearby. The QA inspector did not receive an answer to that question. See the attached photos.

Bay 2: The QCL "Ken" informed the QA inspector that ZPMC technicians have conducted magnetic particle testing (MT) on the partial joint penetration (PJP) root welds #7 and #8 of the 114 meter mock up, skin plate "D" part #MUSCC-MA22. The PJP root welds are between the skin plate and both sides of a stiffener plate. The QA inspector noted that the designed 26mm PJP welds were inspected by ZPMC at ambient temperature. The QA inspector made random observations of the PJP root welds. At the time of observation, the ambient PJP root welds appeared to be visually conforming to the contract requirements.

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The QA inspector also observed that the sign out form being used for the electrode and flux tracking does not appear to comply with the sample form that is presented in the approved WQCP. See the attached photo.



Summary of Conversations:

As noted above, the QA inspector Scott Croff had a conversation with the QCL "Ken" regarding the observed storage of flux used for SAW on the floor beam components. The QA inspector asked the QC inspector Cui Yi Ru, through the QCL "Ken" why the flux was not being stored as required in the approved WQCP? The QCL "Ken", the QC inspector Cui Yi Ru and several other ZPMC personnel conversed amongst themselves and the QA inspector repeated the question directly to the QCL "Ken". The QA inspector's question was not answered and does not know if ZPMC's QC inspectors are fully aware of the requirements of the approved WQCP. The QA inspector was then informed of the MT being conducted in Bay 2 and was directed to that location, as the SAW welding has been completed. Upon the arrival at Bay 2, the QA inspector was informed that PJP root welds #7 and #8 were inspected and accepted.

The QA inspector relayed the above mentioned observations and conversations to the QA inspectors Robert Cuellar and Bruce Berger. The QA inspector Scott Croff was informed that these observations would continue to be addressed by 1st shift personnel. There were no other notable conversations during this shift.

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

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

Inspected By:	Croff,Scott	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer
