

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 #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027594**Date Inspected:** 11-May-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Bernie Docena**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:** SAS Tower**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base 13 meter outer East external diaphragm, QA randomly observed ABF/JV qualified welder Xiao Jian Wan continuing to perform Partial Joint Penetration (PJP) T-joint welding fill pass on 80mm thick shear plate to 45mm thick diaphragm plate weld joint #W102. The welder was observed welding in the 2G (horizontal) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3160-1. The welder was using a track mounted welder holder assembly that was remotely controlled. The PJP T-joint was preheated to greater than 325 degrees Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blankets located on top of the plate prior welding. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. Measured welding parameters during welding were 250 amperes, 23.0 volts and 300mm travel speed. Calculated heat input was 1.15 Kjoules/mm which appears in compliance to the contract requirements. At the end of the shift, FCAW-G fill pass welding was completed and the welder held the preheat using the same Miller Proheat 35 Heating System for three hours after welding as required.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the fillet weld joint. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector at 9 meter meet the requirements of the contract documents. At the

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

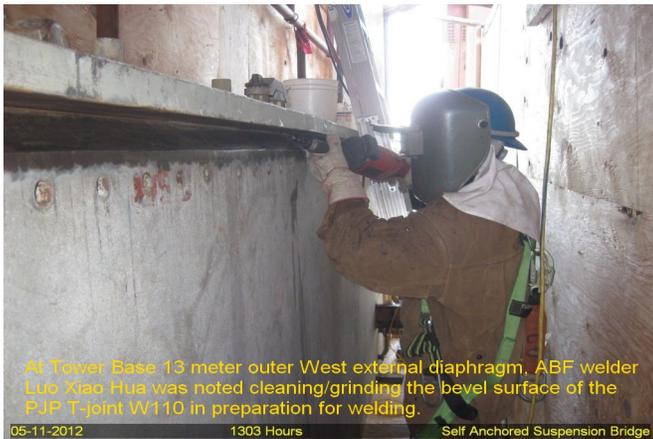
conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. Stiffener plate fillet weld P440-5 – weld cover QA verified

At Tower Base 13 meter outer West external diaphragm, this QA together with ABF QC Bernie Docena performed a joint fit up survey of the Partial Joint Penetration T-joint between the 45mm thick diaphragm plate and 100/80mm transitioned shear plate. During the survey, the beveled portion of the shear plate was measured 45 degrees while the root opening was measured at 6 inch intervals and noted as 8.5mm to 9.5mm from Y=457mm and L=763 mm and 8.5mm to 18.5mm from Y=4112mm and L=2448 mm and do not comply with the contract documents.

After the completion of the root gap survey on PJP T-joint W110, ABF QC Bernie Docena has informed this QA that he forwarded the out of tolerance root opening measurements to ABF Lead QC Bonifacio Daquinag. Also according to QC Bernie Docena, Mr. Daquinag has sent the root gap survey QC report to ABF QC Manager Jim Bowers and awaiting response from him.

This QA has initiated an Incident Report concerning the out of tolerance on the fit up root opening of the PJP T-joint mentioned above.



Summary of Conversations:

After the completion of the root gap survey on PJP T-joint W110, ABF QC Bernie Docena has informed this QA that he forwarded the out of tolerance root opening measurements to ABF Lead QC Bonifacio Daquinag. Also according to QC Bernie Docena, Mr. Daquinag has sent the root gap survey QC report to ABF QC Manager Jim Bowers and awaiting response from him.

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 SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Inspected By:	Lizardo, Joselito	Quality Assurance Inspector
Reviewed By:	Levell, Bill	QA Reviewer
