

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-027213**Date Inspected:** 17-Feb-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Steve Jensen**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 OBG**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 meters diaphragm weld joint number W105 ABF welder Jin Pei Wang was observed continuing to perform 1G Shielded Metal Arc Welding (SMAW) welding root pass on the 45mm thick center diaphragm plate to 60mm shear plate T-joint. The 45mm diaphragm has a 45 degrees bevel with an average root opening of 1.5mm, without backing bar. The alignment for weld number W105 was noted +3mm minimum to +12mm maximum. This misalignment which was previously brought to the attention of the ABF QC, a remedial solution has been put forward by QC through Mr. Jim Bowers and awaiting approval according to QC. The welder was noted using 3/16" diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1160 with measured working current of 235 amps. Prior welding, the welder has preheated the plates to required preheat temperature of more than 150 degrees Fahrenheit using a propylene gas torch. During welding, ABF QC Steve Jensen was noted monitoring the welder. At the end of the shift, root pass SMAW welding on the T-joint mentioned above was completed.

At Tower Base 13 meters diaphragm weld joint number W104 ABF welder Wai Kitlai was observed continuing to perform 1G Shielded Metal Arc Welding (SMAW) welding root pass on the 45mm thick inner East diaphragm plate to 60mm shear plate T-joint. The 45mm diaphragm has a 45 degrees bevel with an average root opening of 7.7mm, with backing bar. The alignment for weld number W105 was noted -3mm minimum to +10.5mm maximum. This misalignment which was previously brought to the attention of the ABF QC, a remedial solution has been put

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forward by QC through Mr. Jim Bowers and awaiting approval according to QC. The welder was noted using 3/16" diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1050A with measured working current of 215 amps. Prior welding, the welder has preheated the plates to required preheat temperature of more than 150 degrees Fahrenheit using a propylene gas torch. During welding, ABF QC Steve Jensen was noted monitoring the welder. At the end of the shift, root pass SMAW welding on the T-joint mentioned above was completed.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC MT on the root pass of the Partial Joint Penetration (PJP) welding of South diaphragm plate to shear plate T- joint. The QA verification was performed to verify that the welding and the MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. W118 Outer East diaphragm plate to North tower shaft skin plate – root pass QA VT/MT verified
2. W119 Inner East diaphragm plate to East tower shaft skin plate – root pass QA VT/MT verified

At Tower Base 13 meters center and inner East diaphragm plates, ABF welders Wai Kitlai and Jin Pei Wang were observed performing 1G Shielded Metal-Arc Welding (SMAW) welding root pass respectively on PJP T-joints W104 and W105.



At Tower Base 13 meters outer East diaphragm to North tower shaft skin plate PJP T-joint W118, ABF QC Salvador Merito with the assistance of another QC Fred Van Hoff, were observed performing Magnetic Particle Testing (MT) on welded root pass of the PJP T-joint.



At Tower Base 13 meters center and inner East diaphragm plates to 60mm shear plate, ABF personnel were noted preheating the plates to required preheat temperature of 150 degrees Fahrenheit prior root pass welding.



Summary of Conversations:

No significant conversation occurred today.

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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.

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