

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026161**Date Inspected:** 24-Aug-2011**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:** John Pagliero**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 Elevation Electro Slag Welding (ESW) T-joint E-041 location 'R', QA randomly ABF welder Richard Garcia continuing to perform 3G SMAW first time welding repair (R1) on the visually (VT) detected defect on the surface of the vertical weld of the ESW. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repair Rev. 2. The boat shape repair located at Y=6460mm was excavated to dimensions of 225mm long x 75mm wide x 40mm deep. The excavation was previously tested using Magnetic Particle Testing (MT) by ABF QC Fred Von Hoff and this QA with positive result. The repair excavation and the adjacent base metal was preheated and maintained to more than 400°F using Miller Proheat Induction Heating System with the heater blankets placed at the other side of the repair. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 135 amperes on a 1/8" diameter E7018H4R electrode. Before the end of the shift, fill pass repair welding was still continuing and the observation of the job was turned over to Lead QA Danny Reyes for the remainder of the shift.

At Tower Base Elevation Electro Slag Welding (ESW) T-joint N-041 location 'N', QA randomly ABF welder Jeremy Dolman perform 3G SMAW first time welding repair (R1) on the Ultrasonic Testing (UT) detected defect on the vertical weld of the ESW. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure

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ABF-WPS-D15-1000-Repair Rev. 2. The boat shape repair located at Y=7000mm was excavated to dimensions of 210mm long x 45mm wide x 40mm deep. The excavation was tested using Magnetic Particle Testing (MT) by ABF QC John Pagliero and this QA with positive result. The repair excavation and the adjacent base metal was preheated and maintained to more than 400°F using Miller Proheat Induction Heating System with the heater blankets placed at the other side of the repair area. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 116 amperes on a 1/8" diameter E7018H4R electrode. While ABF is awaiting approval for the Repair Weld Request (RWR), the above mentioned weld repair being welded was verbally approved by Caltrans Engineer Doug Wright. Before the end of the shift, fill pass repair welding was still continuing and the observation of the job was turned over to Lead QA Danny Reyes for the remainder of the shift.

At ESW T-joint #N-041 location 'N', ABF QC John Pagliero was observed performing Magnetic Particle Testing (MT) and Ultrasonic Testing (UT) on the first time repair at Y=9540mm of the ESW vertical weld. The MT result was satisfactory and was also verified by this QA. The UT was not quite done due to presence of reflector/geometry at the opposite side of the repair that QC wants to be ground. The UT result will be kept pending until the reflector from the opposite side is verified and cleared.

At ESW location 'W' outside, ABF welder Devon Murphy was noted continuing to remove the remnants of the cut strong back along the ESW vertical weld joints that were used during welding. The welder was noted using carbon air arc gouging to remove the plates remnant and its weld. The work is still in progress.

At Tower Base Electro Slag Welding (ESW) T-joint #E-041 location 'R', ABF personnel were noted using the Miller Proheat 35 Induction Heating System to preheat and maintain the required temperature prior repair welding.



At Tower Base Electro Slag Welding (ESW) T-joint #N-041 location 'N', ABF QC John Pagliero was observed performing Ultrasonic Testing (UT) on repaired ESW due to previously UT detected internal defect.



At Tower Base Electro Slag Welding (ESW) T-joint #E-041 location 'R', ABF welder Richard Garcia was observed continuing to perform 3G Shielded Metal Arc Welding (SMAW) welding 1st time repair on welded ESW.



At Tower Base Electro Slag Welding (ESW) T-joint #W-041 location 'W' ABF personnel was noted removing the remnants of the strong back that were used during the ESW. The personnel was using carbon air arc gouging in removing the strong back remnants.

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**Summary of Conversations:**

No significant conversation occurred today.

**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.

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<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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