

**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:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026158**Date Inspected:** 22-Aug-2011**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:** 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 the lay down barge anchored near the Tower Base, ABF welder Rory Hogan was noted cutting one side of the elevation 13 Meters South diaphragm plate due to excessive width. The welder has cut the edge of the plate using oxygen-propylene gas torch with nozzle attached to a track. Minor touch up SMAW welding was performed on the bevel face due to notches that occurred during cutting. The welder was noted using 1/8" diameter E7018H4R electrode. The plate was also preheated to 150°F prior welding. ABF QC John Pagliero was noted monitoring the welder's parameter during welding. The face of the bevel was also noted ground smooth. After the work completion of the north diaphragm plate, this QA verified the bevel depth of more than 39mm and bevel angle of 45 degree as required and deemed in compliance with the contract requirements. This diaphragm was put in place at the Tower during the shift.

At ESW location 'R' outside, ABF welder Richard Garcia was noted setting up the Miller Proheat 35 Induction Heating System to be used repairing various locations of the ESW vertical weld joint. The welder was setting up at repair excavation Y=6460mm and put the heater blankets inside. The welder was also noted placing the thermocouples to the plates in preparation for the repair welding. At the end of the shift, all preparations for the repair welding were completed.

At ESW location 'W' outside, ABF welder Jeremy Dolman was noted removing the remnants of the cut strong

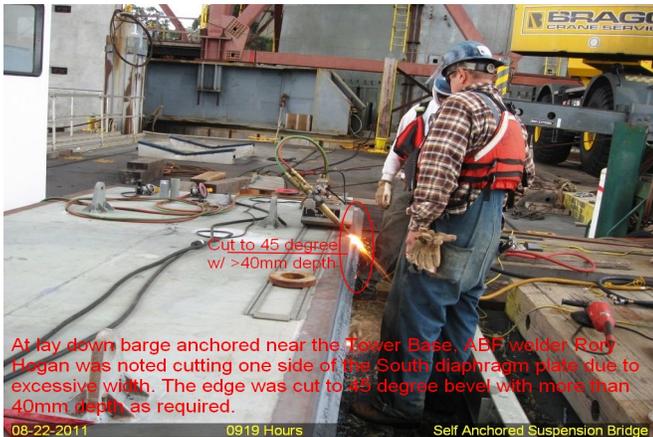
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back along the vertical weld joints that were used during the ESW. The welder was noted using carbon air arc gouging to remove the plates remnant and its weld. The work is still in progress.



## Summary of Conversations:

During the conversation with ABF QC Supervisor Bonifacio Daquinag, he mentioned to this QA about the plan of action to be carried out by the ABF personnel during welding repair of the Electro Slag Welding (ESW) at the South locations. The following activities to be applied on the ESW repairs were mentioned;

1. A minimum of 250°F prior to excavation for both carbon air arc gouging and grinding.
2. To maintain 400°F preheat and interpass temperature for the repair welding.
3. Not to allow repair weld to cool. If during the shift the repair will not be completed, the preheat will be held at 400°F for every one hour of every 25mm plate thickness.
4. Weld repairs that are from visual test (VT) and excavated to 20mm or less will be welded without the RWR. If the excavation exceeds more than 20mm then it will be considered as internal repair and it will require RWR.
5. All ESW weld repairs that needed RWR or not will be tracked and documented by the QC.
6. All ESW weld repairs that have been detected by Ultrasonic Testing (UT) but not visually noted from the surface regardless of depth will require RWR.

## 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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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:**      Levell,Bill

QA Reviewer