

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-026056**Date Inspected:** 15-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

<b>CWI Name:</b>	John Pagliero		
<b>Inspected CWI report:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A

<b>CWI Present:</b>	Yes	No	
<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved WPS:</b>	Yes	No	N/A
<b>Delayed / Cancelled:</b>	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 13Meters, Electro Slag Welding (ESW) T-joint W-042 location 'M', QA randomly observed ABF/JV qualified welder Richard Garcia perform CJP groove welding repair on the top 165mm to 315mm of the vertical welded ESW due to detected defect from Ultrasonic Testing (UT). The repair was previously excavated using carbon air arc gouging then ground smooth using a die grinder. After grinding to a depth of 40mm, ABF QC Pat Swain performed Magnetic Particle Testing (MT) on the excavated defect removal. The result was not good enough and that the linear indication was still evident. Upon the advice of ABF QC Pat Swain, ABF should get approval from the Engineer if ABF wants to excavate further and remove the indication. At this point the welder stopped grinding and decided to wait for further instruction from the foreman.

Today upon the instruction from ABF Superintendent, ABF decided to weld the repair excavation on one side and then after the completion from one side to go to the opposite side of the repair excavation and excavate the remaining linear indication. The boat shape repair excavation was measured 150mm long x 35mm wide x 40mm deep.

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-Repairs. The weld repair was preheated to more than 300 degree Fahrenheit using propylene gas torch prior welding. During the

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# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 150 amperes on a 1/8" diameter E7018H4R electrode. At the end of the shift, welding repair on one side of the ESW excavation was completed. ABF intends to perform the excavation on the opposite side of the repair to remove the remaining linear indication tomorrow.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the ESW weld joints top repair and top one foot vertical weld. The VT/MT of the top portion of the ESW weld joints is being made as partial inspection in anticipation of limited access when the 13Meters diaphragm is installed. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification, results were noted below;

ESW Weld Location Joint Type QA MT Remarks

- 'E' (N-045) T-joint MT Passed Welding repair (R2) of the top (foot long) vertical weld.
- 'N' (N-041) T-joint MT Passed Top excavation repair and top one foot of vertical weld.
- 'R' (E-041) T-joint MT Passed Top excavation repair and top one foot of vertical weld.
- 'S' (S-041) T-joint MT Passed Top excavation repair and top one foot of vertical weld.
- 'W' (W-041) T-joint MT Passed Top excavation repair and top one foot of vertical weld.



## Summary of Conversations:

ABF decided to weld the repair excavation on one side and then after the completion from one side to go to the opposite side of the repair excavation and excavate the remaining linear indication. The boat shape repair excavation was measured 150mm long x 35mm wide x 40mm deep.

## 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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# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

**Reviewed By:** Levell, Bill

QA Reviewer