

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-025895**Date Inspected:** 09-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		
Inspected CWI report:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A

CWI Present:	Yes	No	
Rod Oven in Use:	Yes	No	N/A
Weld Procedures Followed:	Yes	No	N/A
Verified Joint Fit-up:	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 13Meters, Electro Slag Welding (ESW) T-joint E-041 location 'R', QA randomly observed ABF/JV qualified welder Jeremy Dolman perform CJP groove welding repair on the top of the welded ESW due to ABF QC noted linear indications that propagated into the Tower skin plate. ABF welder has carbon arc and ground removed the indications then tested by QC John Pagliero using Magnetic Particle Testing (MT) with affirmative result. The removal was verified by this QA and obtained same result. The welder was observed welding in the 2G (horizontal) 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 shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 110 amperes on a 1/8" diameter E7018H4R electrode. At the end of the shift, 2G SMAW weld repair was still continuing and should remain tomorrow.

At Tower Base Elevation 13Meters, Electro Slag Welding (ESW) various weld locations, QA randomly observed ABF/JV qualified welder Richard Garcia perform 10mm fillet welding on the corner of ESW and Tower skin plate as required. After welding, the welder has ground the fillet weld reinforcement leaving a 5mm radius into the corner. The welder was observed welding in the 2F (horizontal) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-F1200A. The

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plates were preheated to more than 300 degree Fahrenheit using propylene gas torch prior welding. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 120 amperes on a 1/8" diameter E7018H4R electrode. At the end of the shift, 2F SMAW fillet welding was completed at 'E', 'F', 'G', 'H', 'J' and 'K' ESW weld locations.

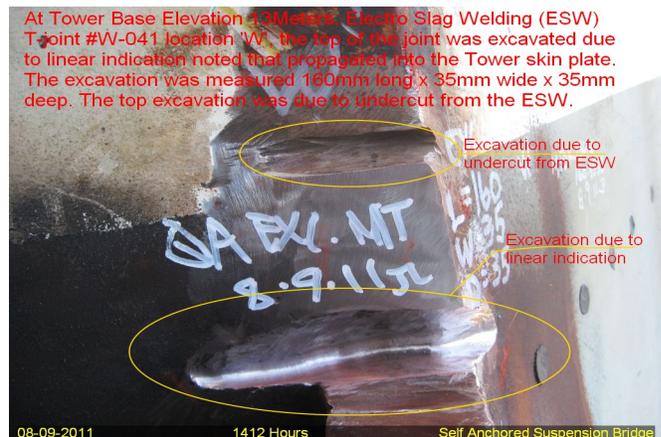
At Tower Base Elevation 13Meters outer East shear plate bevel preparation, ABF foreman Rory Hogan asked QA and QC to look at the plate bevel preparation after their rework. This QA and ABF QC John Pagliero obliged to the request and both QA and QC performed another assessment on the bevel prep. During the inspection it was noted that the required bevel depth was still inadequate and the cutting of the plate was rough with noticeable deep gouges. Due to these defects, QC John Pagliero informed Rory Hogan that the bevel preparation was still unacceptable.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the ESW weld joints top 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 it appeared that the weld and the QC inspection complied with the contract documents.

ESW Weld Location Joint Type QA MT Remarks

- 'F' (E-045) T-Joint MT Passed Top repair and top one foot of vertical weld.
- 'K' (E-042) T-joint MT Passed Top repair and top one foot of vertical weld.
- 'W' (W-041) T-joint MT Passed Repair excavation due to linear indication.

At ESW weld T-joint N-045 location 'E', QA noted ABF QC Jesse Cayabyab perform Ultrasonic Testing (UT) on the welded T-joint. After the completion of the UT, it was noted that 60mm long from the top of the joint was rejected. During the shift, Lead QA Danny Reyes informed this QA that the rejected area of the joint could be excavated but not to be welded yet. According to Mr. Danny Reyes, the approval to excavate was from Caltrans Engineer Doug Wright. This information was relayed to ABF foreman Rory Hogan who immediately instructed one of the ABF welders Richard Garcia to perform the excavation. The welder was noted using carbon air arc gouging to excavate the UT defect from the weld. At the end of the shift, carbon arcing was still ongoing and should continue tomorrow.



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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.

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