

**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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028715**Date Inspected:** 07-Nov-2012**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:** Fred Michels and 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 elevation 155 meters, QA randomly observed ABF welder Richard Garcia continuing to perform fillet welding between the Tower head cover and Tower head Chimney. The welder was noted welding in 2F (horizontal) position utilizing self-shielded Flux Cored Arc Welding (FCAW-S) with 0.072" diameter E71T-8 wire electrode implementing Caltrans Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-2. Prior fillet welding, the paint coating on both sides of the joint was ground off and the plates were preheated to more than 150 degrees Fahrenheit. During the shift, QA noted ABF QC Fred Michels was on site monitoring the in process preheats and welding parameters with measured working current of 330 amperes and voltage of 23 volts. At the end of the shift, fillet welding of the Tower head cover to Tower Chimney at West shaft east side was completed while South shaft east side was still continuing. Due to 10mm root opening between the chimney and the cover at South shaft east side, a 6mm shim plate was inserted throughout the whole length of the joint before fillet welding was started.

At Tower elevation 155 meters, QA randomly observed ABF welder James Zhen continuing to perform fillet welding between the Tower head cover and Tower head Chimney. The welder was noted welding in 2F (horizontal) position utilizing self-shielded Flux Cored Arc Welding (FCAW-S) with 0.072" diameter E71T-8 wire electrode implementing Caltrans Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-2. Prior fillet welding, the paint coating on both sides of the joint was ground off and the plates were preheated to more

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than 150 degrees Fahrenheit. During the shift, QA noted ABF QC Fred Michels was on site monitoring the in process preheats and welding parameters with measured working current of 343 amperes and voltage of 23 volts. At the end of the shift, fillet welding of the Tower head cover to Tower Chimney at North shaft south and west sides were completed.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT on the Tower Head cover to chimney fillet weld joints. 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 welds and the QC inspection complied with the contract documents.

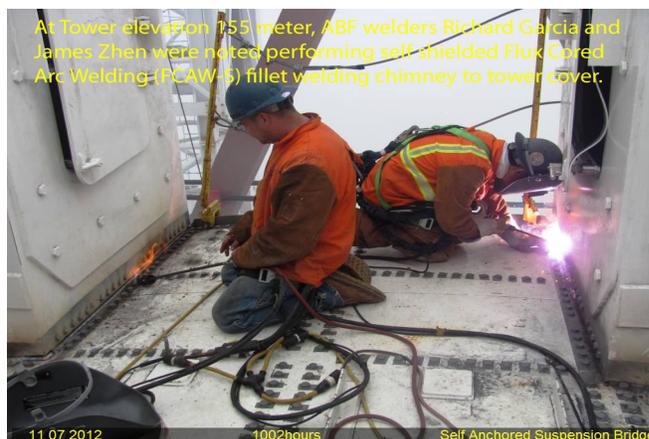
1. Tower elev. 155M – West shaft south side fillet joint weld cover QA verified
2. Tower elev. 155M – South shaft north side fillet joint weld cover QA verified

FW Spencer:

At OBG location panel point PP20 to PP20.5, this QA randomly observed FW Spencer qualified welder Damian Llanos continuing to perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on 2 1/2" diameter domestic water line field branch tie-in butt joints. The welder was noted welding the root pass with 3/32" diameter E6010 electrode and followed by fill pass to cover pass using 3/32" diameter E7018H4R electrode implementing Caltrans procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propylene gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. At the end of the FW Spencer shift, CJP welding on two (2) 2 1/2" diameter domestic utility water line pipe tie-in butt joints were completed.

## Line Service Pipe Size Panel Point Location Joint Designation

- |                          |      |                            |
|--------------------------|------|----------------------------|
| 1. Domestic Water 2 1/2" | 20.5 | Southwest 10.8/2.5/20.5/SW |
| 2. Domestic Water 2 1/2" | 19.5 | Southwest 10.4/2.5/19.5/SW |

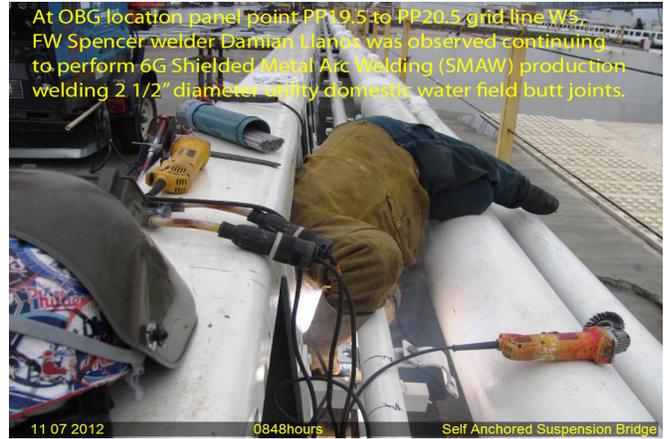


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## Summary of Conversations:

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 Gary Thomas (916) 764-6027, 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:** Reyes, Danny

QA Reviewer