

**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-021731**Date Inspected:** 11-Mar-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 and Steve Jensen | <b>CWI Present:</b>              | Yes                    | No     |
| <b>Inspected CWI report:</b>       | Yes No N/A                     | <b>Rod Oven in Use:</b>          | Yes                    | No N/A |
| <b>Electrode to specification:</b> | Yes No N/A                     | <b>Weld Procedures Followed:</b> | Yes                    | No N/A |
| <b>Qualified Welders:</b>          | Yes No N/A                     | <b>Verified Joint Fit-up:</b>    | Yes                    | No N/A |
| <b>Approved Drawings:</b>          | Yes No N/A                     | <b>Approved WPS:</b>             | Yes                    | No N/A |
|                                    |                                | <b>Delayed / Cancelled:</b>      | Yes                    | No N/A |
| <b>Bridge No:</b>                  | 34-0006                        | <b>Component:</b>                | Orthotropic Box Girder |        |

**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 OBG 9W/10W side plate 'E2' (2640mm to 4480mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass on the splice butt joint. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was completed and the welder was ready to weld the cover pass Monday.

QA randomly observed ABF/JV qualified welder Rory Hogan continuing to perform CJP groove (splice) back welding cover pass on Orthotropic Box Girder (OBG) 9E/10E side plate 'C' outside. The welder was observed back welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was

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ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located on top of the plate prior welding and by moving the blanket to the side of the weld being welded during welding. The vicinity was also properly protected from wind and other climatic conditions. ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain Monday.

At OBG 10E/11E edge plate 'F' outside, QA randomly observed ABF/JV qualified welder Han Wen Yu perform 3G CJP groove (splice) welding fill pass on the splice butt joint. The welder was noted continuing welding where the other welder Jin Pei Wang has left off. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with steel backing bar. ABF Quality Control (QC) John Pagliero was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with reading of 125 amperes which appears in conformance to the contract requirements. At the end of the shift, fill pass welding was still continuing and should remain Monday.

At OBG 10W/11W bottom plate 'D2' (3250mm to 4250mm) inside, QA randomly observed ABF/JV qualified welder Hua Qiang Hwang continuing to perform CJP groove (splice) welding fill pass on the splice butt joint. The welder was observed performing manual welding in the 1G (flat) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3040A-1. The joint being welded has a single V-groove butt joint with backing bar and was welded using Submerged Arc Welding (SAW) on most part of the joint. But due to limited access of the SAW track mounted wire feeder to the corner location, welding was not completed. The splice joint was preheated to greater than 150 degrees Fahrenheit using propane gas torch prior welding. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding of the splice joint at location mentioned above was not completed and should continue Monday.

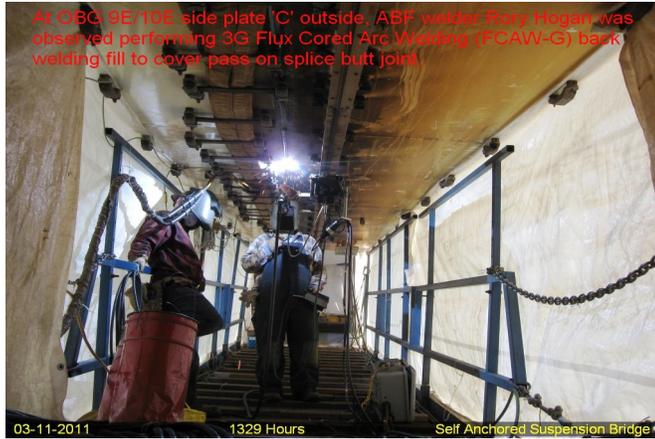


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## Summary of Conversations:

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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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer