

**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-028613**Date Inspected:** 18-Oct-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:** Steve Jensen and Barry Drake**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 OBG 2W-PP13.5-W2 LSW longitudinal stiffener inside, QA randomly observed ABF welder Jin Quan Huang perform 3G (vertical) Shielded Metal Arc Welding (SMAW) welding fill repair on the stiffener splice welded butt joint. The stiffener plates being welded are made of high strength plate material HPS 485W and has a thickness of 30mm. The repair excavation which was located at Y=0mm was having excavation profile of 80mm long x 35mm wide x 20mm deep. The welder was noted using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The splice joint repair was preheated to greater than 200 degrees Fahrenheit using localized preheat propylene gas torch prior/during welding. The QA Inspector noted the ABF QC Barry Drake was on site monitoring the in process preheats and welding repair parameter with measured working current of 135 amperes during welding. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. At the end of the shift, welding repair at location mentioned above was completed.

# WELDING INSPECTION REPORT

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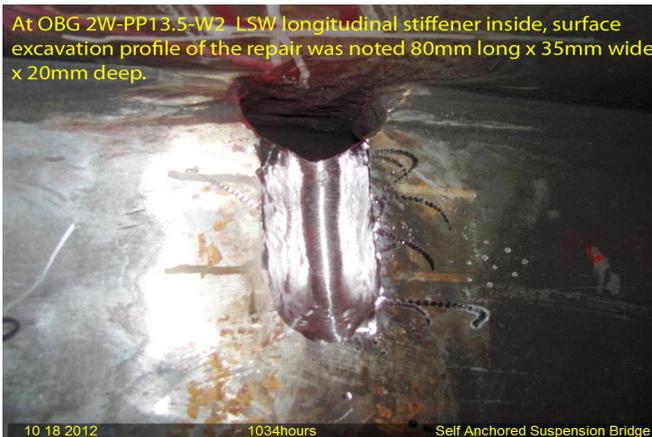
FW Spencer:

At OBG location Panel Point PP42, Tower elevation 53 meter, 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 utility water and 4" diameter compressed air lines. 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 approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propane 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 1/2" and two 4" diameter utility water and compressed line pipe butt joints were completed.

Line Service Line/Pipe Size Panel Point Location Joint Designation

|                  |        |                             |
|------------------|--------|-----------------------------|
| 1 Domestic Water | 2 1/2" | 107 Northwest 56/2.5/107/NW |
| 2 Compressed Air | 4"     | 107 Northwest 56/4/107/NW   |
| 3 Domestic Water | 2 1/2" | 109 Northwest 57/2.5/109/NW |
| 4 Compressed Air | 4"     | 109 Northwest 57/4/109/NW   |

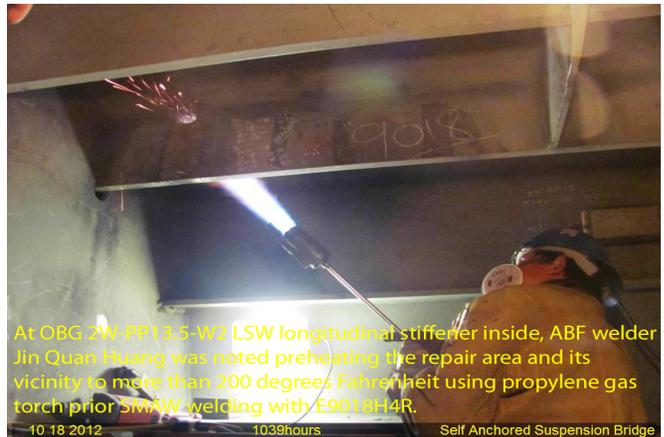
At OBG 2W-PP13.5-W2 LSW longitudinal stiffener inside, surface excavation profile of the repair was noted 80mm long x 35mm wide x 20mm deep.



At OBG location 11W-PF107-W2, FW Spencer welder Damian Llanos was noted wire brushing/cleaning every weld pass that he welded during the shift.



At OBG 2W-PP13.5-W2 LSW longitudinal stiffener inside, ABF QC was observed performing Magnetic Particle Testing (MT) on the repair excavation prior welding.



At OBG 2W-PP13.5-W2 LSW longitudinal stiffener inside, ABF welder Jin Quan Huang was noted preheating the repair area and its vicinity to more than 200 degrees Fahrenheit using propylene gas torch prior SMAW welding with E9018H4R.

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# WELDING INSPECTION REPORT

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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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| <b>Inspected By:</b> | Lizardo, Joselito | Quality Assurance Inspector |
| <b>Reviewed By:</b>  | Reyes, Danny      | QA Reviewer                 |

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