

**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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028344**Date Inspected:** 05-Sep-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1930**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Pat Swain**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 12W-PP111.1-C1 drop-in side plate inside, QA randomly observed ABF/JV qualified welder Rick Clayborn continuing to perform CJP groove welding repair on a Seismic Performance Critical Member (SPCM) due to Ultrasonic Testing (UT) detected defects on welded splice butt joint. The welder was noted setting up the Miller Proheat 35 Induction Heating System with the heater blanket put in place from the outside to preheat the repair areas to 225°F prior and during excavation using carbon air arc gouging. The welder was given approval to excavate 17 repair at various locations per Caltrans approved Request for Weld Repair (RWR) #201209-001 to #201209-017. The welder ground smooth the groove of the excavation and after its completion, ABF QC Pat Swain performed Magnetic Particle Testing (MT) on the removal of the defects with no relevant defect noted during the test.

The welder pumped up the preheat to 325°F and as soon as the required temperature was attained the welder started performing the welding repair. The welder was observed manually welding in 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 4.0mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1004 Repair. During welding, ABF QC Pat Swain was noted monitoring the welder's welding parameter with measured working current of 135 amperes on the 3.2mm diameter E7018H4R electrode. After the welding completion on the eight repairs, the welder performed the Post Weld Heat Treatment (PWHT) of 450°F using the same Miller Proheat 35 Induction Heating System and held it for one hour

# WELDING INSPECTION REPORT

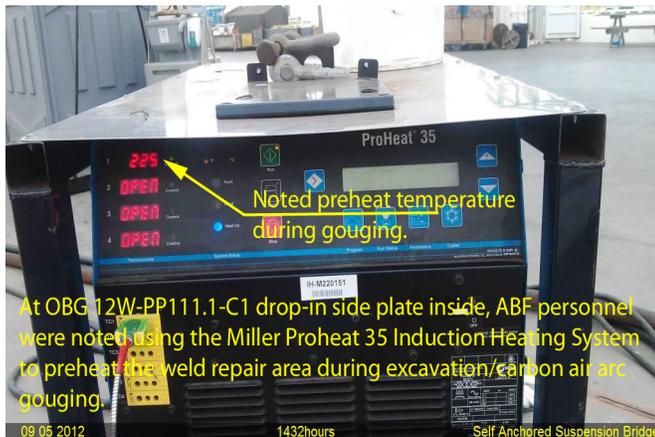
( Continued Page 2 of 3 )

as required. The following second time repairs were noted excavated and welded during the shift;

Y-location	Length	Width	Depth	Remarks
1. 1180mm	50mm	22mm	11mm	R2 - completed.
2. 1685mm	60mm	20mm	11mm	R2 - completed.
3. 1820mm	80mm	20mm	12mm	R2 - completed.
4. 2190mm	100mm	23mm	12mm	R2 - completed.
5. 540mm	55mm	25mm	11mm	R2 - completed.
6. 415mm	50mm	22mm	12mm	R2 - completed.
7. 485mm	50mm	22mm	12mm	R2 - completed.
8. 630mm	55mm	20mm	12mm	R2 - completed.
9. 1010mm	70mm	20mm	12mm	R2 - completed.

According to ABF QC Pat Swain, the remaining eight (8) repairs for the drop-in side plate will be done on the other side of the welded butt joint (outside).

While waiting for the PWHT on welded repairs mentioned above, the same welder started excavating/carbon arc gouging on the repair area/whole length of the longitudinal stiffener 12W-PP111.1-W2.1 LS3 in preparation for the repair welding. The excavation was completed and the MT was performed by ABF QC Pat Swain with no relevant indication noted. According to ABF QC Pat Swain, ABF is now waiting for the approval of the RWR for repair #3 of this stiffener prior to commence welding.



---

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---

---

**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.

---

<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

---