

**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-028136**Date Inspected:** 08-Aug-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:** Julian Razo**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 13W-PP122.2-LS1 deck stiffener flange inside, QA randomly observed ABF/JV qualified welder Jose Torres perform PJP groove welding root pass to fill pass on the deck stiffener flange T-joint. The welder was observed perform manual welding in the 4G (overhead) position utilizing a Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E9018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1162-4. The stiffener flange plate has a bevel groove being welded PJP T-joint to the longitudinal stiffener. The plates were preheated to more than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System. During welding, ABF Quality Control (QC) Julian Razo was noted monitoring the welding parameters of the welder with measured working current of 125 amperes on the 3.2mm E9018H4R. At the end of the shift, fill pass welding was still continuing and should remain tomorrow. The welder held the same preheat of >200 degree Fahrenheit for three hours after welding as required.

At OBG 13W-W2.8@12570 drop-in top deck plate inside, QA randomly observed ABF/JV qualified welder Richard Garcia and Ric Chouinard simultaneously continuing to perform excavation using carbon air arc gouging at locations from Y=6750mm to Y=9200 and from Y=4300 to Y=6750mm respectively. Both welders were excavating the Ultrasonic Testing (UT) detected defects continuously from end to end due to numerous defects that have various lengths and depths. The excavation of the welded butt joint is being performed on the same Caltrans approved Request for Weld Repair (RWR) #201208-001. After carbon air arc gouging/removal of the UT

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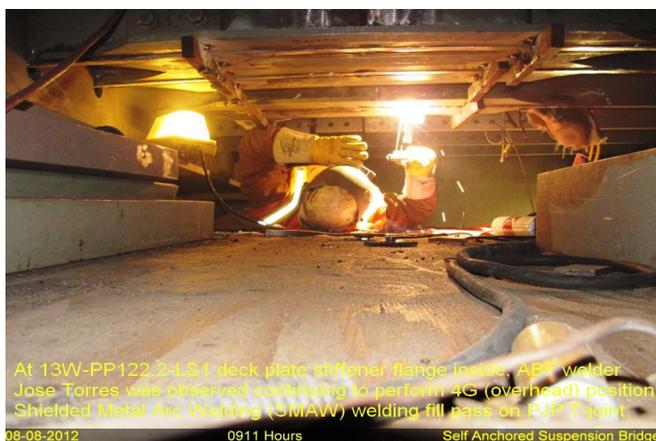
( Continued Page 2 of 3 )

detected defects, both welders were noted grinding smooth the groove of the excavation. ABF QC Julian Razo was observed performing the Magnetic Particle Testing (MT) on the removal of the defects without relevant indications noted. The excavation was measured 35-45mm wide X 12mm deep.

At OBG location 14W-PP124.65-W3 longitudinal diaphragm reinforcing stiffener inside, this QA randomly observed ABF welder Lin E. Yun perform Partial Joint Penetration (PJP) welding on 18mm thick stiffener plate to 18mm thick connection plate. The welder was noted welding in 1G (flat) position using Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018 H4R electrode implementing Welding Procedure Specification (WPS) ABF-D15-1160. The horizontal stiffener being welded to the connection plate has a 45° bevel that is T-joint connected to the multiple drilled holes connection plate. The fit up was previously checked by ABF QC Julian Razo and randomly verified by this QA. During welding, the welder was noted preheating the plates to more than 150°F using propylene gas torch prior welding. ABF QC Julian Razo was noted monitoring the welding parameters with measured working current of 125 amperes during welding. At the end of the shift, PJP welding was completed on one side and fillet welded on the other side.

At OBG 13W-WK- WP1 K-plate inside, QA randomly observed ABF/JV qualified welder Chau Tran continuing to perform CJP groove welding root pass fill pass on the K plate butt joint. Prior welding, ABF foreman Rick Clayborn performed the fit up of the 18mm thick single V butt joint. After the completion of the fit up, ABF QC Julian Razo performed the fit up check and noted an offset of 6.0mm maximum at the bottom of the joint. According to Mr. Razo, he will map up the misalignment and submit it to ABF for review. This QA performed the verification and noted the same. Due to misalignment that was out of tolerance, this QA has generated an Incident Report.

The welder performed the manual welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040C Rev.1. The plates were preheated to more than 150 degree Fahrenheit using propylene gas torch prior welding. During welding, ABF Quality Control (QC) Julian Razo was noted monitoring the welding parameters of the welder with measured working current of 123 amperes. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.



At 13W-PP122 2-LS1 deck plate stiffener flange inside, ABF welder Jose Torres was observed continuing to perform 4G (overhead) position Shielded Metal Arc Welding (SMAW) welding fill pass on PJP T-joint.

08-08-2012 0911 Hours Self Anchored Suspension Bridge



At location OBG 13W-WK WP1 K-plate inside, the bottom alignment of the vertical butt joint was measured 6.0mm to 2.5mm.

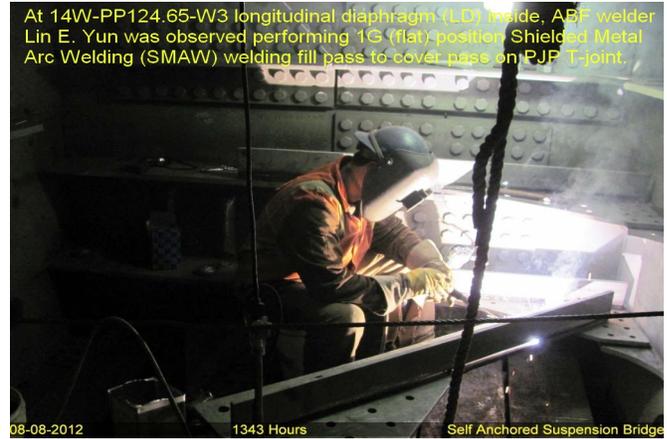
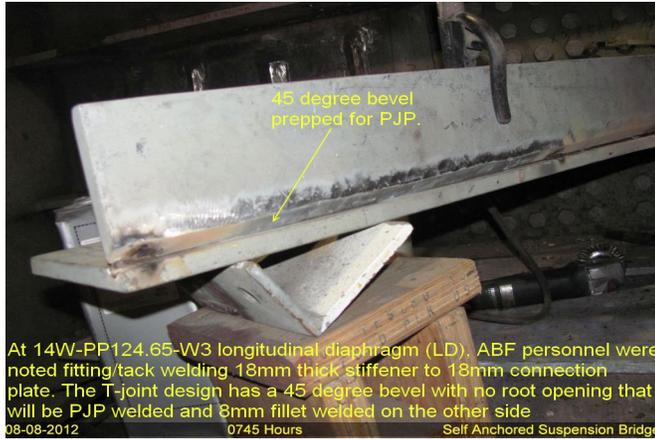
08-08-2012 1326 Hours Self Anchored Suspension Bridge

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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