

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-028138**Date Inspected:** 10-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-W2.8@12570 drop-in top deck plate inside, QA randomly observed ABF/JV qualified welder Richard Garcia continuing to perform CJP groove welding repair from location Y=6750mm to Y=92000mm. The welder was observed manually welding in the 4G (overhead) position utilizing dual shielded Flux Cored Arc Welding (FCAW-G) with 1.6mm diameter electrode implementing Caltrans approved welding procedure ABF-WPS-D15-3110-4. This repair has been excavated and being repaired/rewelded with Caltrans approved Request for Weld Repair (RWR) #201208-001. The repair excavation was preheated to more than 225 degree Fahrenheit using Miller Proheat 35 Induction Heating System with the heater blanket put in plate on top of the deck prior/during welding. During the shift, ABF QC Julian Razo was noted monitoring the welder with measured working current of 260 amperes, 22.5 volts. The welder performed the FCAW-G repair until the end of the shift wherein he partially completed the repair welding. The welder held the same preheat and held it for three (3) hours after welding as required.

At OBG 13W-WK-WP1 K-plate inside, QA has noted ABF welder Chau Tran perform back gouging/backing bar removal using carbon air arc gouging. The welder has removed the steel backing bar then smoothly ground the groove surface. ABF QC Julian Razo has performed Magnetic Particle Testing (MT) on the removal of the backing bar with no relevant defects noted. After the completion of the MT, the welder resumed CJP groove back welding fill pass on the K plate butt joint. The welder was noted manual welding in the 3G (vertical) position

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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 125 amperes. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

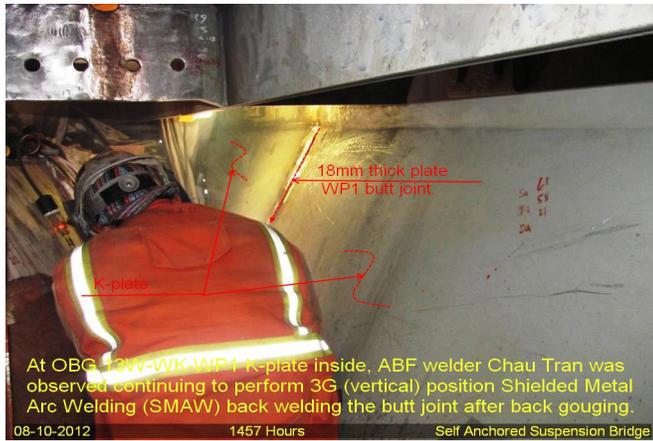
At OBG 13W-PP122.2-LS1 deck stiffener flange inside, QA randomly observed ABF/JV qualified welder Gue Wu Chen continuing to perform PJP groove welding root pass to fill pass on the deck stiffener flange T-joint after taking over from Jose Torres. The welder was observed perform manual welding in the 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 128 amperes on the 3.2mm E9018H4R. During the shift, cover pass welding was completed and 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 Lin E. Yun perform CJP groove welding repair. Another welder was noted individually excavating the UT detected defects using carbon air arc gouging then ground smooth the groove of the excavation. ABF QC Julian Razo was noted performing the Magnetic Particle Testing (MT) on the defects removal with no relevant defects noted during the test. After the completion of the MT, the welder Lin E. Yun was observed welding in the 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1004-Repairs. The repair excavation was preheated to more than 225°F using Miller Proheat 35 Induction Heating System with the heater blanket put in plate on top of the deck. This QA verified the same excavations with noted same results. The welder pumped up the preheat to more than 325°F during welding then performed the Post Weld Heat Treatment (PWHT) of more than 450°F for one hour after welding as required. During the shift, ABF QV Julian Razo was noted monitoring the welder with measured working current of 130 amperes on the 3.2mm E7018H4R electrode. The following repairs were noted excavated and welded during the shift;

Y-location	Length	Width	Depth	Remarks
1.	170mm	45mm	23mm	7mm Completed.
2.	230mm	50mm	23mm	9mm Completed.
3.	335mm	60mm	20mm	12mm Completed.
4.	1060mm	75mm	26mm	12mm Completed.
5.	1765mm	45mm	15mm	5mm Completed.
6.	1820mm	45mm	25mm	5mm Completed.
7.	2075mm	65mm	22mm	10mm Completed.
8.	2195mm	100mm	29mm	11mm Completed.
9.	3050mm	45mm	25mm	9mm Completed.

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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.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer