

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-026856**Date Inspected:** 12-Dec-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

CWI Name:	Salvador Merino and Steve Jensen			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 14E-PP127.2-E5 vent hole infill plate to top deck plate outside, QA randomly observed ABF/JV qualified welder Erick Sparks continuing to perform CJP groove welding repair. The welder was observed welding in the 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1004-Repair for the Seismic Performance Critical Member (SPCM) butt joint. Prior the repair excavation, the weld butt joint and adjacent base metal were preheated to more than 225 degrees Fahrenheit using propane gas torch. After the excavation and subsequent smooth grinding, ABF QC Salvador Merino was observed performing Magnetic Particle Testing (MT) on the boat shape excavations with no significant defects noted during the test. The excavations and adjacent base metal were again preheated to more than 325 degrees Fahrenheit prior welding. ABF QC Salvador Merino was noted monitoring the welder at the time of the repair with measured working current of 130 amperes on a 1/8" diameter E7018H4R electrode. The welding repair located at Y=400 having dimensions of 80mm long x 20mm wide x 13mm deep was completely welded during the shift and was Post Weld Heat Treated (PWHT) at 450 degrees Fahrenheit for one (1) hour as required using the Miller Proheat 35 Induction Heating System.

At OBG 11E-PP100-E3-#4 lifting lug hole infill plate to top deck plate inside, ABF welder Salvador Sandoval was observed continuing to perform 4G Shielded Metal Arc Welding (SMAW) welding fill pass to cover pass on the infill plate to top deck plate butt joint. The welder was noted using 1/8" diameter E7018H4R implementing

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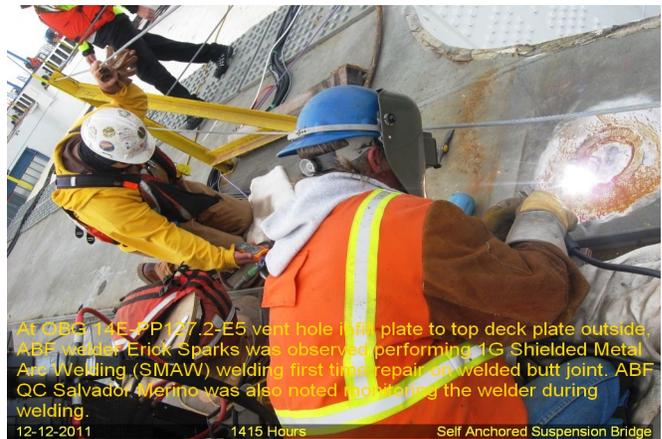
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Welding Procedure Specification (WPS) ABF-WPS-D15-1110A Rev.1 for the Seismic Performance Critical Member (SPCM) butt joint. During welding, ABF QC Salvador Merino was noted monitoring the welder's welding parameters with measured working current of 128 amperes on the 1/8" diameter E7018H4R electrode. The welder was noted preheating the plates to more than 150°F using propylene gas torch prior welding. During the shift, cover pass welding was completed on the bottom side of the butt joint.

At Tower South shaft elevation 89 meters, this QA randomly observed FW Spencer qualified welder Damian Llanos ID-6645 perform Complete Joint Penetration (CJP) 2G (horizontal position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on the 2.0" and 3" diameter domestic water and air lines respectively. The system lines being welded are field splices along the tower elevation. 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. During the shift, two (2) field splices on each line (2" & 3") were completed and visually accepted by QC. This QA performed VT verification on the completed weld splices and they appear in compliance to the Contract requirements. After the welding completion of the butt joints at elevation 89 meters, the welder has moved to elevation 66 meters and performed 6G SMAW welding on 1" diameter weldolet branch for the 2" diameter domestic water line and 2" butt joint on a 3" x 2" reducing tee for the 3" diameter air line. Both the joints were completed at the end of the shift.

This QA together with FW Spencer foreman have scheduled to perform visual test (VT) verification on all completed butt joints of the 2" and 3" domestic water and air lines from the bottom up to the top of the tower at 1400 hours today. But due to time constraint at the end of the FW Spencer shift, the foreman has postponed the scheduled inspection and informed this QA that we could do it tomorrow morning.

At OBG 11E-PP100-E3-#4 lifting lug hole infill plate to top deck plate inside, AB welder Salvador Sandoval was observed performing 4G Shielded Metal Arc Welding (SMAW) back welding fill pass on butt joint.



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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