

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-026896**Date Inspected:** 15-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:	Fred Von Hoff 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 11E-PP100-E4-#3 lifting lug holes infill plate to top deck plate inside, ABF welder Jorge Lopez was observed continuing to perform 4G Shielded Metal Arc Welding (SMAW) back 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 Welding Procedure Specification (WPS) ABF-WPS-D15-1110A Rev.1. During welding, ABF QC Salvador Merino was noted monitoring the welder's welding parameters with measured working current of 130 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 and the welder has moved to the other lifting hole #1 of the same panel point location. The welder performed the same 4G SMAW back welding on butt joint and completed before the end of the shift including flush grinding on the weld cover.

At OBG 13E/14E side plate 'E2' inside, QA randomly observed ABF/JV qualified welder Jin Pei Wang continuing to perform CJP groove (splice) welding fill pass on the south end of the splice butt joint. The welder was observed perform manual welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar that will be removed then back welded. The splice joint was preheated and maintained to greater

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than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Fred Von Hof was noted monitoring the welding parameters of the welder with measured working current of 255 amperes and working voltage of 23.0 volts. At the end of the shift, fill pass welding on the splice butt joint was still continuing and should remain tomorrow.

At OBG 13E/14E edge plate 'F' inside, QA randomly observed ABF/JV qualified welder Fred Kaddu continuing to perform CJP groove welding repair. The welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The repair excavation was preheated to more than 140 degree Fahrenheit using propylene gas torch prior welding. During the shift, ABF QC Fred Von Hoff was noted monitoring the welder. Prior welding, ABF QC Fred Von Hoff was also observed performing Magnetic Particle Testing (MT) with positive results. The following first time repairs were noted excavated and welded during the shift;

Location	Y-dimension	Length	Width	Depth	Remarks
1. 13E-14E-F	940mm	85mm	25mm	11mm	Repair completed.
2. 13E-14E-F	1180mm	190mm	20mm	11mm	Repair completed.
3. 13E-14E-F	1480mm	90mm	20mm	10mm	Repair completed.
4. 13E-14E-F	1180mm	100mm	20mm	11mm	Repair completed.

At OBG 13E/14E top deck plate 'A5' outside, an arc burn that was accidentally made on the deck (December 13, 2011) due to separation of the energized welding cable connectors, the arc burn was ground smooth and tested by QC using Magnetic Particle Testing. During the MT, star like linear indications were noted which might signify copper contamination from the welding cable connectors. Due to the incident that happened and the presence of MT linear indications, an Incident Report was initiated.

At OBG 11E-PP108-E5 to 12E-PP115-E5, QA randomly observed ABF/JV qualified welder Salvador Sandoval perform welding fillet between the temporary attachment base plate of cable roller guide brackets. The welder was welding in 2F position using self shielded Flux Cored Arc Welding (FCAW) implementing Caltrans approved welding procedure specification ABF-WPS-D15-F2200-2. During the shift, the welder has completed eight base plates welded to the top deck plate.

At the Tower Base, there was no work activity noted during the shift.

FW Spencer:

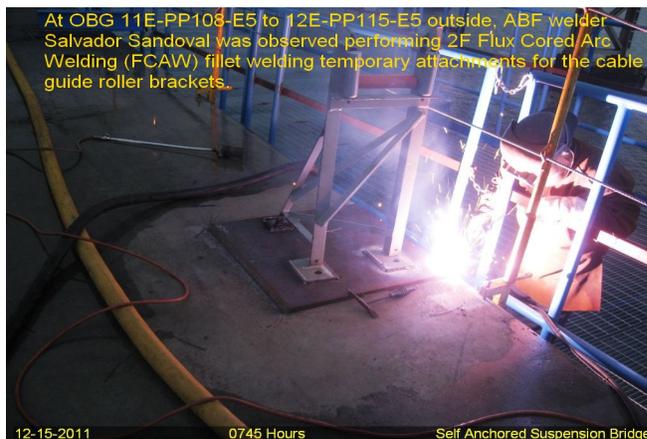
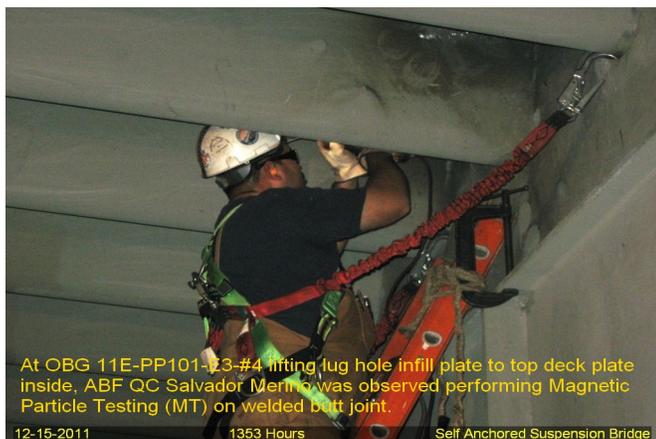
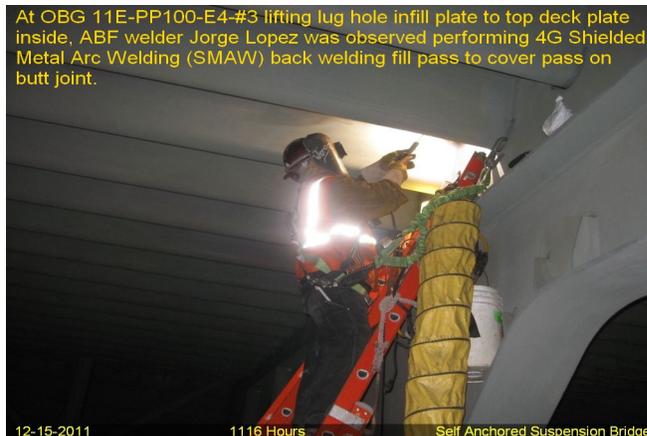
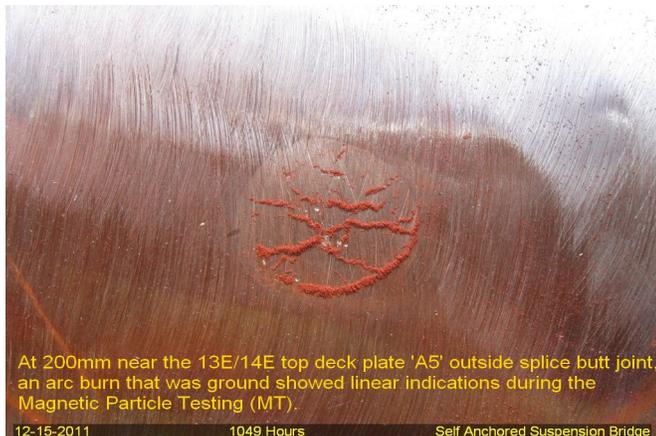
At Tower South shaft, this QA randomly observed FW Spencer qualified welder Damian Llanos ID-6645 continuing to perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on the 3" diameter domestic water line. The system line being welded is a field branch 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. At the end of the shift, the welder has completed the following 3"

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diameter butt joints and inspected by QC. The butt joints were also VT verified by this QA;

Weld Identification	Location/elevation	Remarks
1.40/3/T/40	40	3" pipe field splice at 3" x 3" x 2" reducing tee
2.44/3/T/24	24	3" pipe field splice at 3" x 3" x 2" reducing tee
3.47/3/T/13	13	3" pipe field splice at 3" x 3" x 2" reducing tee
4.48/3/T/13	13	3" pipe field splice at 3" x 3" x 2" reducing tee



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
