

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017461**Date Inspected:** 15-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	William Sherwood and Salvador Mendiola			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:	Orthotropic Box Girder		

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 6W/7W side plate 'C' (1000mm to 3300mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding root pass on the splice butt joint. The welder was observed perform automatic 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-D15-3042A-1. The joint being welded had a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. After the root pass, the welder went outside the OBG splice joint and removed the ball pins and key plates and pushed the heater blankets directly to the plate being welded. This set up should give more heat to the plate. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. After the heater blankets were fixed from the outside, the welder went back inside the OBG but due to shortened work hours for today, no more welding on the splice was performed.

At OBG 7W/8W edge plate 'B' outside, QA randomly observed ABF/JV qualified welder Jin Pei Wang ID #7299 continuing to perform fill pass welding on the Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS)

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ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with copper backing bar. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with reading of 128 amperes which appears in conformance to the contract requirements. At the end of the shift, SMAW fill pass welding was still continuing and should remain tomorrow.

At OBG 7W/8W edge plate 'F' outside, QA randomly observed ABF/JV qualified welder James Zhen ID #6001 continuing to perform fill pass welding on the Complete Joint Penetration (CJP) splice butt joint. The welder was observed manually welding in the 3G (vertical) position utilizing a Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded has a single V-groove butt joint with copper backing bar. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QA randomly monitored the welding parameter with reading of 130 amperes which appears in conformance to the contract requirements. At the end of the shift, SMAW fill pass welding was still continuing and should continue tomorrow.

At OBG 6W/7W side plate 'E' outside, ABF welder Bryce Howell was still noted preparing the Esab plasma arc gouging machine and lining up the track mounted nozzle holder to perform back gouging on the backing bar removal of the splice butt joint. According to the welder, the Esab plasma arc gouging machine was also having problem that needed to be fixed but that problem was already taken care of and ready to perform the task on Monday.

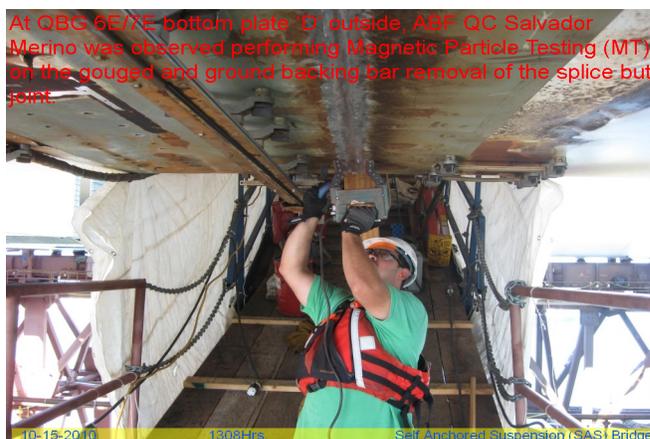
At OBG 6E/7E bottom plate 'D' outside, ABF welders Rory Hogan and Jeremy Dolman have completed grinding the groove of the gouged backing bar removal. The gouged and ground backing bar removal appears smooth and was measured 40mm wide x 8mm deep. ABF QC Salvador Merino was observed perform Magnetic Particle Testing (MT) on the ground backing bar removal. The ABF QC was noted using Parker Contour Probe electromagnetic yoke with red magnetic powder as detecting media. QC has found one linear indication due to slag inclusion but it was removed by grinding. QC also MT'd the removal of the indication and noted disappeared.

At OBG 1E top deck plate 'A' outside; this QA performed 10% MT verification on the following access holes. QA was using Parker Contour Probe Model DA 400 with serial number 16989 electromagnetic yoke with red magnetic powder as detecting media. QA found no significant indications during the verification. Please see TL-6028 report for more information;

1. 1E-PP8.5-E3-#1-4 Erection Access Hole
2. 1E-PP9.5-E3-#2-4 Erection Access Hole
3. 1E-PP10.5-E2S Ventilation Access Hole

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Summary of Conversations:

At OBG 6W/7W top deck plate 'A' outside, QA observed a portable holding oven full of E7018H4R electrodes. The oven was noted unplug with the electrodes inside cooled. This incident was relayed to ABF QC William Sherwood who later informed ABF Superintendent Dan Ieraci. Mr. Dan Ieraci told QC that they will discard all the electrodes inside this oven.



Comments

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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 Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo, Joselito	Quality Assurance Inspector
Reviewed By:	Levell, Bill	QA Reviewer
