

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-025072**Date Inspected:** 07-Jul-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:	William Sherwood and Pat Swain			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 Tower		

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 11W/12W bottom plate 'D' inside, QA randomly observed ABF certified welder James Zhen ID #6001 continuing to perform 1G (flat position) Submerged Arc Welding (SAW) welding fill pass to cover pass on the Complete Joint Penetration (CJP) splice butt joint where the SAW track mounted wire feeder has access. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. The joint being welded has a single V-groove butt joint with backing bar. The plates were preheated to more than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. Welding parameters were monitored by ABF/QC Pat Swain. QA noted the welding parameters were 540 amperes, 32.6 volts and travel speed of 377 mm per minute with calculated heat input of 2.8Kj per mm. The workmanship and appearance of the completed root/fill pass deemed satisfactory. At the end of the shift, SAW cover pass welding was completed except both ends of the joint where the SAW track mounted wire feeder has limited access.

At OBG 11W/12W top deck plate A1 to A5 outside, QA randomly observed ABF/JV qualified welders Hua Qiang Hwang and Wai Kitlai continuing to perform seal welding top deck plates 'A1 to A5' to the backing bar. Welder Hua Qiang Hwang was noted seal welding from A1 to A3 while welder Wai Kitlai was noted seal welding from A3 to A5. The welders were utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M,

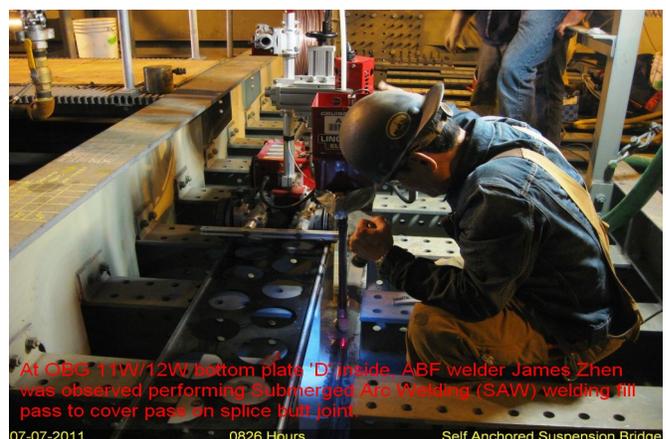
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1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F3200-2. The joint had a single V-groove butt joint design with the top plate being seal welded with the backing bar. The plate with the backing bar was preheated to greater than 150 degrees Fahrenheit using acetylene gas torch prior welding. During the shift, ABF QC William Sherwood was noted monitoring both welders with welder Hua Qiang Huang and Wai Kitlai having noted welding parameters of 290 amperes/24.7 volts and 285 amperes/25.2 volts respectively which deemed in compliance to the contract requirements. The welders have completed the seal welding of the joint during the shift and after the completion, the welders prepped the Submerged Arc Welding (SAW) machine and its accessories in preparation for the Submerged Arc Welding of the same top deck plate.

After the completion of the bottom splice butt joint at OBG 11W/12W, the welder has moved to the top deck plate 'A1 to A5 outside of the same OBG. QA randomly observed same welder James Zhen ID #6001 perform 1G (flat position) Submerged Arc Welding (SAW) welding root pass on the CJP splice butt joint. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. The joint being welded has a single V-groove butt joint with backing bar. The plates were preheated to more than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located on top of the plate prior and moving it to the side of the joint during welding. Welding parameters were monitored by ABF/QC William Sherwood. QA noted the welding parameters were 550 amperes, 32.5 volts and travel speed of 395 mm per minute with calculated heat input of 2.72Kj per mm. The workmanship and appearance of the completed root pass deemed satisfactory. At the end of the shift, SAW root pass was completed and to continue fill pass tomorrow.

At OBG 10W/11W bottom plate 'D' outside - Fred Kaddu and Jorge Lopez was noted continuing to perform plasma arc gouging on the backing bar removal of the welded butt joint. After the gouging/completion of the backing bar removal, both welders were noted setting up the track mounted nozzle holder at side plate 'C' outside of the same OBG.



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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