

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: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027237
Date Inspected: 23-Feb-2012

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:	Steve Jensen and Bernie Docena			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 Tower Base 13 meters diaphragm weld joint number W128, ABF welder Jin Pei Wang was observed continuing to perform 1G Shielded Metal Arc Welding (SMAW) welding root pass on the 45mm thick outer North diaphragm plate to 60mm Tower West shaft skin plate 'E' Partial Joint Penetration (PJP) T-joint. The 45mm diaphragm has a 45 degrees bevel with an average root opening of 11.7mm with C-channel underneath that will serve as the backing bar. The welder was noted using 3/16" diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1050A with measured working current of 227 amps. Prior welding, the welder has preheated the plates to required preheat temperature of more than 150 degrees Fahrenheit using a propylene gas torch. During welding, ABF QC Steve Jensen was noted monitoring the welder. During the shift, root pass SMAW welding on the T-joint mentioned above was completed.

After the completion of W128, the welder has moved to PJP T-joint W123 between the 45mm thick outer West diaphragm and 45mm thick Tower South Shaft skin plate 'B'. The 45mm diaphragm has a 45 degrees bevel with an average root opening of 5mm with C-channel underneath that will serve as the backing bar. The welder has preheated the weld joint to the required 150 degrees Fahrenheit using the propylene gas torch. The welder performed and completed the root pass welding using the same process and procedure mentioned above.

At Tower Base 13 meters diaphragm weld joint number W127, ABF welder Wai Kitlai was observed continuing

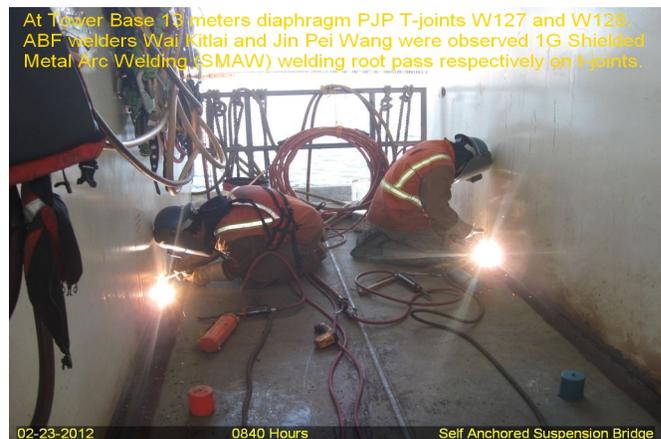
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to perform 1G Shielded Metal Arc Welding (SMAW) welding root pass on the 45mm thick outer North diaphragm plate to 60mm Tower North shaft skin plate 'E' Partial Joint Penetration (PJP) T-joint. The 45mm diaphragm has a 45 degrees bevel with an average root opening of 10mm with C-channel underneath that will serve as the backing bar. The welder was noted using 3/16" diameter E7018H4R implementing Welding Procedure Specification (WPS) ABF-WPS-D15-1050A with measured working current of 216 amps. Prior welding, the welder has preheated the plates to required preheat temperature of more than 150 degrees Fahrenheit using a propylene gas torch. During welding, ABF QC Steve Jensen was noted monitoring the welder. During the shift, root pass SMAW welding on the T-joint mentioned above was completed.

After the completion of W127, the welder has moved to PJP T-joint W124 between the 45mm thick outer West diaphragm and 45mm thick Tower West Shaft skin plate 'B'. The 45mm diaphragm has a 45 degrees bevel with an average root opening of 6.4mm with C-channel underneath that will serve as the backing bar. The welder has preheated the weld joint to the required 150 degrees Fahrenheit using the propylene gas torch. The welder performed and completed the root pass welding using the same process and procedure mentioned above.

At Tower Base 9 meters diaphragm, ABF personnel were noted removing the fitted and tack welded drop ins. ABF QC Bernie Docena has instructed ABF personnel to remove the tack welded drop ins for the QC to have access to perform visual test (VT) and Non-Destructive Examination (NDE) on areas of the Electro Slag Welding (ESW) weld joints where the drop ins will be put in place. ABF personnel were able to remove two out of four drop ins at outer West 9M diaphragm and immediately QC has performed VT and found unacceptable undercut. ABF welder Xiao Jian Wan preheated the plates to more than 150 degrees Fahrenheit using the propylene gas torch and performed the ESW weld cover repair using Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode. The weld cover repair on the ESW WN-S-042 and WN-W-042 at 9 meters was completed and two drop ins were refitted and tack welded.



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.

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