

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-017898**Date Inspected:** 02-Nov-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	William Sherwood and John Pagliero			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 5E/6E LS6 longitudinal stiffener inside, QA randomly observed ABF welder Xiao Jian Wan ID #9677 continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding cover pass on one side of the stiffener splice butt joint. The joint has a double V joint preparation that was welded from one side using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded is a high strength plate material HPS 485W which has a thickness of 30mm was root welded using a ceramic backing, and fully welded on one side. The splice joint was preheated and maintained to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. During the shift, the welder has completed welding cover of the stiffener and has moved to LS5 of the same OBG stiffener splice. The welder has stopped welding when he noticed there was inadequate ventilation. The welder waited for the ventilation to be fixed but no one was available to fix so the Superintendent has sent home most of the welders including this welder working inside the OBG. The QA Inspector noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed.

At OBG 5E/6E LS1 longitudinal stiffener inside, QA randomly observed ABF welder Hua Qiang Hwang ID #2930 continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP)

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

welding fill pass on one side of the stiffener splice butt joint. The joint has a double V joint preparation that is being welded from one side using E9018H4R with 1/8" diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded is a high strength plate material HPS 485W which has a thickness of 30mm was root welded using a ceramic backing. The splice joint was preheated and maintained to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. During the shift, the welder has stopped welding due to inadequate ventilation. The welder waited for the ventilation to be fixed but no one was available to fix so the Superintendent has sent home most of the welders including this welder working inside the OBG. The QA Inspector noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed.

At OBG 7E/8E side plate 'E' (7855mm to 9955mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove welding fill 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 has 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. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. During the shift, fill pass welding was completed and the welder was about to put the cover pass when he was also sent home due to ventilation problem.

At OBG 7W/8W top deck plate A5 outside, QA randomly observed ABF welder Fred Kaddu excavating two weld repairs. One repair was located at A5 with Y-dimension of 4170mm and was having 200mm long x 30mm wide x 20mm deep boat shape excavation profile. The other repair was located at A5 with Y-dimension of 5135mm and was having 145mm long x 30mm wide x 20mm deep excavation profile. After these two repairs were excavated, the welder has covered them with aluminum tape and left for another job. There was no welding performed on the two excavated repairs.

At OBG 6W/7W side plate 'E' outside, ABF QC William Sherwood was observed performing Magnetic Particle Testing (MT) on the flush ground back weld reinforcement of the splice butt joint and ground temporary attachment removal areas. The ABF QC was using a Parker Contour Probe with red powder. At the end of the MT, QC informed QA that QC found no significant indications during the test.

WELDING INSPECTION REPORT

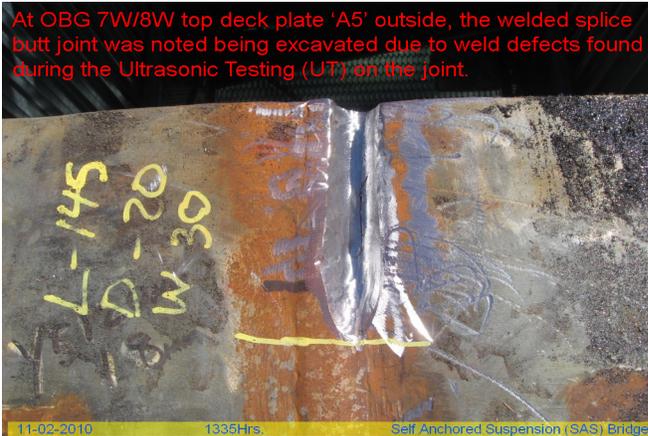
(Continued Page 3 of 3)

At OBG 7E/8E side plate 'E' inside, ABF welder Songtao, Huang was observed performing Flux Cored Arc Welding (FCAW-G) welding fill pass on the splice butt joint.



11-02-2010 10:47Hrs. Self Anchored Suspension (SAS) Bridge

At OBG 7W/8W top deck plate 'A5' outside, the welded splice butt joint was noted being excavated due to weld defects found during the Ultrasonic Testing (UT) on the joint.



11-02-2010 13:35Hrs. Self Anchored Suspension (SAS) Bridge



At OBG 5E/6E 1/8" longitudinal stiffener inside, ABF welder Xiao Jian Wan was observed performing 3G Shielded Metal Arc (SMAW) welding fill pass on the splice butt joint. The welder was using 1/8" diameter E9018H4R electrode and the plates were preheated and maintained to >200 degrees F during welding.

11-02-2010 11:17Hrs. Self Anchored Suspension (SAS) Bridge



At OBG 6W/7W side plate 'E' outside, ABF QC William Sherwood was observed performing Magnetic Particle Testing (MT) on the flush ground cover of the back welded splice butt joint.

11-02-2010 14:50Hrs. Self Anchored Suspension (SAS) Bridge

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 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