

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-019813**Date Inspected:** 27-Jan-2011**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:	Steve Jensen and Fred Von Hoff			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.

QA randomly observed ABF/JV qualified welder Rory Hogan (ID #3186) continuing to perform CJP groove welding cover pass on Orthotropic Box Girder (OBG) 8E/9E side plate 'C1' outside. The welder was observed welding in the 4G (overhead) 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-D15-3110-4. The welder was using a track mounted welder holder assembly that was remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma Arc machine and was ground smooth. The splice joint was preheated to greater than 150 degrees Fahrenheit prior welding and the vicinity was properly protected from wind. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain tomorrow.

At OBG 9E/10E side plate 'C1' inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 perform CJP groove (splice) 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-D15-3042B-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

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Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Fred Von Hoff was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should remain tomorrow. At the other half of the splice butt joint side plate 'C2' inside of the same OBG, QA performed fit up verification of the joint. The misalignment noted and measured during the verification was less than 2mm which deemed in compliance to the contract requirements.

At OBG 9E/10E top deck plate 'A1' outside, QA randomly observed ABF/JV qualified welder Wai Kitlai continuing to perform CJP repair welding. The welder was noted welding in 1G (Flat) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1001 Repairs. The welding repair which was located at A1 Y=520mm was excavated to a boat shape profile of 110mm long x 28mm wide x 20mm deep was tested with Magnetic Particle Testing (MT) prior welding. During welding, ABF QC William Sherwood was noted monitoring the welder and his welding parameters. At the end of the shift, this last repair in this particular plate was completed.

At OBG 6E-PP44-E3-#2 lifting lug access hole to top deck outside, ABF welder Salvador Sandoval was observed 1G Shielded Metal Arc Welding (SMAW) 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 electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1070. During the shift, cover pass welding was completed and the welder was noted preparing to move to another hole of the same location.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC visual inspection of the Complete Joint Penetration (CJP) welding of the two side plates and one deck access hole; The QA verification was performed to verify that the welding and the visual weld inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the welds and the QC inspection complies with the contract documents.

1. 8E-PP61.5-E2-SW deck access hole – QA VT/MT verified
2. 7W/8W side plate 'C' inside – QA VT/MT verified
3. 7W/8W side plate 'E' inside – QA VT/MT verified

At OBG 8E/9E bottom plate 'D' outside, one ABF personnel was noted flush grinding the welded cover reinforcement using flapper disc. During the grinding process, the direction of the grinding cut was noted parallel to the direction of the tension of the bridge which was in compliance to the contract requirements.

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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 Sang Le 916-764-5650, who represents the Office of Structural Materials for your project.

Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer