

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016044**Date Inspected:** 02-Aug-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

<b>CWI Name:</b>	Jim Cunningham and William She			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	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 Pier 7 Oakland, CA warehouse, QA randomly observed ABF/JV qualified welder Rick Clayborn perform temporary attachment fillet welding on the bearing plate shop marked A31. The temporary attachment angular 3" x 3" x 12" long keeper angle was fillet welded to one side of the bearing plate. The welder was observed welding in 2F (horizontal) position using Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F1200A. Since the bearing plate was having a wall thickness of 100mm, the plate was preheated to more than 225 degrees Fahrenheit using a propane gas torch prior welding. Both ends of the angular attachment were fillet welded to the bearing plate with 3/16" and more than 2" long. ABF Quality Control (QC) Jim Cunningham was noted monitoring the welding parameters of the welder. The welder has completed 2 sets of bearing plate with welded temporary attachment using the SMAW during QA's presence.

Prior to QA arrival, 2 sets of bearing plate with welded temporary attachment have already been completed. According to ABF QC Jim Cunningham, they have welded the two bearing plates earlier using the Self Shielded Flux Cord Arc Welding (FCAW-S) implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-F2200-2.

After the completion of fillet welding on the angular temporary attachment to the bearing plates, this QA went to

# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

the job site. QA arrived at the job site at around 1530hours and proceeded straight to the top deck and met fellow QA Danny Reyes.

At the job site, QA randomly observed ABF/JV qualified welder Jeremy Dolman perform CJP groove (splice ) back welding fill pass on Orthotropic Box Girder (OBG) 4E/5E side plate 'C2' 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 gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located on top of the plate prior and maintained the preheat by moving the heater blankets on the side of the plate during welding. The vicinity was also properly protected from wind and other climatic changes. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QC William Sherwood has to leave early due to medical appointment but he was replaced by his fellow QC Tom Pasqualone. At the end of the shift, the welder has not completed the welding of the splice butt joint and should remain tomorrow.

At OBG 5E/6E edge plate 'B' outside, QA randomly observed ABF welder Fred Kaddu perform vertical welding on the splice butt joint. The welder was using Shielded Metal Arc Welding (SMAW) with 1/8" diameter and E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1040B. The joint being welded had a single V-groove butt joint with backing bar. The approximately 3" long being welded at the bottom of the joint was left unfinished previously due to limited access/unavailability of the platform. The access platform is now available after welding the side plate of the same OBG. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. During the shift, cover pass welding and flush grinding of the weld cover reinforcement of the splice joint at location mentioned above were completed. After the welding and flush grinding of the weld cover reinforcement, the welder was supposed to go to the opposite side of the splice joint to perform the back gouging of the weld he just welded but hindered due to scheduled power shut down at 1630 hours.



At OBG 5E/6E edge plate 'B' outside, ABF welder Fred Kaddu was noted 3G SMAW welding cover on the bottom of the splice butt joint. The area was previously left unwelded due to unavailability of the access platform.



At the 17 Warehouse, an angular 3" x 1" x 1/2" long bearing plate keeper angle was welded on a 100mm thick bearing plate to be used in Lift & Tip up operation.

---

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---

---

**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) 227-5298, who represents the Office of Structural Materials for your project.

---

<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

---