

**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 #: 19.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012277**Date Inspected:** 25-Feb-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1300**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2130**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	T. Pasqualone and S. McConnell			<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 Girders		

**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor (AB/F) personnel at the E1/E2 and E3/E4 field splice:

A). Field Splice E1 to E2.

B). Field Splice E3 to E4.

The QAI observed the Complete Joint Penetration (CJP) groove welding of the bottom plate splice identified as Weld Number (WN) "D1" and "D2", segments D7-D10 and D12-D13. The welding was performed by AB/F personnel Jordan Hazelaar, ID-2135 and Jeremy Dolman, ID-5042. The QAI also observed Quality Control (QC) inspector Steve McConnell verify the Direct Current (DC) welding parameters and the surface temperatures during the welding process and were noted as follows: 265 amps, 20.5 volts with a travel speed measured at 418mm per minute. The surface temperatures were verified by the QC inspector and were noted as follows: minimum preheat temperature of 100 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius. At the conclusion of the welding of the segments the QAI observed the QC inspector, Mr. McConnell perform the Visual Inspection (VT) of the Weld Segments identified as D7-D10 and D12-D13. At the conclusion of the VT there were no rejectable discontinuities noted by Mr. McConnell. The welding of the segments concluded at approximately 1710. At this time AB/F personnel commence the three (3) hours preheat hold time as required by the Project Special Provisions. The surface temperature of 100 degrees Celsius was measured and noted by the QC inspector.

---

---

# WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

---

---

The QAI also observed the installation and the assembly fit-up of the field fit-up gear utilized to support the 12mm x 38mm backing bar in place which is located at the field splice identified as WN 1E-2E between Weld Segments A1 and A2. The tack welding was performed by AB/F welding personnel Tim Dhen, ID-6001. The fit-up and tack welding was monitored and inspected by QC inspector Tom Pasqualone.

Later in the shift the QAI also observed initial the installation of the temporary bolts as per the American Bridge/Fluor Submittal ABF-SUB-001135R000: Erection Plan-Box Girder Bolting and Welding Plan For Lifts 1-6. The bolting installation appeared to be in progress at the U-Ribs located at the deck plate field splice, six (6) tee stiffeners located at side plates, two (2) tee stiffeners located at the bottom plate and the floor beams. It appeared the connections were brought into alignment by driving drift pins through the various plies of splice plates to bring the bolt holes in their proper alignment.

## QA Observation and Verification Summary

The QA inspector observed the Shielded Metal Arc Welding (SMAW) process of the field assembly gear fitting aids and the Flux Cored Arc Welding-G (FCAW-G) of the E1 to E2 bottom plate splice. The welding was performed utilizing the Welding Procedure Specification's (WPS's) ABF-WPS-D15-F1200A-1 and ABF-WPS-D15-3110-1 Rev. 0 which was also used by the AB/F Quality Control (QC) inspector's Steve McConnell and Tom Pasqualone during the monitoring of the welding. The welding parameters and preheat temperatures were verified and noted utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for preheat and interpass temperatures. The consumables utilized during the welding appeared to be manufactured by Lincoln, 3.2 mm for the SMAW process and ESAB, 1.4mm for the FCAW-G process. The consumables were also verified by the QC inspectors and appeared to comply with the AWS Electrode Classification E7018 and E71T-1M. The QC inspector's appeared to perform the visual examinations and monitoring of the welding as per the contract documents. The welding and QC inspection performed on this shift was not completed except as noted above and appeared to be in general compliance with the contract documents.

See digital photographs below in regards to the work observed during this shift.



## Summary of Conversations:

---

---

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

---

---

There were no pertinent conversations discussed in regards to the project.

## **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 Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

---

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

---