

**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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026874**Date Inspected:** 13-Dec-2011**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:** Jobsite

<b>CWI Name:</b>	As noted below		
<b>Inspected CWI report:</b>	Yes	No	N/A
<b>Electrode to specification:</b>	Yes	No	N/A
<b>Qualified Welders:</b>	Yes	No	N/A
<b>Approved Drawings:</b>	Yes	No	N/A

<b>CWI Present:</b>	Yes	No	
<b>Rod Oven in Use:</b>	Yes	No	N/A
<b>Weld Procedures Followed:</b>	Yes	No	N/A
<b>Verified Joint Fit-up:</b>	Yes	No	N/A
<b>Approved WPS:</b>	Yes	No	N/A
<b>Delayed / Cancelled:</b>	Yes	No	N/A

**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) Douglas Frey was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

- 11W/PP104/W3 Lifting Lug Hole W2 (Interior)
- 13W/14W/D2 (Exterior)
- 13W/14W/D1 Repair (Exterior)
- 13W/14W/A5 Back Gouge (Interior)

- 11W/PP104/W3 Lifting Lug Hole W2 (Interior)

This QA Inspector randomly observed ABF welder Mike Jimenez performing the back-gouge operation on face B of lifting lug hole 11W/PP104/W3/W2 on the interior of the OBG. This inspector observed QC Inspector Sal Merino test the back-gouge utilizing the Magnetic Particle (MT) method and this QA Inspector verified that no rejectable indications were present.

This QA Inspector randomly observed ABF welder Mike Jimenez (Welder ID 4671) performing the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on "A" deck lifting lug hole 11W/PP104/W3/W2. This QA Inspector observed QC Inspector Sal Merino verify that the pre-heat temperature was at a minimum of 10 degrees C and that the welding parameters (Amps=121) were in accordance with ABF-WPS-D1.5-1110A-Revision 1. This QA Inspector made subsequent observations throughout the shift to

---

---

# WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

---

---

monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the contract specifications.

## 11W/PP104/W3 Lifting Lug Hole W4 (Interior)

This QA Inspector randomly observed QC Inspector Sal Merino perform a final magnetic particle inspection of the back gouged area on “A” deck lifting lug hole section 11W/PP104/W3 at weld location W4. This QA Inspector observed that Mr. Merino found no rejectable indications and the work appeared to be in general conformance with the contract specifications.

The QA inspector made random observations of ABF welder Mike Jimenez (ID# 4671) performing Shielded Metal Arc Welding (SMAW) in the (4G) overhead position on Lifting Lug Hole W4 located at 11W/PP104/W3. The QA inspector observed QC inspector Sal Merino monitoring the progress to ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-1110A-Revision 2. The parameters were recorded as (Amperes=130). The QA inspector made subsequent observations throughout the shift to monitor quality. The QA inspector noted that the work was completed on this date and appeared to be in general conformance with the contract documents.

Orthotropic Box Girder (OBG) section: The QC Documents observed being used by this QA Inspector for the following weld joints appeared to be designated as Seismic Performance Critical Members (SPCM).

## 2. 13W/14W/D2 (Exterior)

This QA Inspector randomly observed ABF welding operator Jeremy Dolman (ID 5042) performing the Flux Core Arc Welding with gas (FCAW-G) process utilizing a “Bug-O” motorized rail system with a magnetic base attached in the (4G) overhead position on the underside of bottom plate “D”, at 13W/14W of the OBG. This QA Inspector observed QC Inspector William Sherwood monitoring the welding to ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-3110-4. The parameters were recorded as (A=250/V=23.2/TS=174/HI=2.0). This QA inspector made subsequent observations throughout the shift to monitor quality and noted that the work was in progress and appeared to be in general conformance to the contract requirements.

## 3. 13W/14W/D1 Repair (Exterior)

This QA Inspector randomly observed ABF welder James Zhen (Welder ID 6001) performing the repair welding operation of indication #13 as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on OBG bottom plate section 13W /14W at weld location D1. The excavated area was as noted as a Critical Weld Repair (CWR) and at the time of this report; the procedure is pending the Engineer’s approval. This QA Inspector observed QC Inspector Mr. William Sherwood verify that the preheat temperature was at the minimum of 325 Degrees F and that the welding parameters (Amps, Volts, and Travel Speed) were in accordance with WPS D1.5 - 1004 Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications. This QA Inspector noted that the work was completed on this date.

This QA Inspector randomly observed ABF welder Wai Kit Lai (ID 2953) performing the repair welding

---

---

## WELDING INSPECTION REPORT

( Continued Page 3 of 4 )

---

---

operation of excavation #10 located at y+4740mm as per the SMAW process in the (4G) overhead position on “D1” at 13W/14W on the exterior of the OBG.. This QA Inspector observed QC Inspector William Sherwood verify that the preheat temperature was at the minimum of 325 degrees F and that the welding parameters (Amps=135) were in accordance with WPS D1.5–1004- Repair. Upon completion of the repair, PWHT was performed at the specified temperature for a period of 1 hour.

This QA Inspector randomly observed ABF welder Wai Kit Lai performing the repair welding operation of excavation #11 in the (4G) overhead position on “D1” at the above named location. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector William Sherwood verify that the preheat temperature was at the minimum of 325 degrees F and that the welding parameters were in accordance with WPS D1.5–1004- Repair. This QA Inspector made periodic observations and noted that the work was completed on this date and appeared to be in general conformance with the contract specifications.

### Ultrasonic Testing (QA)

This QA Inspector performed Ultrasonic Testing (UT) on approximately 50% of the lifting lug hole welds at the welds listed below. These welds were previously accepted by QC Ultrasonic technicians in accordance with AWS D1.5-2002, section 6, table 6.3. This QA observed no rejectable indications at the time of testing. This QA generated a TL-6027 UT report on this date. The completed work observed at this location appeared to be in compliance with the contract specifications.

14W/PP125/W4 W1-W4

#### 4. 13W/14W/A5 Back Gouge (Interior)

This QA Inspector randomly observed ABF welder Fred Kaddu perform back gouging operations on “A” deck section 5 from 1800mm-5280mm on the interior of the OBG. The welder removed the backing bar using the Carbon Air Arc method. This QA Inspector observed the welder use the same method to back gouge face “B” of the A5 weld. This QA Inspector noted the process of grinding and blending the weld to clean shiny metal in preparation for NDE inspection.

This QA Inspector randomly observed QC Inspector William Sherwood perform a Magnetic Particle (MT) inspection of the back gouged weld area on OBG “A” deck splice section 13W/14W/A5. This QA Inspector observed that Mr. Sherwood found no rejectable indications and the work appeared to be in general conformance with the contract specifications.

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. No issues were noted by the QAI and the QA Lead Inspector concurs with the QA report.

### Summary of Conversations:

The were no pertinent conversations to report.

---

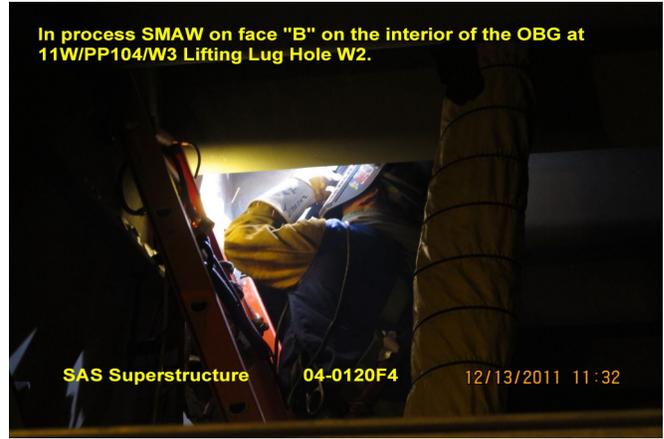
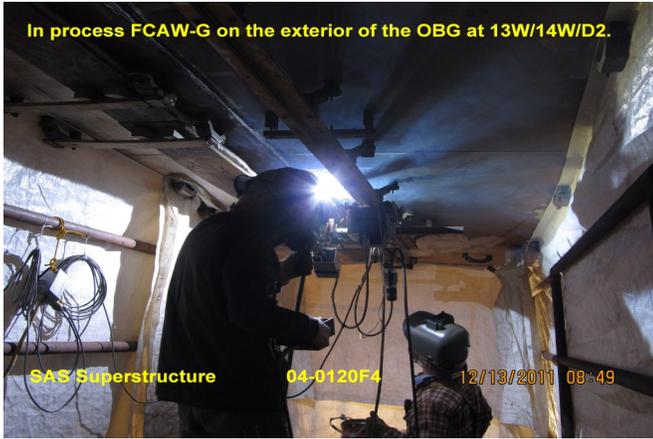
---

# WELDING INSPECTION REPORT

( Continued Page 4 of 4 )

---

---



## 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 Nina Choy 510-385-5910 , who represents the Office of Structural Materials for your project.

---

**Inspected By:** Frey,Doug

Quality Assurance Inspector

---

**Reviewed By:** Levell,Bill

QA Reviewer