

**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:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026745**Date Inspected:** 19-Nov-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite

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

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

1. 13E/14E/F (Interior)
2. 14W/PP26.7/W3.2 Vent Hole (Exterior)
3. 14W/PP128W4/W4 Lifting Lug Hole (Exterior)
4. 14E/PP126.2/E2.4 Vent Hole (Interior)

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).

1. 13E/14E/F (Interior)

This QA Inspector randomly observed ABF welder Fred Kaddu (ID 2188) on edge plate "F" at 13E/14E performing the Shielded metal Arc Welding (SMAW) process in the (3G) vertical position. The 18 mm depth of the B-U2a joint was pre-heated and QC Inspector William Sherwood verified that the temperature was at the minimum of 200 degrees F. This QA Inspector observed the QC Inspector monitoring the welding to ensure that the parameters (A=130) were in accordance with ABF-WPS-D1.5 -1040A. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work is in progress and appeared to be in general compliance with the contract specifications.

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### 2. 14W/PP126.7/W3.2 Vent Hole (Exterior)

This QA Inspector observed QC Inspector Sal Merino perform joint fit-up operations on an “A” deck vent hole on the exterior of the OBG located at 14W/PP126.7/W3.2. This QA Inspector verified the B-U-4a complete Joint penetration (CJP) fit-up and found it to be satisfactory and in conformance with the welding procedure. This QA Inspector randomly observed ABF welder Mike Jimenez (ID 4671) pre-heat the vent hole to 10°C prior to performing SMAW in the (1G) flat position. This QA Inspector observed the QC Inspector monitoring the inter-pass temperatures and the welding to ensure the parameters were in compliance pertaining to ABF-WPS-D15-1050A-CU. The parameters were recorded as (Amperes=135) utilizing a 3.2 mm E7018-H4R electrode. This QA Inspector randomly observed the ABF welder grind and blend the start and stop areas of the weld throughout the joints depth. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general conformance with the contract specifications.

#### 14W/PP126.7/W3.2 Vent Hole (Exterior)

This QA Inspector observed QC Inspector Sal Merino utilize a Bridge Cam Gage to measure the fit-up of the 20 mm plate in the B-U-4a joint on vent hole 14W/PP126.7/W3.2. This QA Inspector verified the fit-up as acceptable and employed a 65°C Tempilstik to ensure the minimum pre-heat temperature had been achieved. This QA Inspector randomly observed ABF welder Mike Jimenez (welder ID 4671) performing the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position and observed the QC Inspector verify the welding parameters were in accordance with the above mentioned WPS. This QA Inspector made subsequent observations throughout the shift to monitor quality and noted that the work is in progress and appeared to be in general compliance with the approved WPS and the contract specifications.

### 3. 14W/PP128W4/W4 Lifting Lug Hole (Exterior)

This QA Inspector randomly observed ABF welder Jorge Lopez performing the back-gouge operation of an ultrasonic rejectable indication on “A” deck Lifting Lug Hole 14W/PP128/W4/W4 located at "Y" 0- 430 mm: (30 mm wide; 100 mm length; and 10 mm in depth). This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

This QA Inspector randomly observed ABF welder Jorge Lopez (Welder ID 6149) performing the repair welding operation of an excavation as per the Shielded Metal Arc Welding (SMAW) process in the (3G) vertical position on “A” deck Lifting Lug Hole 14W/PP128/W4/W4. 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 10 degrees C and that the welding parameters (Amps=132) were in accordance with WPS D1.5-1001- Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications.

#### 14W/PP128/W4/W3 Lifting Lug Hole (Exterior)

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This QA inspector randomly observed ABF welder Jorge Lopez back-gouging lifting lug hole 14W/PP128/W4/W3 as part of the repair operations of an ultrasonic rejectable indication located at “Y” 615 mm: (25 mm wide; 105 mm length; and 12 mm in depth). This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

#### 4. 14E/PP126.2/E2.4 Vent Hole (Interior)

This QA Inspector randomly observed ABF Quality Control Inspector Sal Merino performing Magnetic Particle (MT) inspection on the back gouge of face “B” of vent hole 14E/PP126.2/E2.4 located on the interior of the OBG. This QA Inspector verified that the weld was free of indications and found to be satisfactory. This QA Inspector observed the QC Inspector measure the pre-heat the joint to a minimum of 10 degrees C and this QA Inspector noted the utilization of E9018-H4R electrodes with Amperage of 130. This QA Inspector randomly observed ABF welder Rick Clayborn perform the SMAW process in the 4G overhead position and made subsequent observations throughout the shift to monitor quality and noted that the work was completed on this date and appeared to be in general compliance with the approved WPS and the contract specifications.

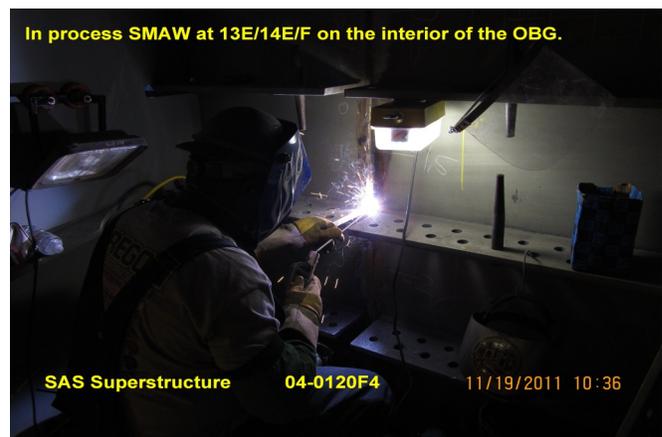
#### 14E/PP126.7/E2.9 Vent Hole (Interior)

This QA Inspector randomly observed ABF welder Rick Clayborn performing the back-gouge operation of an ultrasonic rejectable indication on “A” deck Vent Hole 14E/PP126.7/E2.9 located at "Y" 100 mm: (20 mm wide; 70 mm length; and 8 mm in depth). This QA Inspector observed QC Inspector Sal Merino perform a Magnetic Particle Inspection (MT) of the excavation to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

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.



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## 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.

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