

**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-027012**Date Inspected:** 07-Jan-2012**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

<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
<b>Component:</b>	SAS OBG		

**Bridge No:** 34-0006**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:

## 12E/PP114/E4 Lifting lug Hole W4 (Interior)

This QA Inspector randomly observed ABF qualified welder Jorge Lopez (ID 6149) complete the cover pass on lifting lug hole W4 located at 12E/PP114/E4 on the interior of the OBG. This QA Inspector observed the welder perform the Shielded Metal Arc Welding (SMAW) process in the 4G overhead position and upon completion of the welding, a small disc grinder was utilized to blend the weld reinforcement to a near flush surface condition. During the in process welding this QA Inspector observed QC Inspector Fred Von Hoff monitor the welding and the parameters to insure the work was in compliance with ABF-WPS-D15-1110A-Revision 1. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications.

## 12E/PP114/E3 Lifting Lug Hole W1 and W4 (Interior)

This QA Inspector randomly observed the in process welding of lifting lug holes W1 and W4 at 12E/PP114/E3. The SMAW process was performed by ABF welder Salvador Sandoval (ID 2202) in the (4G) overhead position utilizing E7018-H4R electrodes with amperage of 136. This QA Inspector observed the QC Inspector measure inter-pass temperatures and monitor the welding to insure the parameters were in accordance

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with ABF-WPS-D15-1110A-Revision 1. This QA Inspector made periodic observations to monitor quality and noted that the work was completed on this date and appeared to be in general conformance with the contract specifications.

### 12E/13E/D3 Repair (Exterior)

This QA Inspector randomly observed ABF welder Wai Kit Lai performing the back-gouge operation of an ultrasonic rejectable indication on “D3” at 12E/13E located at "Y" 7800 mm: (35 mm wide; 370 mm length; and 23 mm in depth). This QA Inspector observed QC Inspector Fred Von Hoff 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 Wai Kit Lai (Welder ID 2953) performing the repair welding operation of an ultrasonic rejectable indication as per the SMAW process in the (4G) overhead position on “D3” at 12E/13E. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Fred Von Hoff verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters (Amps=135) 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.

### 12W/13W/D2 Repair (Exterior)

This QA Inspector randomly observed the in process repair welding of ABF welder Fred Kaddu (ID 2188) as per the SMAW process in the (4G) overhead position on “D2” at 12W/13W. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Sal Merino monitor the welding and that the welding parameters (Amps=138) were in accordance with WPS D1.5–1001- Repair. This QA Inspector made subsequent observations throughout the shift and noted that the work was in progress and appeared to be in general conformance with the contract documents.

This QA Inspector randomly observed ABF welder Jeremy Dolman (Welder ID 5042) performing the repair welding operation of an ultrasonic rejectable indication as per the SMAW process in the (4G) overhead position at y+ 7070 mm on “D2” of 12W/13W. This QA Inspector observed QC Inspector Sal Merino verify the preheat temperature and that the welding parameters (Amps=135) 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.

### 11W/PP100/W3 Lifting Lug Hole W1 Repair (Exterior)

This QA Inspector observed ABF welder Mike Jimenez performing back-gouge operations of an ultrasonic rejectable indication on “A” deck lifting lug hole W1 on the exterior of the OBG at 11W/12W. The dimensions of the excavation were noted as 20mm’s in width, 90mm’s in length and 10mm’s 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.

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This QA Inspector made random observations of ABF welder Mike Jimenez (ID 4671) perform the Shielded Metal Arc Welding process (SMAW) in the 1G flat position on lifting lug hole W1 at 11W/PP100/W3. This QA Inspector observed QC Inspector Sal Merino measure the pre-heat temperature to verify a minimum of 10°C was achieved. This QA Inspector also observed the QC Inspector monitoring the welding and verifying that the parameters were in compliance pertaining to ABF-WPS-D15-1001-Repair. The parameters were recorded as (Amperes=230) utilizing a 4.0 mm E7018-H4R electrode. During in process welding, this QA Inspector noted that the QC Inspector measured the inter-pass temperatures to maintain a heat range below 230°C. This QA Inspector made subsequent observations during the shift and noted that the work was completed on this date and appeared to be in general conformance to the contract specifications.

### 12W/PP114/W3 Lifting Lug Hole W2 (Exterior)

This QA Inspector randomly observed QC Inspector Sal Merino perform fit-up operations on lifting lug hole W2 at 12W/PP114/W3. The QC Inspector utilized a Bridge Cam Gauge to measure the planar offset to be within + or - 1 mm from "A" deck and 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 Todd Jackson (welder ID 4639) 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 ABF-WPS-D15-1050A-CU. 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 compliance with the approved WPS and the contract specifications.

### 12E/13E/D3 Repair (Exterior)

This QA Inspector randomly observed ABF welder Hua Qiang Huang performing the back-gouge operation of an ultrasonic rejectable indication on section 3 of "D" at 12E/13E on the exterior of the OBG located at "Y" 7310 mm: (35 mm wide; 370 mm length; and 29 mm in depth). This QA Inspector observed QC Inspector Fred Von Hoff 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 Hua Qiang Huang (2930) performing the repair welding operation of an excavation as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on "D3" at the above named location.. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector Fred Von Hoff verify that the preheat temperature was at the minimum of 10 degrees C and that the welding parameters were in accordance with WPS D1.5-1001- Repair.

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. The 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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**Inspected By:** Frey,Doug

Quality Assurance Inspector

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**Reviewed By:** Levell,Bill

QA Reviewer