

**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-027171**Date Inspected:** 10-Feb-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/13E-A4 (Interior)

This QA Inspector randomly observed ABF welding operator James Zhen (ID 6001) 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 deck plate "A4", at 12E/13E of the OBG. This QA Inspector observed QC Inspector Fred Von Hoff monitoring the welding to ensure the welding parameters were in compliance pertaining to ABF-WPS-D15-3110-4. The parameters were recorded as (A=240/V=23.7/TS=190/HI=1.79). 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 to the contract requirements.

## 13E PP122.5 E4 Lifting Lug Hole #4 (Exterior)

This QA Inspector observed QC Inspector Fred Von Hoff utilize a Bridge Cam Gage to measure the fit-up of the 20 mm plate in the B-U4a joint on lifting lug hole #4 at 13E PP122.5 E4. This QA Inspector verified the fit-up as acceptable and employed a 66°C Tempilstik to ensure the minimum pre-heat temperature had been achieved. This QA Inspector randomly observed ABF welder Salvador Sandoval (ID 2202) performing the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position and observed the QC Inspector verify the welding

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parameters were in accordance with ABF-WPS-D1.5-1050A-CU. The welder was observed grinding and blending the stop/start edges of the work between passes with the QC Inspector measuring the inter-pass temperatures. 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 compliance with the approved WPS and the contract specifications.

### QA NDT (Exterior)

This QA Inspector performed a Magnetic Particle (MT) Inspection at the locations listed below. This QA Inspector performed the yoke method in conformance with ASTM E 709 and the standard of acceptance with D1.5 section 6.26. This QA Inspector noted that no rejectable indications were found at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work at this location appeared to be in general conformance with the contract specifications.

### 13E PP121.5 E3 Lifting Lug Holes #1-4 (SPCM)

This QA Inspector performed Ultrasonic Testing (UT) on approximately 10% of the welds at the locations 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.

### 13E PP121.5 E3 Lifting Lug Holes #1-4 (SPCM)

12E/13E-A1 (SPCM)

12E/13E-A1.2 (SPCM)

12E/13E-A2 (SPCM)

### QC NDT (Exterior)

This QA Inspector randomly observed ABF welder Rick Clayborn performing the back-gouge operation of ultrasonic rejectable indications on "A" deck Lifting Lug Holes at 13E PP121.5 E4. LLH#1 located at y+25 mm: (110 mm in length, 20 mm wide and 11 mm in depth) y+ 265 mm: (80 mm in length, 25 mm wide and 12 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 Rick Clayborn (Welder ID 2773) performing the repair welding operation of two (2) ultrasonic indications as per the Shielded Metal Arc Welding (SMAW) process in the (1G) flat position on "A" deck Lifting Lug Holes #1 and 2 at 13E PP121.5 E4. 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 66 degrees C and that the welding parameters (Amps=135) 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. Upon completion of the repair, a thermal induction blanket was placed over the area for Post Weld Heat Treatment (PWHT) at 450 degrees F for 1 hour.

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## 13E PP122.5 E4 Lifting Lug Hole #3 (Exterior)

This QA Inspector randomly observed QC Inspector perform fit-up operations on lifting lug hole #3 at 13E PP122.5 E4. 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 66°C Tempilstik to ensure the minimum pre-heat temperature had been achieved. This QA Inspector randomly observed ABF welder Salvador Sandoval (welder ID 2202) performing the 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 completed on this date and appeared to be in general compliance with the approved WPS and the contract specifications.

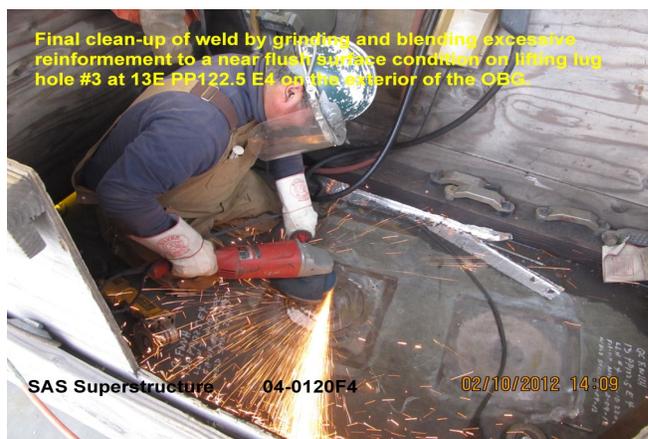
## 13E/14E-A4-A5 (Interior)

This QA Inspector randomly observed ABF welding personnel Wen Han Yu utilize the Plasma Arc Cutting (PAC) method to remove the backing bar from face "B" of "A4-A5" at 13E/14E on the interior of the OBG. The welder employed the use of scaffolding to access the joint utilizing a "Bug-O" motorized rail system with a magnetic base attached in the (4G) overhead position to operate the PAC system. This QA Inspector noted the use of respiratory masks and proper safety procedures were followed. This QA Inspector made subsequent observations and noted that the work was in progress and appeared to be in general conformance with the contract documents.

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.



### Comments

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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
<b>Reviewed By:</b>	Levell,Bill	QA Reviewer

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