

**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-027677**Date Inspected:** 31-May-2012**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:** Job Site

<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:

## 13E Drop-In Panels Repair Welding (Interior)

This QA Inspector randomly observed the repair welding operations performed by Two (2) ABF certified welders at the following locations; ABF welders Salvador Sandoval (ID 2202) at 13E-E2.8 on the interior and Edward Brown (ID 9331) at 13E/14E-A1 on the interior of the OBG. ProHeat 35 thermal blankets were placed over the welds to pre-heat to 110°C (225°F) prior to excavation with Carbon Arc Gouging (CAG). Upon removal of the discontinuities, QC Inspector Salvador Merino performed Magnetic Particle Testing (MT) to ensure soundness of the metal and observed no relevant indications and recorded the dimensions of the excavations which are listed below. The welders were observed depositing metal by utilizing the Shielded Metal Arc Welding (SMAW) process in the 4G overhead positions employing 3.2mm E7018-H4R electrodes drawing amperage of 127 as pertaining to ABF-WPS-D1.5-1004-Repair. This QA Inspector verified that the electrodes were obtained from a baking oven at the correct temperature and within acceptable exposure limits. The welders were observed cleaning the start/stop edges of the work utilizing small disc grinders and compressed air and restored the base metal to the original surface and ground smooth, and the welds to their specific profiles. Post Weld Heat Treatment (PWHT) was applied to each completed weld surface at 230°C (450°F) for a period of 1 hour in accordance with Section 12.15 of AWS D1.5-2002. The repairs were completed on this date.

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Dimensions of the Excavations.

Salvador Sandoval (ID 2202)

13E-2.8 (Interior)-y+11590mm; 60mm in length, 20mm wide and 6mm deep, y+11500mm; 100mm in length, 30mm wide and 6mm deep, y+11145mm; 125mm in length, 30mm wide and 6mm deep.

Edward Brown (ID 9331)

13E/14E-A.1 (Interior)-y+1275mm; 65mm in length, 20mm wide and 9mm deep.

### 13E Drop-In Panels (Interior)

The work initiated on 5/30/2012 was completed on this date at the following locations; Jacob Stafford (ID 8020) 13E PP121-E2.4 BW1, Steven Davis (ID 7889) 13E PP122 E2.5 BW1, Khit Lounechaney (ID 4985) 13E PP120.6-LS2. This QA Inspector observed ABF welders noted below performing all position SMAW on the Seismic Performance Critical Member (SPCM) Complete Joint Penetration (CJP) splice butt joint using 3.2mm E7018-H4R electrodes with amperage of 127-132. This QA Inspector at random intervals observed ABF welder Jacob Stafford (ID 8020) on 13E PP121-E2.4 BF1, ABF welder Steven Davis (ID 7889) on 13E PP122-E2.5BF1 and ABF welder Khit Lounechaney (ID 4985) on 13E PP120.6-TS-1. This QA Inspector observed QC Inspector Sal Merino verify prior to the start of welding operations, that the minimum preheat temperature as per the approved WPS was established; and afterwards verified that the welding parameters (Amps and Travel Speed) were in accordance with ABF-WPS-D1.5-1030. This welding was in progress for the duration of the shift. This QA Inspector verified that the electrodes were stored in electric rod ovens and appeared to be in accordance with AWS D1.5 Section 4.5.2 and exposure rates appeared to be in accordance with AWS D1.5 Table 4.7. During subsequent observations it was noted that the welders were using a power disc grinder and/or rotary die grinders at weld starts and stops as needed and were cleaning between weld passes with power wire wheel brushes.

### 13E/14E-A2.1-QC NDT (Exterior)

This QA Inspector randomly observed QC Inspector Steve McConnell performing Ultrasonic Testing (UT) on the completed weld along 13E/14E-A2.1 from 0mm to 1215mm and 13E/14E-A1 from 4500mm to 5500mm on the exterior of the OBG. The QC Inspector was observed scanning from each side of the weld and the scanning pattern as described in D1.5 6.24. The QC Inspector was noted as identifying recordable indications and observed no rejectable indications. This QA Inspector noted that the work at this location is in progress and appeared to be in general conformance with the contract documents and SE-UT-D1.5-CT-100 Revision 4.

### Summary of Conversations:

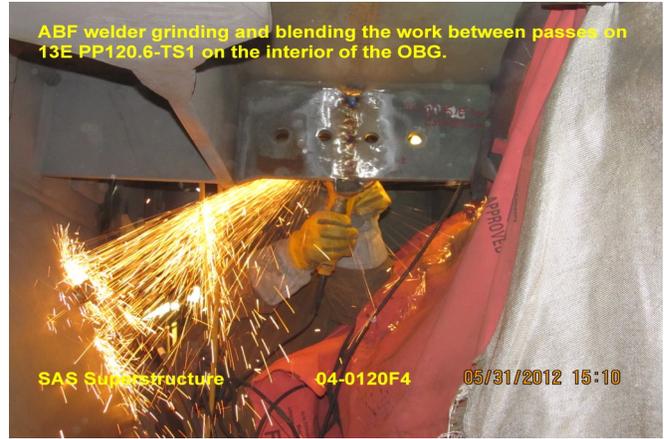
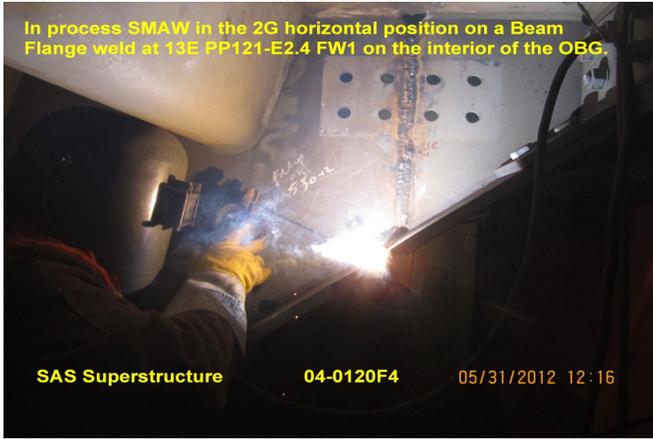
This QA Inspector discussed welder assignments and locations in the Drop-In panels with QC Inspector Slavador Sandoval.

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

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