

**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-026848**Date Inspected:** 10-Dec-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

<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:

1. QC Ultrasonic Inspection
2. 13W/14W/D1 R1 (Exterior)

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. QC Ultrasonic Inspection

This QA Inspector randomly observed QC Inspector Jesse Cayabyab perform Ultrasonic Testing (UT) on the locations listed below. This QA Inspector verified the instrument through calibration and utilization. This QA Inspector observed the QC Inspector utilize a 70° wedge/transducer and noted scanning from both sides of the weld. This QA Inspector observed that Mr. Cayabyab found no rejectable indications and the work appeared to be in general conformance with the contract specifications.

13W/14W/I (Exterior)

12W/13W F1 (Exterior)

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## Ultrasonic Testing (QA)

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.

12/W/13W/F1 (Exterior)

13W/14W/I (Exterior)

2. 13W/14W/D1 R1 (Exterior)

This QA Inspector observed ABF welding personnel performing back-gouge operations of ultrasonic rejectable indications on "D1" on the exterior of the OBG location 13W/14W. The dimensions of the excavations are listed below. This QA Inspector observed QC Inspector William Sherwood perform a Magnetic Particle Inspection (MT) of the excavations to determine the soundness of the metal. Upon completion of the testing this QA Inspector verified that no rejectable indications were present.

1. "Y" 90 mm: (28 mm wide; 130 mm length; and 15 mm in depth)
2. "Y" 250 mm: (22 mm wide; 170 mm length; and 15 mm in depth)
3. "Y" 420 mm: (25 mm wide; 200 mm length; and 15 mm in depth)
4. "Y" 640 mm: (30 mm wide; 110 mm length; and 15 mm in depth)
5. "Y" 2650 mm: (22 mm wide; 100 mm length; and 10 mm in depth)
6. "Y" 2940 mm: (32 mm wide; 130 mm length; and 19 mm in depth)
7. "Y" 3420 mm: (30 mm wide; 110 mm length; and 17 mm in depth)
8. "Y" 3570 mm: (30 mm wide; 100 mm length; and 17 mm in depth)
9. Not Excavated
10. "Y" 4740 mm: (30 mm wide; 170 mm length; and 17 mm in depth)
11. Not Excavated
12. Not Excavated

This QA Inspector randomly observed ABF welding personnel James Zhen, Wai Kit Lai and Jin Pei Wang performing the repair welding operations of nine (9) ultrasonic indications as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on "D1" Bottom Plate Splice 13W/14W. This QA Inspector observed the use of E7018-H4R electrodes and QC Inspector William Sherwood verify the preheat temperature and that the welding parameters were in accordance with ABF-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 randomly observed ABF welder James Zhen (ID 6001) performing the repair welding operation of ultrasonic indication #13 as per the Shielded Metal Arc Welding (SMAW) process in the (4G) overhead position on "D1" Bottom Plate Splice 13W/14W. The dimensions of the excavation were as follows y+ 720 (length; 1230mm, width; 40mm, depth; 19). This QA Inspector observed QC Inspector William Sherwood

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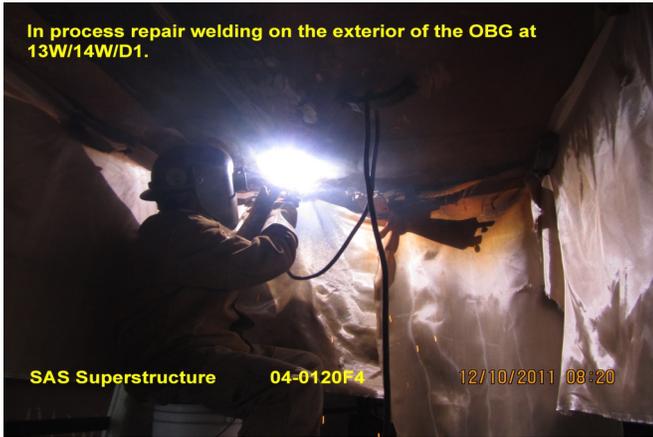
monitor the welding and the parameters for accordance with ABF-WPS- D1.5-1004- Repair. The welding parameters observed at this location appeared to be in general compliance with approved WPS and the contract specifications.

This QA Inspector noted the QC Manager had submitted a Critical Weld Repair Procedure (CWRP) and a response was pending in reference to rejectable indication #13.

Note: The QAI reviewed the observations and inspection with QA Lead Inspector, Daniel Reyes, written in this report. With the exception of indication #13, 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

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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