

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

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-027752  
**Date Inspected:** 13-Jun-2012

**Project Name:** SAS Superstructure  
**Prime Contractor:** American Bridge/Fluor Enterprises, a JV  
**Contractor:** American Bridge/Fluor Enterprises, a JV

**OSM Arrival Time:** 700  
**OSM Departure Time:** 1730  
**Location:** Job Site

<b>CWI Name:</b>	As noted below.	<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes No N/A	<b>Rod Oven in Use:</b>	Yes No N/A	
<b>Electrode to specification:</b>	Yes No N/A	<b>Weld Procedures Followed:</b>	Yes No N/A	
<b>Qualified Welders:</b>	Yes No N/A	<b>Verified Joint Fit-up:</b>	Yes No N/A	
<b>Approved Drawings:</b>	Yes No N/A	<b>Approved WPS:</b>	Yes No N/A	
		<b>Delayed / Cancelled:</b>	Yes No N/A	
<b>Bridge No:</b>	34-0006	<b>Component:</b>	Tower Component	

**Summary of Items Observed:**

Quality Assurance Inspector (QA) William Clifford 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:

**(NCR) Electroslag Weld Excavations**

At approximately 9:44am this QA observed two (2) Magnetic Particle (MT) indications oriented transverse to the weld X axis at approximately 30mm in depth. This QA informed the Quality Control (QC) personnel on-site that due to the orientation of the indications carbon arc gouging was no longer to be used in the area containing these indications. This QA informed QC that the indications required further examination and that mechanical grinding was to be used. ABF/JV informed this QA and the QC that he would only use the carbon arc method to excavate the remainder of the excavation, avoiding the indication area, so that a uniform depth could be established.

At approximately 10:45 this QA observed a different QC performing MT at the area where the indications had been previously discovered. This QA performed a visual examination of indication area and measured the depth to be 38mm. Using the MT process this QA could no longer observe the indications. This QA measured the remainder of the excavation that was to be carbon arc gouged to achieve uniform depth. These areas were measured to be 30mm in depth.

This QA Inspector generated a TL-0015 Non Conformance Report on this date.

**Electroslag Weld Excavation**

1. This QA observed ABF/JV welding personnel Xiao Jian Wan #9677 performing the continued excavation of an

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Electroslag Weld (ESW) previously Ultrasonic Tested (UT) by Quality Control (QC) technicians.

The UT discovered indications were found to be oriented in the longitudinal position. The indications were found to range from rejectable per AWS D1.5 Table 6.4 to within the recordable criteria to be subject to further Radiographic Testing (RT).

The weld being excavated is designated as "ESW E" and was excavated at multiple locations throughout the "Y=4140mm" to 9m elevation. These excavations are ongoing and have yet to receive final measurements for depth, width, and length.

The carbon arc gouging process, as well as machine grinding, were used to excavated approximately 2mm-5mm at a time. In between excavation passes both QA and QC performed Magnetic Particle Testing (MT) and photographed any discovered indications.

Note: See above NCR reference for indication findings.

Please see attached photographs for representative samples of indications observed.

QC MT and data recording was performed by Jesse Cayabyab, Bernie Docena, and Ted Ilo.

2. This QA observed ABF/JV welding personnel Jin Pei Wang #7299 performing excavation of an Electroslag Weld (ESW) previously Ultrasonic Tested (UT) by Quality Control (QC) technicians.

The UT discovered indication was found to be oriented in the longitudinal position. The indication was found to be rejectable per AWS D1.5 Table 6.4).

The weld being excavated is designated as "ESW F" and was excavated at locations:

Weld "F" – Y=8640mm, L=158mm, W=33mm, D=40mm

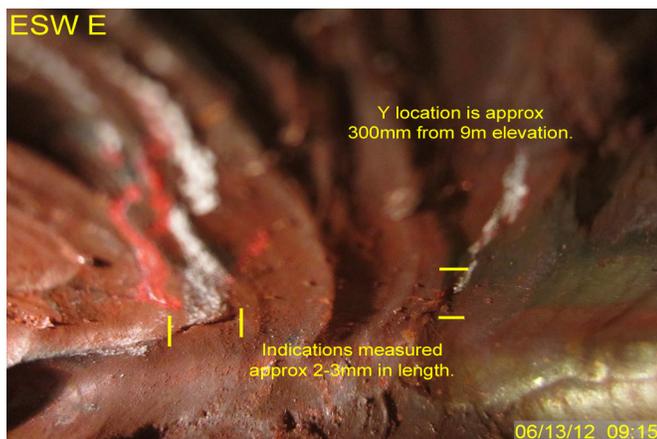
The carbon arc gouging process, as well as machine grinding, were used to excavated approximately 2mm-5mm at a time. In between excavation passes both QA and QC performed Magnetic Particle Testing (MT) and photographed the removal of discovered indications.

Throughout this excavation this QA observed and photographed one (1) longitudinal linear indication approximately 40mm in size.

Please see attached photographs for representative samples of indication observed.

QC MT and data recording was performed by Bernie Docena.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



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**Summary of Conversations:**

Conversations were relevant to testing performed and indications discovered during excavation.

**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 SMR Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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

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