

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-027778
Date Inspected: 16-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: 1530
Location: Job Site

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

Electroslag Weld Excavation

This QA observed ABF/JV welding personnel Wai Kit Li #2953 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 E" and was excavated on Face A at locations:
(Excavation measurements have been corrected and finalized to:)

Weld "E" – Y=4000mm, L=1800mm, W55mm, D=45mm

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 discovered indications.

Throughout this excavation this QA observed and photographed three (3) longitudinal linear indications approximately 10mm-20mm in length and two (2) linear indications in a general transverse orientation approximately 3mm-5mm in length.

Please see attached photographs for representative samples of indication observed.
QC MT and data recording was performed by Jesse Cayabyab.

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This QA observed ABF/JV welding personnel Xiao Hua Luo #1291 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 on Face A at locations:
Weld “F” – Y=8540mm, L=250mm, W=50mm, D=30mm

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 length.

QC MT and data recording was performed by Jesse Cayabyab..

This QA observed ABF/JV welding personnel Wai Kit Li #2953 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 J” and was excavated on Face B at locations:
Weld “J” – Y=3920mm, L=360mm, W=40mm, D=40mm

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

Throughout this excavation this QA observed and photographed one (1) longitudinal linear indication approximately 20mm in length.

QC MT and data recording was performed by Jesse Cayabyab.

This QA observed ABF/JV welding personnel 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 transverse position. The indication was found to be rejectable per AWS D1.5 Table 6.4).

The weld being excavated is designated as “ESW R” and was excavated on Face A at locations:
Weld “R” – Y=520mm, L=250mm, W=50mm, D=30mm

The carbon arc gouging process was used to excavate to a depth of 30mm. At 30mm depth both QA and QC performed Magnetic Particle Testing (MT) and photographed the discovered indications.

This QA observed and photographed no rejectable linear indications.

QC MT and data recording was performed by Jesse Cayabyab.

This QA observed ABF/JV welding personnel 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

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be rejectable per AWS D1.5 Table 6.4).

The weld being excavated is designated as "ESW T" and was excavated on Face A at locations:

Weld "R" – Y=8210mm, L=80mm

The carbon arc gouging process was used to excavate to a depth of 30mm. At 30mm depth both QA and QC performed Magnetic Particle Testing (MT) and photographed the discovered indications.

Throughout this excavation this QA observed and photographed one (1) longitudinal linear indication approximately 20mm in length. This excavation is still in progress. Final measurements have not been made.

QC MT and data recording was performed by Bernard Docena.

Electroslag Weld Repairs

This QA randomly observed ABF/JV qualified welder Jin Pei Wang #7299 performing Shielded Metal Arc Welding (SMAW) with 3.2mm" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D15-1001-R. The joint being welded was tower shear plate designated as ESW weld, location "R" from face A.

Dimensions excavated for these repairs were:

Weld "R" – Y=520mm, L=250mm, W50mm, D=30mm

Before repair welding was initiated this QA and QC Jesse Cayabyab performed Magnetic Particle Testing (MT) and Visual Confirmation of this excavation. No rejectable indications were observed.

During welding, ABF Quality Control (QC) Bernard Docena was noted monitoring the welding parameters. Welding parameters were recorded as (A=123).

Note: An Incident Report for the excavation of ESW R was submitted by this QA on 06-14-12. ABJ/JV welding personnel did not excavate this weld per agreed weld excavations procedure. Please see Incident Report issued on 06-14-12 for pertinent information.

This QA observed, at random intervals, ABF/JV qualified welder Xiao Hua Luo #1291 performing Flux Core Arc Welding (FCAW) implementing Caltrans approved Welding Procedure Specification Specification (WPS) ABF-WPS-D15-3000-3Repair. The joint being welded was tower shear plate designated as ESW weld, location "F" from face A.

Dimensions excavated for this repair were:

Weld "F" – Y=8540mm, L=250mm, W=50mm, D=30mm

During welding, ABF Quality Control (QC) Bernard Docena was noted monitoring the welding parameters. Welding parameters were recorded as (A=248, V=22.6).

This QA observed, at random intervals, ABF/JV qualified welder Wai Kit Li #2953 performing Flux Core Arc Welding (FCAW) implementing Caltrans approved Welding Procedure Specification Specification (WPS) ABF-WPS-D15-3000-3Repair. The joint being welded was tower shear plate designated as ESW weld, location "J" from face A.

Dimensions excavated for this repair were:

Weld "J" – Y=3920mm, L=360mm, W=40mm, D=40mm

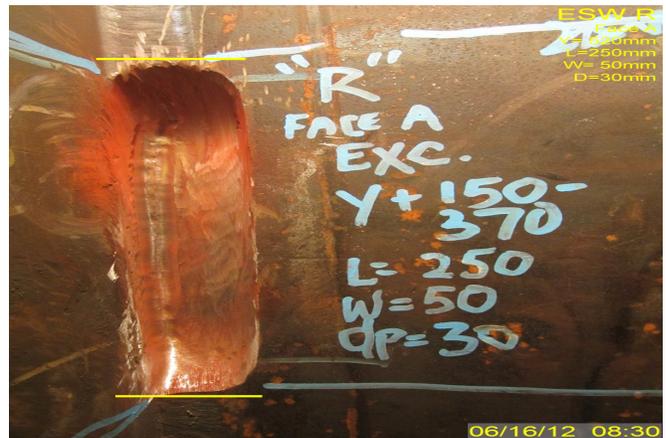
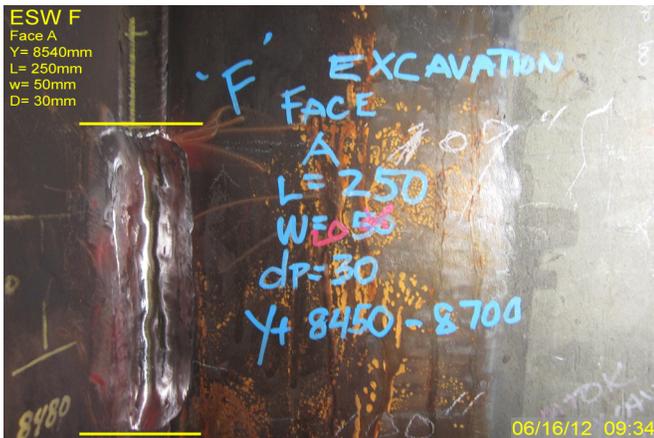
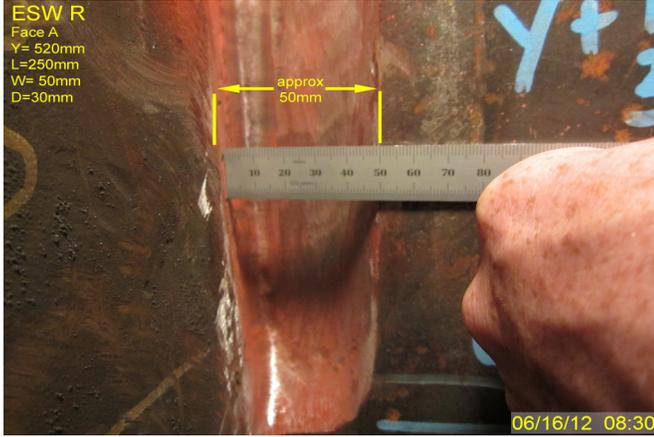
During welding, ABF Quality Control (QC) Bernard Docena was noted monitoring the welding parameters.

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Welding parameters were recorded as (A=240, V=22.3).

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



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.

Inspected By: Clifford, William

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer