

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-027798
Date Inspected: 19-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: 1930
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 / Repair

This QA observed ABF/JV welding personnel Xiao Jian Wan #9677 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 B" and was excavated on Face B at location:

Weld "B" – Y=8120mm, L=240mm, W35mm, D=17mm

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 one (1) longitudinal linear indication approximately 40mm in length.

This QA randomly observed ABF/JV qualified welder Xiao Jian Wan #9677 performing Shielded Metal Arc Welding (SMAW) with 3.2mm" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D15-1000-R. The joint being welded was tower shear plate designated as ESW weld, location "B" from face B.

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Dimensions excavated for these repairs were:

Weld "B" – Y=8120mm, L=240mm, W35mm, D=17mm

During welding, ABF Quality Control (QC) Bernard Docena was noted monitoring the welding parameters. Welding parameters were recorded as (A=124).

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

The MT discovered indication was found to be oriented in the transverse position.

The weld being excavated is designated as "ESW V" and was excavated on Face B at location:

Weld "V" – Y=8660mm, L=290mm, W60mm, D=52mm

The carbon arc gouging process, as well as machine grinding, were used to excavated approximately 52mm in depth. After completion of excavation 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 15mm in length and one (1) transverse linear indication approximately 45mm in length.

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-D15-1000-R. The joint being welded was tower shear plate designated as ESW weld, location "V" from face B.

Dimensions excavated for these repairs were:

Weld "V" – Y=8660mm, L=290mm, W60mm, D=52mm

During welding, ABF Quality Control (QC) Bernard Docena was noted monitoring the welding parameters. Welding parameters were recorded as (A=122).

This QA observed ABF/JV welding personnel Wen Han Yu #6317 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 C" and was excavated on Face A at locations:

Weld "B" – Y=9200mm, L=150mm, W50mm, D=33mm

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 one (1) longitudinal linear indication approximately 55mm in length.

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 "E" from face B.

Dimensions excavated for this repair were:

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

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

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Welding parameters were recorded as (A=250, V=23.0).

Tower In- Process

This QA randomly observed ABF/JV qualified welder Wen Han Yu #6317 performing Shielded Metal Arc Welding (SMAW) with 3.2mm" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D15-F1200A. The joint being welded was a 10mm fillet weld at Tower Doubler Plate designated as P1128-A1.

During welding, ABF Quality Control (QC) Bernard Docena was noted monitoring the welding parameters. Welding parameters were recorded as (A=130).

Magnetic Particle Testing

This QA Inspector performed Magnetic Particle Testing (MT) of approximately 45% of Partial Joint Penetration (PJP) Tower Bearing Stiffener Plate weld designated as "Weld #007". This weld is located at base plate level between the East and North shafts. This weld was previously accepted by QC Magnetic Particle technicians. This QA observed no rejectable indications at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work observed at this location appeared to be in compliance with the contract specifications.

This QA Inspector tested approximately 900mm of 1870mm long weld.

Orthotropic Box Girder - 13W

This QA randomly observed ABF/JV qualified welder Rory Hogan #3186 performing Shielded Metal Arc Welding (SMAW) with 3.2mm" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D15-1040C-CU. The joint being welded was 13W-PP122.2

During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters. Welding parameters were recorded as (A=131).

This QA randomly observed ABF/JV qualified welder Mike Jiminez #4671 performing Shielded Metal Arc Welding (SMAW) with 3.2mm" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D15-1040C-CU. The joint being welded was 13W-PP122.2

During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters. Welding parameters were recorded as (A=130).

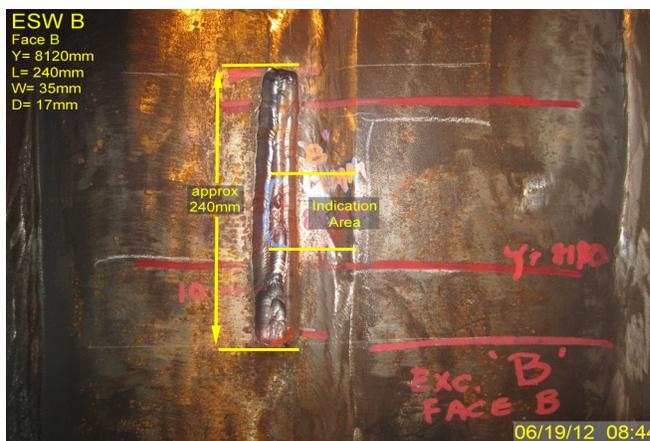
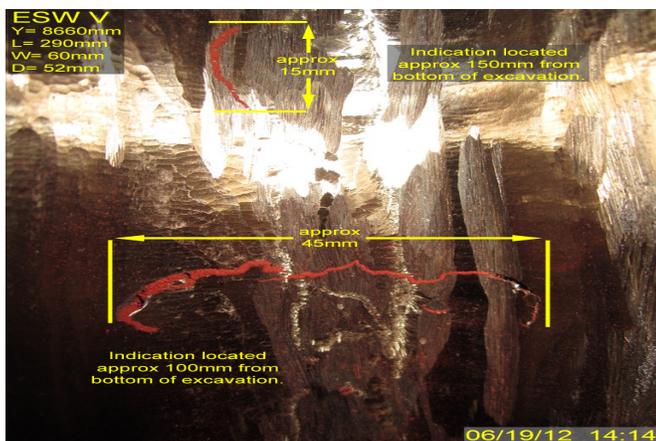
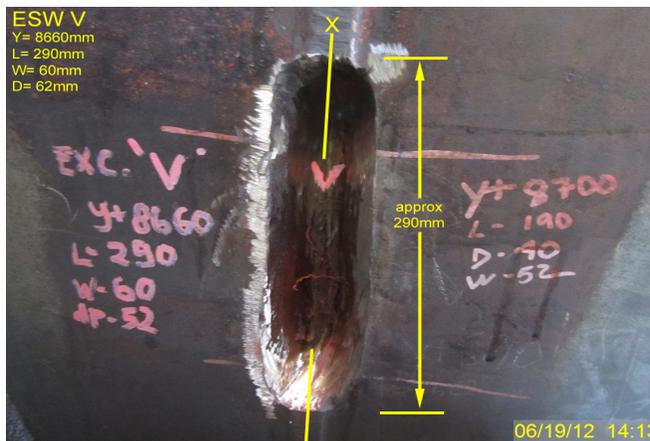
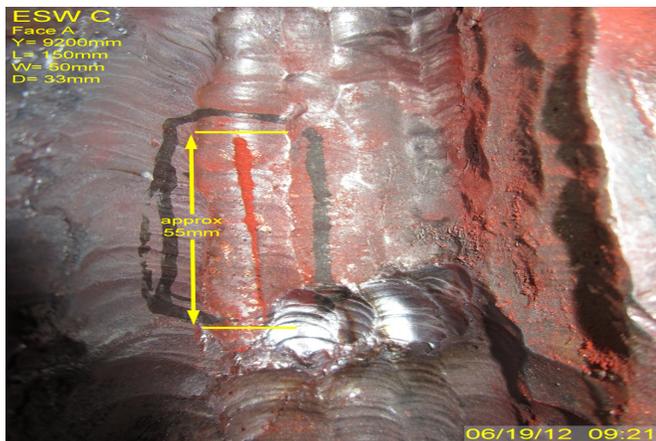
This QA randomly observed ABF/JV qualified welder Jeremy Dolman #5042 performing Shielded Metal Arc Welding (SMAW) with 3.2mm" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D15-1040C-CU. The joint being welded was 13W-W2.8 (Y=6800mm~9200mm)

During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters. Welding parameters were recorded as (A=131).

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.

Inspected By: Clifford, William

Quality Assurance Inspector

Reviewed By: Levell, Bill

QA Reviewer