

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-027749**Date Inspected:** 09-Jun-2012**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:** Job Site**CWI Name:** See 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:** OBG/Tower**Summary of Items Observed:**

At the start of the shift this Quality Assurance Lead Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) Quality Control (QC) personnel. The observations and inspections were performed as noted below:

A). This Quality Assurance Lead Inspector (QALI) assigned the QA Inspectors to the following, but not limited to the work station(s) listed, to observe the welding and the QC inspection of the following:

Joselito Lizardo-OBG E13 Drop-In Panels (Observation of welding, QC inspection and testing of structural steel floor beams) and OBG W13 Drop-In Panel (Observation of welding, QC inspection and testing of panel splices).

Will Clifford-Tower Shear Plates, ESW "T" (Performed investigative excavation, documentation and observed QC inspection and testing of longitudinal indications).

Doug Frey- OBG E13 (Observation of welding, QC inspection and testing of longitudinal stiffeners and structural steel floor beams).

Rodney Patterson-Tower ESW "E", "H" & "M" (Observation of repair welding, QC inspection and testing) and OBG E13 Drop-In Panel (Observation of profile grinding in preparation for QC/NDE).

NOTE: See QA daily Weld Inspection Reports (WIR) and NDE reports for additional information and details.

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

Quality Assurance Lead Inspector (QALI) Summary

This QA Lead Inspector (QALI) observed the QA Inspector's Joselito Lizardo, William Clifford, Doug Frey and Rodney Patterson monitor the work performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. The QAI's utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the conclusion of the shift, this QA Lead Inspector discussed and reviewed the work performed by the QAI's in regards to the various observations and the verifications of the WPS's, consumables, welding parameters, preheat and interpass temperatures. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications and no issues was noted.

This QALI continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates). Also, this QALI performed survey and prepared update documentation of the East and West OBG.

OBG E13 Drop-In Panels (SPCM)

The QAI observed the Shielded Metal Arc Welding (SMAW) process of the structural steel floor beam field splice identified as Weld Number (WN): 13E-PP124-E2.8-BW1. The welding was performed by welding personnel, Richard Garcia ID-5892 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-1030, Rev. 1. The WPS was also used by the Quality Control (QC) Inspector Salvador Merino to verify the welding parameters and to monitor the welding of the Complete Joint Penetration (CJP) groove weld. The QAI observed the QC inspector verifying the welding parameters and were noted as 125 amps. The minimum preheat temperature of 40 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius appeared to comply with contract documents. The welding was performed in the vertical (3G) position with the work placed in an approximately vertical plane with the groove approximately vertical.

QC Ultrasonic Testing (SPCM)

The QAI also observed the Ultrasonic Testing (UT) of the Complete Joint Penetration (CJP) longitudinal panel splice identified as WN: 13E-E2.5. The testing was performed by the QC technician Leonard Cross utilizing a G. E./Krautkramer USM 35X. Mr. Kortum also utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the CJP. The QC technician performed the required longitudinal wave utilizing a 1" diameter transducer for base metal soundness. The testing was not completed during this shift and several indications were noted as rejectable and several indications were noted as recordable.

OBG W13 Drop-In Panels (SPCM)

Later in the shift, the QAI observed the Shielded Metal Arc Welding (SMAW) process of the panel field splice identified as Weld Number (WN): 13W-W2.8. The welding was performed by welding personnel, Mike Jimenez ID-4671 utilizing the Welding Procedure Specification (WPS) ABF-WPS-D15-1040C-CU, Rev. 0. The WPS was

WELDING INSPECTION REPORT

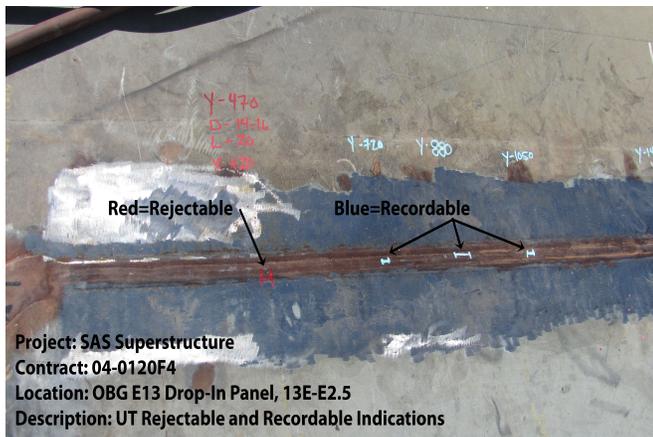
(Continued Page 3 of 4)

also used by the Quality Control (QC) Inspector William Sherwood to verify the welding parameters and to monitor the welding of the Complete Joint Penetration (CJP) groove weld. The QAI observed the QC inspector verifying the welding parameters and were noted as 124 amps. The minimum preheat temperature of 40 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius appeared to comply with contract documents. The welding was performed in the overhead (4G) position with the work positioned in an approximately horizontal plane and the weld metal deposited from the underside.

QA Observation and Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld stations. The welding parameters and surface temperatures were verified by the QC inspectors utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The welding consumables utilized for the SMAW welding process appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs below illustrate the some of the work observed by this QA inspector during this shift.



Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

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.

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Inspected By: Reyes,Danny

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer