

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 #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006748**Date Inspected:** 13-May-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Mike Gregson, Rob Walters**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:** Hinge K Pipe Beams**Summary of Items Observed:**

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

OIW Fabrication Shop-Bay 3

Hinge-K Pipe Beam Assembly 102A-1: 5/13/09

a111-1 Forging to a110-1 Base Plate

QA Inspector noticed this weld joint #W2-12/W2-13 was currently sitting idle, with a pending critical weld repair.

Hinge-K Pipe Beam Assembly 102A-2: 5/13/09

a111-2 Forging to a110-2 Base Plate

QA Inspector noticed welder #J6, Mr. Craig Jacobsen, had completed the excavation on this non-critical weld repair and QA Inspector witnessed QC Inspector Rob Walters performing a verification of depth/length and 100% magnetic particle testing on the excavation. Mr. Rob Walters explained to QA Inspector that no rejectable indications were found and the depth/length of excavation was acceptable.

Hinge-K Pipe Beam Assembly 102A-3: 5/13/09

a111-3 Forging to a110-3 Base Plate

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

QA Inspector noticed this assembly 102A-3 was sitting idle, with a pending non-critical weld repair.

Hinge-K Pipe Beam Assembly 102A-4: 5/13/09

a111-4 Forging to a110-4 Base Plate

QA Inspector noticed that this assembly 102A-4 had been transferred to OIW Bay 3 from OIW South storage yard and was sitting idle.

Hinge-K Pipe Beam Fuse Assembly 120A-1: 5/13/09

a124-6 Half Fuse to a124-7 Half Fuse

QA Inspector noticed this fuse assembly 120A-1 was sitting idle in OIW Bay 3, pending the stainless steel overlay process.

Hinge-K Pipe Beam Fuse Assembly 120A-2: 5/13/09

a124-3 Half Fuse to a124-11 Half Fuse

QA Inspector noticed this assembly 120A-2 was sitting idle, with a pending critical weld repair.

Hinge-K Pipe Beam Fuse Assembly 120A-3: 5/13/09

a124-12 Half Fuse to a124-10 Half Fuse

QA Inspector noticed this assembly 120A-3 had been transferred to OIW Bay 3 and QC Inspector Steve Barnett had performed 100% magnetic particle testing on the exterior rough machined surface and found no rejectable indications, as noted on the assembly. QA Inspector noted QA Inspector Sherri Brannon had performed approximately 10% magnetic particle testing and found no rejectable indications, on this date.

Hinge-K Pipe Beam Fuse Assembly 120A-4: 5/13/09

a124-13 Half Fuse to a124-4 Half Fuse

QA Inspector noticed this fuse assembly 120A-4 was sitting idle, pending transfer to A&G Machining, for rough machining.

Hinge-K Pipe Beam Fuse Assembly 120A-5: 5/13/09

a124-14 Half Fuse to a124-2 Half Fuse

QA Inspector witnessed welder # T6, Mr. Craig Jacobsen pre-heating the a124-14 half fuse to a124-2 half fuse CJP weld splice, designated as weld joint #WM3-18. QA Inspector noticed that QC Inspector Rob Walters was present to verify pre-heat temperatures (minimum 350 F), were in compliance with the applicable welding procedure specification (WPS 4020).

Hinge-K Pipe Beam Sub-Assembly a124-9: 5/13/09

a125 & b125 Ring Stiffeners to a124-9 Half Fuse

QA Inspector randomly witnessed OIW welder #O6, Mr. Tim O'Brian, performing submerged arc welding on the internal ring stiffener, designated as weld joint #WM3-05, in the flat position (1G). QA Inspector noticed that QC Inspector Rob Walters was present to verify in-process welding parameters (amps/volts) and pre-heat temperatures. QA Inspector verified Mr. Tim O'Brian was currently qualified for this welding process/position and randomly recorded welding parameters of 610 amps and 29 volts. QA Inspector noted that Mr. Tim O'Brian appeared to be in compliance with the applicable welding procedure specification (WPS 4020).

WELDING INSPECTION REPORT

(Continued Page 3 of 4)

Procedure Qualification Test (PQR): 5/13/09

PQR #SSCS-12

QA Inspector received verbal notification from OIW welding supervisor Vern Taute, that two more layer passes would be added to the existing layer passes on this previously run PQR #SSCS-12. QA Inspector arrived at the testing Bay 1 and met with QC Inspector Scott Reed. Mr. Scott Reed explained to QA Inspector that welder #K20, Mr. Randy Kleeman, would be performing tungsten inert gas (TIG) welding, using electrode designated as AWS A5.9 ER316L, in the flat position. Mr. Scott Reed explained that he would be present during the welding and to verify/document in-process welding parameters (amps/volts), pre-heat temperatures, distance travelled, etc. QA Inspector assigned the following lot #B251-020-09 and completed the applicable TL6032, at the completion of the PQR. See PQR #SSCS-12 photo below.

Note: QA Inspector received an inspection request on 5/7/09 from OIW QC manager Tom Tomovick, explaining that OIW would be running a PQR, for the potential weld repairs on the stainless steel overlay. QA Inspector arrived at OIW bay 3 to witness the PQR on 5/8/09 and met with QC Inspector Scott Reed. Mr. Scott Reed explained that welder #K20, Mr. Randy Kleeman, would be performing tungsten inert gas (TIG) welding, using electrode designated as AWS A5.9 ER309L and AWS A5.9 ER316L, in the flat position. Mr. Scott Reed explained that he would be present during the welding and to verify and document in-process welding parameters (amps/volts), pre-heat temperatures, distance travelled, etc. QA Inspector noticed that the PQR test plate had a square cut in the carbon steel base metal approximately 150mm long x 55mm wide x 6mm deep and Mr. Randy Kleeman was welding with the ER309L on all passes and the final two layer passes would be welded with the ER316L electrode. QA Inspector witnessed Mr. Scott Reed was present at all times during the welding process and Mr. Scott Reed was recording data on the applicable data sheet for procedure qualification. QA Inspector noted that Mr. Randy Kleeman would not be finished welding by end of shift and QA Inspector Clete Henke would be present for the completion of this PQR SACS-12. QA Inspector noted Mr. Randy Kleeman and Mr. Scott Reed appeared to be in compliance with AWS D1.6 and Mr. Scott Reed explained that a copy of the PQR data sheet would be provided to QA Inspector, after completion of the PQR.



Summary of Conversations:

As noted above.

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 Mohammad Fatemi (916) 813-3677, who represents the Office of Structural

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Materials for your project.

Inspected By: Vance,Sean

Quality Assurance Inspector

Reviewed By: Adame,Joe

QA Reviewer