

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-007391**Date Inspected:** 19-Jun-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 6

Hinge-K Pipe Beam Fuse Assembly 120A-4: 6/19/09

a124-13 Half Fuse to a124-4 Half Fuse

QA Inspector noticed that the stainless steel overlay welding was in-process, on this fuse assembly 120A-4. QA Inspector witnessed welder #F17, Mr. Igor Frolov, performing electro slag welding (ESW) in the flat position, utilizing Soudokay brand Soudotape 316L stainless steel consumable strip. QA Inspector noted that the first overlay weld passes were 100% complete, utilizing Soudokay brand Soudotape 309L stainless steel consumable strip and the second layers were in-process. QA Inspector noticed QC Inspector's Mike Gregson and Rob Walters were present, to verify in-process welding parameters (amps/volts) and monitor in-process continuous pre-heat temperatures. QA Inspector spoke with QC Inspector Rob Walters and Mr. Rob Walters explained that welding amps were recorded as 1300 amps/26 volts, with and a pre-heat temperature of approximately 70 degrees Fahrenheit. QA Inspector verified Mr. Igor Frolov was currently qualified for this welding process/position and randomly recorded pre-heat temperatures of approximately 70 degrees Fahrenheit. QA Inspector noted that Mr. Igor Frolov appeared to be in compliance with the applicable approved welding procedure specification (WPS

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

7003). See attached photo of assembly 120A-4 below.

Hinge-K Pipe Beam Fuse Assembly 120A-6: 6/19/09

a124-1 Half Fuse to a124-9 Half Fuse

A & G Machining

QA Inspector arrived at A&G Machining, on this date and A&G explained that OIW Machinist had previously arrived to verify A&G roundness measurements and released this fuse assembly 120A-6 to A&G, to begin rough machining, on this date. A&G Machinist explained to QA Inspector that the first cut pass was approximately .160" (4mm) deep and approximately 40% complete, as shown in attached picture below. A&G explained that the remaining two cut passes would also be approximately .160" (4mm) deep and that the rough machining would probably be completed on 6/22/09 p.m., or 6/23/09 a.m. A&G explained that OIW machinist would be present on 6/25/09, after completion of rough machining to verify final outside diameter dimensional checks and possibly release this fuse assembly, back to OIW fabrication shop. QA Inspector noted that 100% magnetic particle testing will be performed on the exterior rough machined surface by qualified OIW QC Inspectors, once arriving back to OIW fabrication shop.

Koon-Hall Adrian Metallurgical: 6/19/09

PQR SSCS-013 and SSCS-014

QA Inspector received an inspection request (TL38), on this date, to witness the mechanical testing at Koon-Hall Adrian Metallurgical, in Portland, OR, on the previously welded PQR'S SSCS-013 and SSCS-014, for the potential weld repairs on the ESW stainless steel overlay. QA Inspector arrived at KH and met with OIW welding engineer, Verne Taute and Mr. Taute explained that KH would be performing the following tests on the cut samples for these two PQR'S:

6 ea. Macroetch

8ea. Guided Bend

2ea. Chemical Analysis

QA Inspector witnessed KH perform the macros, bends and chemical tests and KH explained to QA Inspector that the macro's, bend and chemical tests, for the PQR'S SSCS-013 and SSCS-014, were in compliance with AWS D1.6. QA Inspector performed visual testing on the macroetch and guided bend samples and noted that these samples had no visible discontinuities; including cracks, lack of fusion, slag and porosity. QA Inspector noted that these samples appeared to be in compliance with AWS D1.6. QA Inspector was provided with all applicable testing reports and completed the applicable welding witness report (TL6032), on this date.

Material, Equipment, and Labor Tracking

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project. The QA Inspector observed at Oregon Iron Works: 6 OIW production personnel and 2 QC Inspectors. The following personell were present at A&G: 1A&G supervisor and 1 A&G machinist

WELDING INSPECTION REPORT

(Continued Page 3 of 3)



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 Materials for your project.

Inspected By:	Vance, Sean	Quality Assurance Inspector
Reviewed By:	Adame, Joe	QA Reviewer
