DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 13.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-007158
Date Inspected: 11-Jun-2009

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Oregon Iron Works Clackamas, Or.

OSM Arrival Time: 700
OSM Departure Time: 1530
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 1: 6/11/09
Procedure Qualification Test (PQR)
PQR #SSCS-013

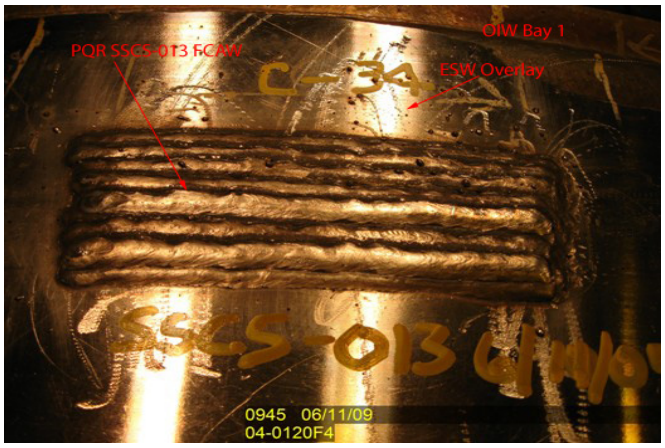
QA Inspector observed OIW welder #C34, Mr. Mark Craig, performing multi-pass flux-core arc welding on a tubular cut test plate, in the flat position. QA Inspector was informed by OIW welding supervisor, Vern Taute, that this Procedure Qualification Test #SSCS-013, was being performed for the potential weld repairs on the stainless steel overlay process. Upon arrival, Mr.Vern Taute provided QA Inspector with the applicable material and consumable certifications. QA Inspector noted that Mr. Mark Craig would be welding using two consumable electrodes, identified as AWS A5.9 ER316LTO-4 (lot #E78883)/AWS A5.9 ER309LT0-4 (lot #E75276) (1/16" Harris brand), 2% thoriated tungsten electrode, utilizing a DC-600 Lincoln welding machine, 400 Amp Tregaskiss torch, size 5/8" nozzle and CO2 shielding gas, with a flow rate of 40 CFH. QA Inspector noticed the test plate was 32mm thick, Heat #108571 and had a cut square in the stainless steel overlay, approximately 152mm long x 55mm wide x 6mm deep and Mr. Kleeman would be depositing weld passes, to fill the base material and finish with a weld cap, to duplicate the approximate height of the overlay passes. QA Inspector

noticed that QC Inspector Tony Gross was present during the welding, to monitor and document in-process welding parameters (amps/volts), pre-heat temperatures and travel speeds during each welding pass. QA Inspector noted Mr. Mark Craig was in general compliance with AWS D1.6/contract requirements and Mr. Tony Gross provided QA Inspector with copies of the Data Sheet for Procedure Qualification, after completion of this PQR SSCS-014 and QA Inspector assigned the following lot # B251-029-09. See applicable TL6032 and attached pictures for additional details.

Hinge-K Pipe Beam Sub-Assembly a124-15: 6/11/09
a125 & b125 Ring Stiffeners to a124-15 Half Fuse
QA Inspector randomly witnessed OIW welder #O6, Mr. Tim O'Brian, performing submerged arc welding on the a125 internal ring stiffener to a124-15 half fuse, designated as weld joint #WM3-16. QA Inspector noticed the submerged arc welding was being performed in the flat position and verified Mr. Tim O'Brian was currently qualified for this welding process/position and randomly recorded pre-heat temperatures of approximately 350 F, which is in accordance with the applicable welding procedure specification (WPS 4020). QA Inspector randomly recorded in-process welding parameters of 600 amps and 32 volts and noticed that QC Inspector Rob Walters was present to randomly verify in-process welding parameters (amps/volts) and pre-heat temperatures. QA Inspector noted that the submerged arc welding being performed by Mr. Tim O'Brian, appeared to be in compliance with the applicable welding procedure specification (WPS 4020).

OIW South Storage Yard: 6/11/09
QA Inspector noticed the following half-fuse sub assemblies were sitting idle, pending submerged arc welding on the internal stiffener rings, piece marks identified as a125 & b125: a124-8 and a124-16.

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



Summary of Conversations:
As noted above.

WELDING INSPECTION REPORT

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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