

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-010939**Date Inspected:** 29-Dec-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** M. Gregson, J. Salazar**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:

AG Machining (Boring,OR)

On this date, the QA Inspector arrived at AG Machine, to observe the informal PT inspection of Fuse 120a-4, to verify indications presently visible on the overlay surface. The QA Inspector met with OIW QC Inspector Jose Salazar, OIW welder (WID #C34) Mark Craig & an OIW Machinist. QC Inspector Salazar informed the QA Inspector, that per the approved OIW Liquid Penetrant testing (PT) procedure QC-114, the Fuse 120A-4 to be examined, should be at a minimum of 70 degrees Fahrenheit (21 C). The QA Inspector noted that the fuse was at approximately 40 degrees Fahrenheit (4 C). For this inspection, OIW are attempting to locate any discrepancy that would need to be repaired prior to final inspection. Once all repairs are complete, OIW will later perform a formal PT inspection, on 100% of the Fuse overlay, per the approved PT procedure, QC-114. The QA Inspector noted that AG currently has a third and final cut pass, of approximately .5mm deep and finish honing, prior to OIW completing the final inspection and final PT. The QA Inspector witnessed QC Inspector Jose Salazar in process of cleaning "sections" on the overlay with acetone/cleaner and also later applying DP40 penetrant and D100 spray can type developer. The QA Inspector spoke with Mr. Salazar who explained that any surface indications that were present during the informational PT testing, would be marked for repairing and OIW welder Mark Craig would then grind out and perform GTAW on the repairs. The QA Inspector later noted that after the first "section" of penetrant testing had been completed, Mr. Salazar stated that multiple indications were present, which appeared to

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be small clusters of slag inclusions. The QA Inspector witnessed QC Inspector Salazar mark these areas for repairs and welder Mark Craig, excavating these areas out. The QA Inspector witnessed Mr. Salazar measuring the excavations and Mr. Salazar explained that the excavations were approximately .5mm-2.5mm deep, with various lengths measured at 1mm-4mm. The QA Inspector then witnessed Mr. Salazar continue the informational PT on other “sections” of the Fuse 120A-4 overlay. Mr. Salazar later explained that approximately 75% of the informational PT was complete and there were approximately 61 individual GTAW repairs. Mr. Salazar explained that all of the indications appeared to be small clusters of slag inclusions. The QA Inspector later spoke with QC Inspector Salazar and Mr. Salazar explained that 100% of the info. PT was complete with a total of 91 individual repairs. Mr. Salazar explained that the excavations were complete and ready for the GTAW. Mr. Salazar explained that he and welder Mark Craig, would be arriving at AG on 12/30/09, in the a.m., to perform this. See attached pictures below.

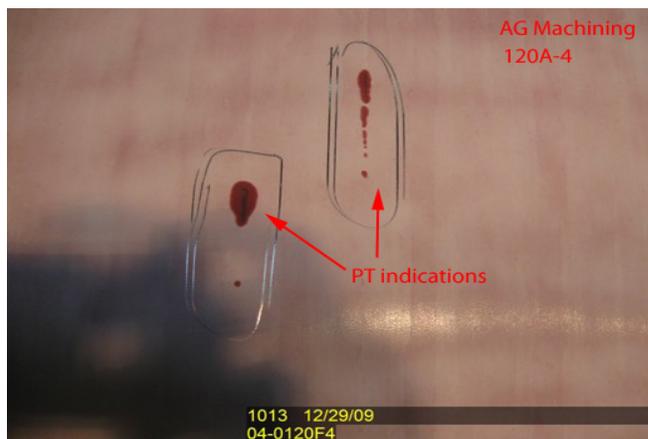
Material, Equipment, and Labor Tracking

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project.

The QA Inspector observed at Oregon Iron Works: 2 OIW production personnel and 1 QC Inspector.

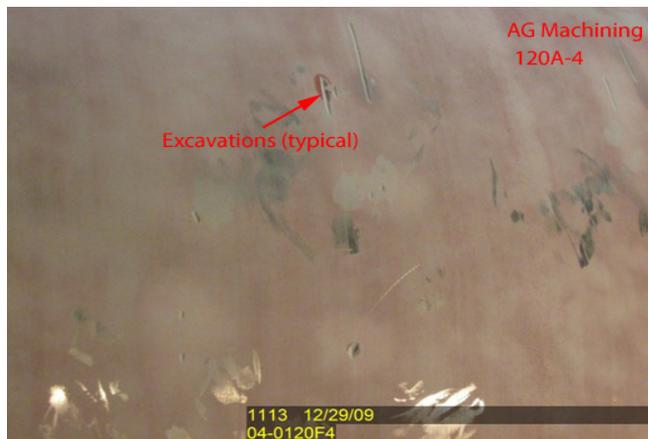
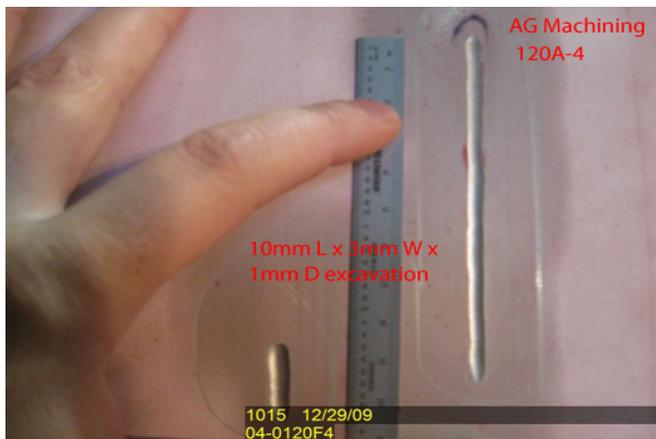
The QA Inspector observed at AG Machine shop: 1 AG machinist, 1 OIW welder and 1 OIW QC.

The QA Inspector noted that no work was performed at OIW Vancouver paint shop.



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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
