

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-012794**Date Inspected:** 19-Mar-2010**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:** 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 shop to observe OIW perform the final Penetrant Testing (PT) and the surface finish testing, on the Fuse 120A-7. The QA Inspector arrived at approximately 1000 and met with OIW QC Inspector Jose Salazar and an AG Machinist. Upon arriving, the AG Machinist explained that OIW Machinist Matt Ackerson had previously arrived on this date, at approximately 0700, to perform the FARO measurements, on the Fuse. The AG Machinist explained that the final outside diameter and cylindricity measurements were performed with the FARO Laser Tracker. The AG Machinist explained that after completion, Matt Ackerson explained that the measurements were within tolerance, per the contract requirements. Upon arriving, QC Inspector Salazar explained that the final surface testing will be performed, utilizing a profilometer. The QA Inspector then witnessed QC Inspector Salazar perform a calibration check on a block with a known surface finish and verified that the profilometer, had a calibration sticker attached and had been calibrated by OIW on 12/10/09, with a next due date of 12/10/10. QC Inspector Salazar explained that the profilometer had passed the calibration test. The QA Inspector then witnessed QC Inspector Salazar perform random testing on the surface finish and on the previously repaired and smoothed surfaces on the overlay. QC Inspector Salazar explained that the surface profile readings averaged .5um. The QA Inspector noted that the contract requires a surface finish, not to exceed .8 um and that this surface finish, appears to be in compliance with the contract

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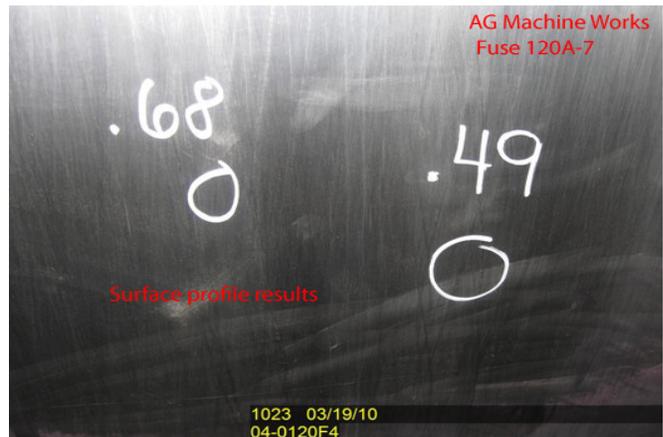
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requirements.

The QA Inspector then witnessed QC Inspector Salazar setting up to perform the Final Penetrant Testing (PT), on the Fuse 120A-7. QC Inspector Salazar explained to the QA Inspector that the final PT testing on the Fuse will be performed, utilizing OIW's procedure QC-114, sect. 8.0, Water Washable Visible Die Penetrant. The QA Inspector then witnessed QC Inspector cleaning approximately one-half of the Fuse overlay surface with acetone, to remove all surface irregularities, which would otherwise mask the indications of unacceptable indications. The QA Inspector was then informed, by QC Inspector Salazar that the pre-heat was applied, utilizing 2 propane heaters, earlier in the a.m., by AG. The QA Inspector witnessed QC Inspector Salazar performing pre-heat checks, utilizing a digital thermometer and noted that the surface temperature was approximately 72 degrees Fahrenheit (22 C). The QA Inspector witnessed QC Inspector Salazar then applying DP50 penetrant, utilizing a hand pump sprayer, on the Fuse overlay. The QA Inspector noted that the penetrant was applied evenly and QC Inspector Salazar explained that the DP 50 will sit for approximately 25-30 minutes (dwell time). The QA Inspector then verified the dwell time to be approximately 25 minutes and noted that QC Inspector had started to wipe the penetrant off with lint free rags. The QA Inspector then witnessed QC Inspector Salazar applying water, with a hand sprayer, to remove the excess DP50. The QA Inspector then witness QC Inspector Salazar applying D-100 spray can type developer, over the entire one-half surface, in a thin uniform coating. The QA Inspector noted that during the application of the D-100, that no relevant indications were present at the time. After approximately 20 minutes dwell time, the QA Inspector witnessed QC Inspector Salazar performing visual testing on the tested area. QC Inspector Salazar then explained that that no relevant indications were present and the PT was acceptable, on this one half of the Fuse. The QA Inspector then witnessed QC Inspector Salazar cleaning off the applied developer with a water hose. The QA Inspector noted that the PT testing appeared to be in compliance with AWS D1.5 visual acceptance criteria and QC-114. QC Inspector Salazar then explained that he will be arriving at AG on 3/22/10 to perform the PT on the remaining one-half surface, of the Fuse. See attached pictures below.

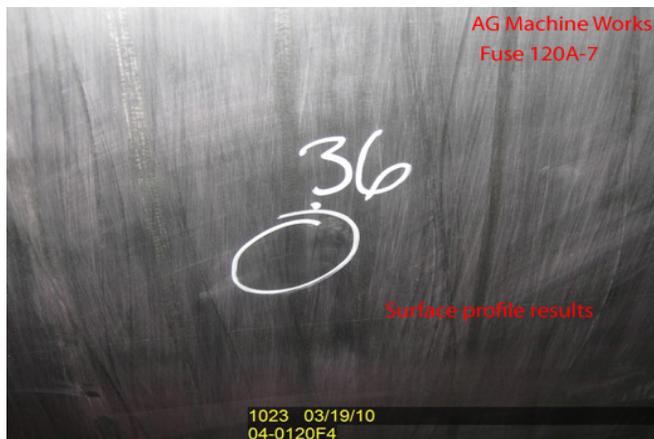
Material, Equipment, and Labor Tracking (MELT)

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 2 QC Inspectors. The QA Inspector observed at AG Machine Works: 1 AG Machinist, 1 AG Supervisor and 1 OIW QC.



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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