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-015025
Date Inspected: 16-Jun-2010

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

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Clackamas, OR

CWI Name: M. Gregson, J. Salazar, G. Mundt

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 OIW perform informal penetrant testing and weld repairs, on the finished overlay surface, on this Fuse 120A-8. Upon arrival, The QA Inspector met with OIW QC Inspector Jose' Salazar, OIW welder (WID# C34) Mark Craig and AG Machinist, Terry Schmale.

QC Inspector Salazar explained to the QA Inspector that he was instructed to perform informal PT on 100% of the overlay and WID #C34 will then perform the excavations and Gas Tungsten Arc Welding (GTAW) repairs. The QA Inspector noted that the indications, currently present in the overlay, appeared after AG completed the final cut pass and finish honing, for final machining.

QC Inspector Salazar informed the QA Inspector that per the approved OIW Liquid Penetrant testing (PT) procedure QC-114, the piece to be examined should be at a minimum of 60 degrees Fahrenheit. For this inspection, OIW is 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.

The QA Inspector witnessed QC Inspector Jose Salazar in process of cleaning areas on the overlay with acetone/cleaner and also later applying penetrant and developer. The QA Inspector spoke with QC Inspector 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. QC Inspector Salazar informed the QA Inspector that multiple indications were present, during the PT testing, which appeared to be small clusters of slag inclusions.

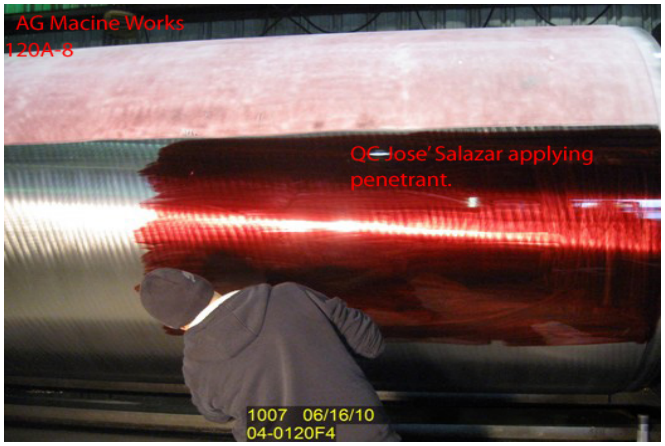
The QA Inspector then witnessed WID #C34 grinding out the indications which were marked by QC Inspector Salazar, during the testing. The QA Inspector noted that WID #C34, was performing the grinding utilizing a mechanical grinder with a stainless steel burring bit. The QA Inspector noted that during the grinding, that some of the indications, which initially measured approximately 3 mm in length, had appeared to be longer, during the grinding process.

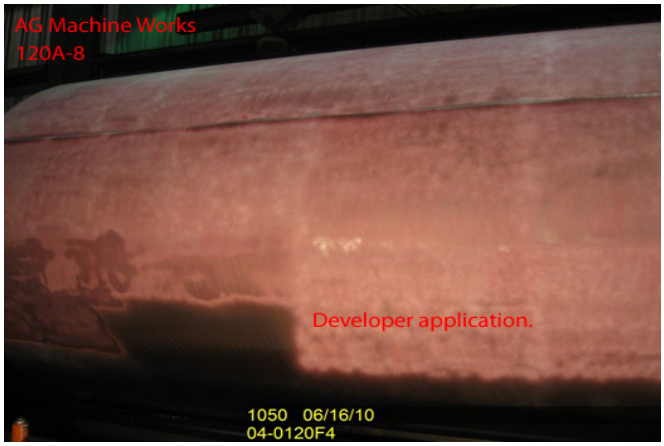
After witnessing WID #C34 complete several excavations, the QA Inspector then measured lengths of the excavations to be 5mm-20 mm in length, 3 mm wide and approximately 1 mm deep. The QA Inspector observed that there were approximately 30 repairs at this time.

The QA Inspector was later informed by QC Inspector Salazar the informal PT was complete and that the repairs will continue at AG the following day, 6/17/10. QC Inspector Salazar explained that the Gas Tungsten Arc welding (GTAW) will be performed on this date by WID #C34, to repair the excavated areas. 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 Clackamas: 3 OIW production personnel and 2 QC Inspectors. The QA Inspector observed at AG Machine Works: 1 machinist and 1 supervisor.





WELDING INSPECTION REPORT

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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