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 #: 04-0120L4
Cty: SF/ALA Rte: 80 PM: 1.6/2.7
File #: 1.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Job site **Report No:** NCR-000038
Prime Contractor: MCM Construction, Inc. **Date:** 24-Jan-2008
Submitting Contractor: MCM Construction, Inc. **NCR #:** NCR-000038

Type of problem:

Welding	☑	**Concrete**	☐	**Other**	☐	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:** 1.8 meter CISS pile E-19L-4
Procedural	☑	**Procedural**	☐	**Description:** Field splice weld was water quenched		

Reference Description:

Description of Non-Conformance:

The QA Inspector observed rain water entering into the weld area at location marks 190" to 220" on the pile while the root pass temperature was being maintained at 225 degrees F. During this time the contractor stopped production welding and attempted to prevent the rain from entering the weld area. The Caltrans QA Inspector verified the preheat/interpass temperature had dropped to between 180 to 200 degrees F. The loss of preheat was a direct cause of rain coming into contact with the weld. The contractor made an attempt to try and stop the rain from entering the weld joint with the use of a rosebud torch of which appeared to be unsuccessful.

Applicable reference:

AWS D1.1-2006 section 5.12
Caltrans Special Provisions Field Welding (note K)

Who discovered the problem: Caltrans QA Inspector Rick Bettencourt
Name of individual from Contractor notified: MCM Welding Superintendent Chris Smith
Time and method of notification: 0800 in person
Name of Caltrans Engineer notified: Caltrans Assistant Structures Representative Ibrahim Qawasmi
Time and method of notification: 0800 via phone conversation
QC Inspector's Name: Kevin Scrivner
Was QC Inspector aware of the problem: ☑ **Yes** ☐ **No**

Contractor's proposal to correct the problem:

After the rain stopped the contractor elected to bring the weld up to the required minimum preheat temperature and perform magnetic particle testing prior to the commencement of welding. The contractor will perform ultrasonic testing after the weld is completed.

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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concerning repairs or remedial efforts please contact Mohammad Fatemi, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	
Reviewed By:	Levell,Bill	QA

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File #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Job site
Prime Contractor: MCM Construction, Inc.
Submitting Contractor: MCM Construction, Inc.

Report No: NCS-000053
Date: 15-Apr-2008
NCR #: NCR-000038

Type of problem:

Welding	☑	**Concrete**	☐	**Other**	☐	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☐	**Component:**
Procedural	☑	**Procedural**	☐	**Descripton:**		

Date the Non-Conformance Report was written: 24-Jan-2008

Description of Non-Conformance:

The QA Inspector observed rain water entering into the weld area at location marks 190" to 220" on the pile while the root pass temperature was being maintained at 225 degrees F. During this time the contractor stopped production welding and attempted to prevent the rain from entering the weld area. The Caltrans QA Inspector verified the preheat/interpass temperature had dropped to between 180 to 200 degrees F. The loss of preheat was a direct cause of rain coming into contact with the weld. The contractor made an attempt to try and stop the rain from entering the weld joint with the use of a rosebud torch of which appeared to be unsuccessful.

Contractor's proposal to correct the problem:

The Contactor elected to lower the minimum required preheat temperature upon discovery of the rain water contamination to prevent the weld from being quenched and being cooled to rapidly . Upon completion of the weld, the contractor will grind the weld re-inforcement flush with the base material. A 70 degree ultrasonic testing shear wave inspection in a transverse direction will be performed by the QC Inspector directly over the weld verifing no hydrogen cracking had taken place.

Corrective action taken:

The Contactor elected to lower the minimum required preheat temperature upon discovery of the rain water contamination to prevent the weld from being quenched and being cooled to rapidly . Upon completion of the weld, the contractor elected to grind the weld re-inforcement flush with the base material. A 70 degree ultrasonic testing shear wave inspection in a transverse direction was performed by the CWI QC Inspector David Cox directly over the weld verifing no hydrogen cracking had taken place.

Did corrective action require Engineer's approval? ☐ **Yes** ☑ **No**

If so, name of Engineer providing approval: Caltrans Structures Representative Rich Foley **Date:** 29-Jan-2008

Is Engineer's approval attached?

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

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☐ **Yes** ☑ **No**

Comments:

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Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer