STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CP-CEM 4601 (Rev. 4/99) (Old HC-10A)

TOLL PROGRAM/DIST. 4 CONSTR.

Job Stamp:
04-SF-80-13.2/13.9 04-0120F4
SFOBB SAS
San Francisco Co. in San Francisco
Fm 0.6 km to 1.3 km East of Yerba Buena
Tunnel East Portal

Report No.

7-day const. cal.: 618
Project work day: 828

Date the Shift Began: 8/22/08

☐ NIGHTWORK

FRIDAY

Shift Hrs	Start	6:30	Stop	15:00
Engineer's Hrs	Start	6:00	Stop	14:30

ASSISTANT RESIDENT ENGINEER'S DAILY BRIDGE REPORT

Location: W2 Cap Beam Remark: transport cylinders		Weather: clear Hi 71F/Lo 57F

Description of Operation:
ABF - thermal control system is in operation

HOURS - ITEM NO.							
ITEM NO. >>	38						IDLE OR DOWN/ ELSEWHERE
	Structural Concrete, Bridge						
RT							< RT/OT

CONTRACTORS		
Prime	American Bridge / Fluor JV	(P)
Sub #1		(1)
Sub #2		(2)
Sub #3		(3)
Sub #4		(4)
Sub #5		(5)

EQUIPMENT AND/OR LABOR:

EQPT. NO.	NO. MEN	DESCRIPTION (Of Equipment or Labor)

REMARKS

Name	Classification	Prime / Sub

For equipment and personnel hours, please see LALIT MATHUR'S diaries.

Transported 4 concrete cylinders to Sacramento - 1 & 3 day breaks - pairs. It has been about 24 hrs since the cylinders were made so I got to the site around 0600 to collect the cylinders. The remaining concrete cylinders were mistakenly taken by ISI. I am not sure whether or not CT has been able to track them down and get them back.
The first temperature readings for the thermal control revealed large readings, larger than what is allowed per the contract Special Provisions, which states that the concrete is not allowed to be hotter than 149 deg F. The concrete reached at high as 165 deg F/74 deg C. ABF states that the thermal control cooling system was not turned on; someone forgot to turn it on.
Jim Davidson (ABF project manager) states that they have called CTLGroup for their opinion, who has stated that ABF should do nothing about it. CT has contacted ABF and suggested (not instructed) that removing the thermal blankets may help cool the concrete down. ABF declined. The water cooling system is not reducing the temperature. Ice may need to be placed in the water to further reduce the temperature.

"Delayed Ettringite Formation" may be detrimental to the strength of the concrete. In an article by WJE engineers: "The primary concern about the effect on long-term durability of the concrete is the potential deterioration due to delayed ettringite formation (DEF). It is known that plastic, or relatively young concrete exposed to temperatures above aproximately 70 deg C, due to either elevated temperature curing or heat of hydration, may become susceptible to DEF. DEF is believed to occur due to the interruption of the normal formation of ettringite in the early hydration process of portland cement, normally as a result of elevated concrete temperatures. After the concrete is in service and exposed to moisture, chemical components will micgrate to form ettringite cyrstals in the already hardened paste, resulting in paste expansion, which can manifest into cracking of the concrete." and "The temperature conditions for deleterious expansion due to DEF have not been conclusively defined. However, a heat treatment temperature above about 70 deg C is most often cited."

RECD '08 OCT-01 H006805

Materials:

Insp. Hrs.	
REG: 8.0	INTERMITTENT INSPECTION
OT:	

DAVID CHUNG

TE/CT
Title