

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. **46.B**  
Date the Shift Began: **5/6/08**  
 NIGHTWORK **TUESDAY**  
Shift Hrs Start **1:00** Stop **9:00**  
Engineer's Hrs Start **1:00** Stop **9:00**

**ASSISTANT RESIDENT ENGINEER'S DAILY BRIDGE REPORT**

Location: <b>W2 Cap Beam</b>	7-day const. cal.: 510	Weather: no fog in immediate area
Remark: <b>Concrete pour 2</b>	Project work day: 720	Hi 50F/Lo 48F

Description of Operation:  
ABF/Conco - placed concrete for W2 pour 2  
ISI - performed slump flow testing & made concrete specimens  
RPS - on site for adjustments if needed

EQUIPMENT AND/OR LABOR:		HOURS - ITEM NO.					IDLE OR DOWN	REMARKS	Name	Classification	Prime / Sub
EQPT. NO.	NO. MEN	DESCRIPTION (Of Equipment or Labor)	RT								

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

The concrete arrived shortly after 0200. The first of the concrete did not get into the forms until shortly before 3 am. There was a problem with the slump flow of the concrete. The first batched truck was reportedly kept at the plant for not passing the slump but was released at a later time. The first two trucks that arrived on site also did not pass the slump flow. ABF decided to let both trucks sit idle and set up before trying to test again. One failed again and was rejected. The concrete was clearly segregating. The mortar floated to the top and no aggregate could be seen (DSC01599). Aaron (CT) mixed the concrete up with his hand and showed how the aggregates were settling to the bottom. The other truck was pumped into the forms after giving an adequate slump flow (DSC00793) which did not have an obvious halo and whose slump fell within the allowed range. Representatives from ABF and Cemex were on site to also monitor the concrete.

The temperature was overall, not much of a concern. The ambient temperature was fluctuated between 48 and 50 deg F, measured with three different thermometers. Based on this, and the thermal control plan provided by CTLGroup, and interpolating between their data (allowed by their thermal control plan on page 7 of 41), the concrete was allowed to be 79 deg F before it would be rejected. Temperature monitoring ISI and CT revealed that the average temperature was between 62 and 67 deg F - and therefore would allow 10 deg F of 'play' before any concern would arise (Table A). The highlights indicate the conditions under which the concrete temperature will reach the maximum allowed per the special provisions (149 deg F).

Reports from CT personnel above reveal that the concrete pour went smoothly. There were some trucks that looked segregated below but was "perfect" above, but other trucks that looked "perfect" below but looked segregated above.

ISI performed several slump flow tests on the first 15 trucks and when concern arose for any other trucks thereafter.

I took 30 cylinders. 2 sets for 1, 3, 5, 7, 14, 28, and 56 day breaks. one set for 90 day break. I also made 3 concrete specimens for shrinkage, supervised by John Beede (CT - certified).

Changing the time of the concrete pour proved to be beneficial to the temperature of the concrete. There were no delays that I am aware of.

There were two pumps, one on each side of the cap beam.

The concrete pour lasted from about 0200 to 0900.

Table A		Initial Conc.														
		50	60	70	71	72	73	74	75	76	77	78	79	80	90	
Average Air (Ambient)	R-1 Surface Insulation	30	115	127	138	139.2	140.4	141.6	142.8	144	145.2	146.4	147.6	148.8	150	162
		40	116	127	138	139.2	140.4	141.6	142.8	144	145.2	146.4	147.6	148.8	150	162
		50	117	128	139	140.1	141.2	142.3	143.4	144.5	145.6	146.7	147.8	148.9	150	162
		60	120	130	141	142.1	143.2	144.3	145.4	146.5	147.6	148.7	149.8	150.9	152	163
		70	123	132	142	143.1	144.2	145.3	146.4	147.5	148.6	149.7	150.8	151.9	153	164
		80	125	133	143	144.1	145.2	146.3	147.4	148.5	149.6	150.7	151.8	152.9	154	164
		90	126	134	144	145	146	147	148	149	150	151	152	153	154	165

These overlapping rectangles show the range at which the concrete temperature would be allowed.

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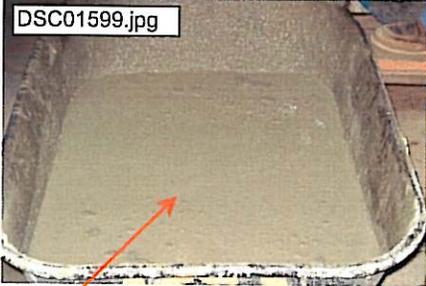
Shift Hrs Start **1:00** Stop **9:00**  
 Engineer's Hrs Start **1:00** Stop **9:00**

**ASSISTANT RESIDENT ENGINEER'S DAILY**

**BRIDGE**

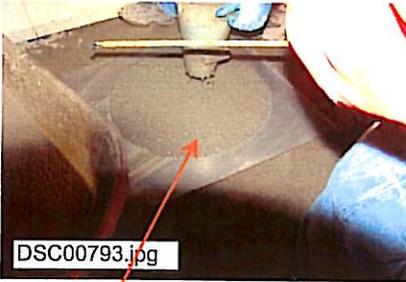
**REPORT**

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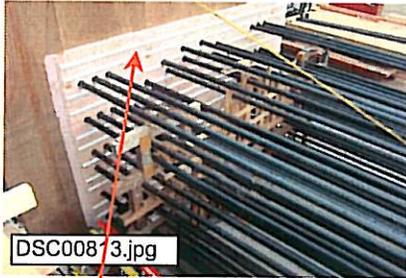
DSC01599.jpg

Only a watery mortar and air bubbles are seen on the surface.



DSC00793.jpg

Concrete was more consistent.



DSC00813.jpg

Formwork with styrofoam and keyway

From yesterday's diary (5/5), I mentioned that the forms were slid onto the HS bolts of the Hinge K assembly (DSC00813). ABF will be working on the Hinge K assemblies in the next few days while they wait for the concrete to cure and the thermal control to finish.

Materials:

Insp. Hrs.	
REG: <b>8.0</b>	<b>INTERMITTENT</b>
OT: <b>0.0</b>	<b>INSPECTION</b>

*David Chung*  
**DAVID CHUNG** TE/CT  
Title