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To: CHRISTOPHER R. WILSON
District Branch Chief
Hazardous Waste Branch
(Ala/Nap/Son/SM & Sol Counties)

Date: May 4, 2007

File: Ala 80/880
04-4A4101
Maze Fire Project

From: PETER M. ALTHERR, P.E., REA
Environmental Engineer

Subject: Hazardous Materials Status of SFOBB Distribution Structure Accident Site in Oakland

This memo is in response to recent requests for information pertaining to the fate of an estimated 8,600 gallons of gasoline that were contained within the transport vehicle that caught on fire after the vehicle allegedly crashed on part of the San Francisco-Oakland Bay Bridge Distribution Structure in Oakland. See Figure No. 1.

At approximately 3:41 a.m. on Sunday April 29, 2007, a gasoline tanker truck crashed on the viaduct connecting westbound I-80 to southbound I-880 (W80/S880) and came to rest close to, if not underneath, bent MB 19 of the viaduct connecting eastbound I-80 to eastbound I-580 (E80/E580) in Oakland. The contents of the tanker ignited causing a tremendous fire. The ensuing fire generated sufficient heat to weaken the steel at bent MB 19 and the steal girders of the upper viaduct connecting eastbound I-80 to eastbound I-580 in Oakland. This weakening of the steel then resulted in the collapse of the upper structure onto the lower structure at approximately 4:02 a.m. (SF Chronicle). See Figure No. 2.

Any liquid gasoline released from within the tanker truck would have flowed northeast across the bridge deck until it reached the concrete barrier rail. The fuel would then have followed the edge of the bridge deck until it reached one of the nearby drainage inlets, see Figure No. 3, or until it reached the steel barrier plate in front of Bent MB19L. It is probable that some liquid gasoline flowed underneath the gap in the steel barrier plate in front of Bent MB19L. See Figure No. 5.

An inspection of the underside of the W80/S880 viaduct indicated that the storm drain inlets discharged water into pipes that elbowed out of the underside of the inlets. These inlets appeared to simply drop the water onto the ground underneath the structure. Soot

and burn marks on the underside of the W80/S880 viaduct and on the side of the left column for Bent MB 19 suggest that some fuel may have accumulated underneath the structure, and at some point ignited which then burned the underside of the structure. See Figure No. 6 and No. 8. The resultant fire was hot enough to melt the plastic tarp that covered a nearby pile of soil. See Figure No. 7.

The Construction Hazardous Waste Support Branch, under the direction of Dragomir Bogdanic, retained the services of Geocon Consultants to perform an investigation to conduct an asbestos & lead paint survey and to determine the nature and extent of soil contamination.

To date the highest concentration of total petroleum hydrocarbons reported as gasoline (TPH-g) and lead (Pb) were observed within the debris from within the two drainage inlets on the deck of the W80/S880 viaduct ($2{,}200 \leq$ TPH-g $\leq 2{,}500$ mg/kg) and ($6{,}100 \leq$ Pb $\leq 7{,}500$ mg/kg). This inlet material has been removed and placed into one 55-gallon steel drum.

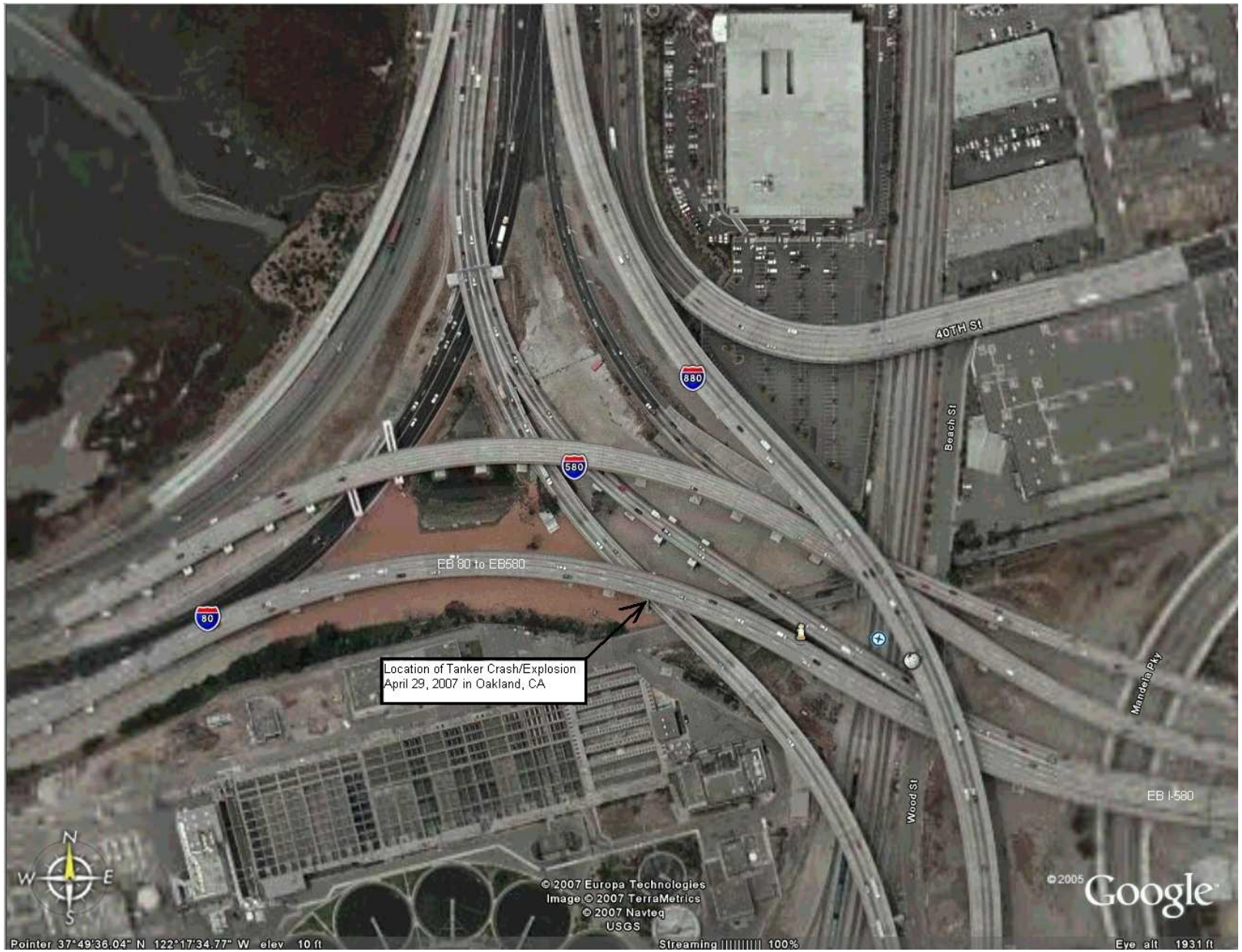
Soil samples from underneath the W80/S880 viaduct, in the vicinity of the left column of Bent MB 19, closest to "ground zero," had a TPH-g concentration of 2 mg/kg. The maximum reported gasoline concentration in the soil in the vicinity of the site was 21 mg/kg. The surface soil from directly underneath the W80/S880 viaduct was scraped up and deposited into thirteen 20-yard roll-off bins to provide a level surface for temporary falsework to shore up the structure. These bins are still on site awaiting waste profile data.

The site investigation data collected thus far suggests that the majority of the gasoline released on the deck and onto the ground under the structure was consumed in the ensuing fire.

The Geocon site investigation reported that asbestos was not detected in samples collected from the bridge barrier and rail expansion joint material, deck joint seal, structure concrete or deck joint sealant from either viaduct.

The Geocon site investigation reported that lead was found at 5,700 mg/kg in yellow traffic striping on the deck and was found at 87,000 mg/kg in paint on the steel girders.

Enclosures:
Figures 1 to 8
Draft Asbestos & Deteriorated Lead Paint Survey Report by Geocon
Draft 4A4104 MazeFire May 1, 2007 Soil and Water Data & Sample Location Map
Draft Air Monitoring Data



	State of California – Department of Transportation District 4 - Office of Environmental Engineering **Base Map By**: Google Earth **Date**: May 3, 2007 **Description**: Accident Location Map	**Figure No. 1** SFOBB Distribution Structure Collapse of EB I-80 to EB 580 Connector in Oakland, California EA No. 04-4A4104

Special to the Chronicle / Robert Campbell

	State of California – Department of Transportation District 4 - Office of Environmental Engineering **Photo By**: Robert Campbell **Date**: **Description**: Aerial Photo of Collapsed Viaduct	**Figure No. 2** SFOBB Distribution Structure Collapse of EB I-80 to EB 580 Connector in Oakland, California EA No. 04-4A4104

State of California – Department of Transportation
District 4 - Office of Environmental Engineering
Photo By: Peter Altherr
Date: May 2, 2007
Description: On deck looking east at drainage inlet and Bent MB 19L.

Figure No. 3
SFOBB Distribution Structure Collapse of EB I-80 to EB 580 Connector in Oakland, California
EA No. 04-4A4104

State of California – Department of Transportation
District 4 - Office of Environmental Engineering
Photo By: Peter Altherr **Date**: May 2, 2007
Description: Mr. Cleet Carlton, RWQCB, on deck of WB80 to SB880 Connector inspecting steel plate in front of Bent MB 19L.

Figure No. 4
SFOBB Distribution Structure Collapse of EB I-80 to EB 580 Connector in Oakland, California
EA No. 04-4A4104

	State of California – Department of Transportation District 4 - Office of Environmental Engineering **Photo By**: Peter Altherr **Date**: May 2, 2007 **Description**: Gap under steel plate in front of Bent MB 19L.	**Figure No. 5** SFOBB Distribution Structure Collapse of EB I-80 to EB 580 Connector in Oakland, California EA No. 04-4A4104

	State of California – Department of Transportation District 4 - Office of Environmental Engineering **Photo By**: Peter Altherr **Date**: May 2, 2007 **Description**: Underneath WB80 to SB880 connector. Bent MB 19L at right. Note soot on columns and structure.	**Figure No. 6** SFOBB Distribution Structure Collapse of EB I-80 to EB 580 Connector in Oakland, California EA No. 04-4A4104

	State of California – Department of Transportation District 4 - Office of Environmental Engineering **Photo By**: Peter Altherr **Date**: May 2, 2007 **Description**: Melted plastic tarp covering soil stockpile located adjacent to accident site.	**Figure No. 7** SFOBB Distribution Structure Collapse of EB I-80 to EB 580 Connector in Oakland, California EA No. 04-4A4104

	State of California – Department of Transportation District 4 - Office of Environmental Engineering **Photo By**: Peter Altherr **Date**: May 2, 2007 **Description**: Looking south at site. Column MB 19L standing like a sentinel at the accident site.	**Figure No. 8** SFOBB Distribution Structure Collapse of EB I-80 to EB 580 Connector in Oakland, California EA No. 04-4A4104