

THE SAN JOAQUIN COMPANY Inc.

1120 Hollywood Avenue, Suite 3, Oakland, California 94602

202530

MEMORANDUM

To: Xinggang Tong
URS

From: Dai Watkins

Date: October 22, 2004

Our Reference: 9401.20.5

Re: Post Remediation Monitoring at SNK Andante Emeryville

Xinggang:

Attached are the results of soil and groundwater analyses from our monitoring well SJC-MW-8, which we installed on the SNK Andante site in Emeryville. Please feel free to use our data in any way you want.

It is interesting to note that there were no detectable concentrations of any analytes of concern in any of the soil samples recovered from the boring for MW-8. This is consistent with the fact that MW-8 is well within the boundaries of the remediated area and confirms that we successfully removed contaminated soil in the vicinity of the new post-remediation well.

Perhaps of more interest is the presence of 60 ppb of gasoline and 26 ppb of MTBE, but no other analytes of concern in the groundwater sample recovered from MW-8. Given the extremely high concentrations of gas (in tens of thousands of ppb) in nearby wells prior to our remediation work, I think that demonstrates again the efficacy of remediation of the mass of contaminated soil which, if left in place, would serve as a long-lived reservoir for groundwater contamination.

IMPLICATIONS FOR CONTRIBUTION OF SAN FRANCISCO BREAD TANKS TO SNK ANDANTE CONTAMINATION

To control the very high analytical costs during remediation, we did not analyze for MTBE in all soil and groundwater samples recovered, but we did test for that analyte in selected samples. That strategy was approved by Eva Chu of Alameda County. Despite the sparsity of MTBE analyses, we detected that fuel oxygenate in the following samples (data are compiled in the spreadsheets that are also attached to my e-mail). Note that the MTBE in the groundwater in MW-8 parallels the MTBE in the following soil and groundwater samples recovered prior to and during remediation of the Andante site.

Soil

AEGP-5-10
AEGP-7-10
AEGP-9-5
AEGP-13-8
SJC-MWT-5A-19.5
SJC-MWT-4A-15.5

Tank 3 Pit Bottom (Tank 3 contained Bunker Fuel and had not been used since the 1930s)

Groundwater

SJC-MWT-3
SJC-MWT-4
SJC-MWT-4A
SJC-MWT-5
30S-40E(W)

A glance at the drawings included in the attachment will reveal that MTBE was widely spread over the area of the SNK Andante site.

Where Did That MTBE Come From?

Groundwater Well WCEW-1 (*i.e.*, your extraction well EW-1 located in the northwestern corner of the former Celis site) contained and continues to contain abundant MTBE.

The tanks were removed from the Celis site in May 1994 (Levine-Fricke - see references at foot of this memo). That was two years **AFTER** MTBE became mandatory as a gasoline additive in California in the winter of 1992 (an equivalent oxygenate could be substituted, but MTBE was used to meet that requirement in 90% of gasoline sold in the State).

The tanks at the former San Francisco French Bread Company (**SFFBC**) at 4070 San Pablo Avenue were removed in May 1989 when SFFBC still owned the property. That was three years **BEFORE** MTBE was mandated as a gasoline additive in California and three years **BEFORE** the Federal Clean Air Act called for oxygenates in winter gasoline in 1992.

Thus, it is evident that the widely distributed gasoline containing MTBE on the SNK Andante Site had its origin at the Celis site. (The Frank Dunne paint factory site at 41st and Adeline Streets leaked paint thinner and other solvents, **NOT** fuel hydrocarbons).

Therefore, I believe that the MTBE data reinforces my view that the contamination of the SNK Andante site originated at the former Celis station.

SJC

Direction of Groundwater Flow at San Francisco French Bread Company Site

The above discussion, although meriting a heavy weighting, does not absolutely exclude the possibility that some small amount of fuel hydrocarbons migrated to the SNK Andante site from the SFFBC tanks. However, to a practical degree, that possibility can be eliminated by consideration of the groundwater flow direction at the former site of those tanks.

When SECOR installed a well they named MW-1 (we rechristened it SW-1) at a point close to SFFBC's tank pit, it appears that they intended to locate it down-gradient from the tanks.

Note: It was located in an area that is now beneath the 40th St. Extension. When the City of Emeryville acquired that land and at least 50% of the tank site by eminent domain, the well was destroyed - apparently without the issuance of the requisite well closure permit issued by Alameda County Department of Public Works) Consequently, I have been able to find no log or other data related to it except that which I found in Levine-Fricke documents obtained from a random collection held in an uncatalogued box at the City of Emeryville.

SECOR did not install more than one well at the SFFBC site so there was no data available that recorded the actual direction of groundwater flow at that location. However, as you know, we have recently installed an extensive array of groundwater-quality monitoring wells at the Oak Walk site, including MW-3, which is in the sidewalk a few feet west of the former SFFBC tank site. As is shown in the data tables included in the second attachment to my e-mail and on the accompanying Oak Walk groundwater contour drawing, the direction of groundwater flow at that site is to the northwest - **AWAY** from the northern side of 40th Street and **AWAY** from the SNK Andante site, which is to the south on the other side of 40th Street.

Absent any revelation that something strange happened that I have not been able to elicit from the available facts, I think you must agree it would be very hard to argue that the SFFBC tanks contributed anything of any practical significance to the contamination found beneath the SNK Andante site.

If you have any questions, please call me at (510) 336-9118 or e-mail to daiw@sanjoco.com.

Dai

References

California Environmental Protection Agency (1997): *MTBE (methyl tertiary butyl ether)* April 24, 1997.

Levine-Fricke (1994a), *Summary of Environmental Activities, Proposed 40th Street Extension, Emeryville, California*. Prepared for Catellus Development Corporation. Dated November 1994.

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Levine-Fricke (1994b), *Report on Removal of Six Underground Fuel Storage Tanks and Associated Piping, Celis Alliance Fueling Station, 4000 San Pablo Avenue, Emeryville, California*. Prepared for Catellus Development Corporation. Dated July 6, 1994.

Levine-Fricke (1994c), *Further Soil and Groundwater Investigation, Fuel Station, 40th Street Right-of-Way, Emeryville, California*. Prepared for Catellus Development Corporation. Dated March 1994.

Levine-Fricke (1993a), *Phase II Investigation Results, Proposed 40th Street Right-of-Way, Emeryville, California*. Prepared for Catellus Development Corporation. Dated September 1993.

Levine-Fricke (1993b), *Phase I Environmental Site Assessment, 40th Street Right-of-Way, Emeryville, California*. Prepared for Catellus Development Corporation. Dated June 1993.