May 21, 1997

3042.95-008

Ravi Arulanantham, Ph.D., CHMM
California Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Subject: Response to Comments on LFR's May 2, 1997 Air Monitoring Plan and May 8, 1997 Addendum to the Excavation and Disposal Work Plan, Sherwin-Williams Facility, Emeryville, California

Dear Ravi:

This letter addresses comments on two Levine·Fricke·Recon Inc. (LFR) documents regarding the Sherwin-Williams Facility site in Emeryville, California ("the Site"):

- "Air Monitoring Plan for Remediation of Arsenic-Affected Soils in the Vicinity of the Sherwin-Williams Facility, Emeryville, California," dated May 2, 1997("the Air Monitoring Plan")
- "Addendum to the Excavation and Disposal Work Plan for Arsenic-Affected Soils in the Vicinity of the Sherwin-Williams Facility, Emeryville, California," dated May 8, 1997 ("the Addendum to the Work Plan")

The comments were provided by SECOR International Incorporated (SECOR) on behalf of the City of Emeryville ("the City") in a meeting on May 5, 1997; during two conference calls on May 9 and May 13; and in a SECOR memorandum dated May 15. Erler & Kalinowski, Inc. (EKI) also provided comments on the documents, on behalf of Chiron Corporation ("Chiron"), in a letter dated May 9, 1997.

Many of SECOR's and EKI's comments are similar for both documents. We have addressed them below, in a numerical order corresponding to the order of comments presented in EKI's May 9, 1997 letter, and have placed an asterisk next to the responses that address similar SECOR comments. We anticipate that this will address the issues raised by both SECOR and EKI.

Response to Comments on the Air Monitoring Plan

* (1) The ambient air target level for lead was derived using Department of Toxic Substances Control's (DTSC's) Uptake Biokinetic Lead Spread Model to determine the contribution to the blood lead level of a child from lead in ambient air from the Site via the inhalation pathway. The DTSC's standard default exposure parameters for residential exposure were

used in the calculations, and contributions from lead in drinking water, dietary lead, and the background level of lead in ambient air to the overall blood lead level of a child were considered in deriving the ambient air target level for lead, as follows:

- The East Bay Municipal Utility Department (EBMUD) reports that concentrations of lead in local drinking water are below detectable quantification limits; therefore, conservatively, the method detection limit for EPA Method 200.7 (2 μg/l) was used in the calculations, although actual lead concentrations in drinking water may be lower.
- A dietary lead concentration of 10 μg/kg was used, based on standard model default values.
- A background level of lead in ambient air of 0.02 $\mu g/m^3$, based on the average of the baseline ambient air lead concentration data collected from the Site (Table A1, attached).

* (2) The target levels and action levels for lead and total dust presented in Table 1 of the Air Monitoring Plan are correct. The lead ambient air target level of 0.00070 mg/m^3 on page 4 in paragraph 2 and on page 12 in paragraph 1 should be corrected to 0.0011 mg/m^3, to be consistent with Table 1. The total dust action levels based on lead soil concentrations for shallow-depth excavation activities, which is shown as 0.39 mg/m^3 on page 4 in paragraph 5, should also be corrected to 0.64 mg/m^3, to be consistent with Table 1.

* (3) DataRAMs are equipped with alarms, which will be set at the dust action level during proposed excavation work. If the alarm sounds continuously for more than 3 minutes, work will be temporarily stopped until corrective measures are taken.

* (4) Table A1, attached, summarizes the results of the baseline ambient air monitoring for arsenic and lead that was performed in the vicinity of the Sherwin-Williams facility on April 16, 17, and 18, 1997.

(5) Detection limits for arsenic and lead in samples collected from high-volume air samples varies, depending on the total volume of air pulled through the sampler during the work day. The baseline ambient air monitoring data indicates that the detection limit for arsenic and lead was approximately 0.0000023 mg/m^3, or approximately 2 and 3 orders of magnitude lower than the target levels for arsenic and lead, respectively.

Response to Comments on the Addendum to Work Plan

As a general response to the concerns expressed regarding affected soils that might be left under the street, the initial data collected from sampling within Horton Street, which was submitted to interested parties on May 13, 1997, indicates that 18 of 20 samples contained arsenic at concentrations at or less than 13 parts per million (ppm); the other two samples contained 26 ppm and 46 ppm arsenic. Therefore, soils under Horton Street are near or at background levels, and do not appear to pose a risk above background levels.

* (1) Based on conversations with the RWQCB and SECOR, the "not-to-exceed" arsenic concentration for deeper soils will be based on the noncarcinogenic endpoint under the more conservative utility installation worker scenario. Assuming the same exposure parameters for utility workers used in the carcinogenic evaluation, the "not-to-exceed" arsenic concentration for deeper soils has been modified to 445 mg/kg. Table A2, prepared by SECOR and received by LFR via facsimile on May 9, 1997, shows exposure parameters and calculations for this "not-to-exceed" cleanup level.

(2) The sentence on page 2 in paragraph 3 that states that "The revised cleanup level takes into account ... worker exposure during a one-time future installation of new utilities for the anticipated expansions on the Chiron property," was not intended to imply that exposure assumptions and proposed soil cleanup levels in the Addendum can be applied to the Chiron Property.

(3) For the purposes and requirements of CCR Title 8, Section 5214, inorganic arsenic is defined as any substance with a total inorganic arsenic content greater than 0.02% by weight (i.e., 200 mg/kg). Although the "not-to-exceed" cleanup criteria for arsenic in deeper soils (445 mg/kg) is greater than the Cal-OSHA level, specific Cal-OSHA requirements would not be applicable to future work in Horton Street if workers are not expected to be or have not been exposed to levels exceeding the action level, based on a 8-hour time-weighted average (TWA) concentration of 0.005 mg/m^3, or the Permissible Exposure Limit (PEL), based on a 8-hour TWA concentration of 0.01 mg/m^3.

Based on Chiron's assumptions that future work would generate a maximum airborne dust concentration of 1.0 mg/m^3 and that the average concentration of arsenic of 130 mg/kg remained in deeper soils, the expected concentration of arsenic in ambient air would be 0.00013 mg/m^3. This level is below both Cal-OSHA action level and PEL for arsenic. Therefore, specific Cal-OSHA requirements specified in CCR Title 8, Section 5214 would not be applicable to future work in Horton Street.

(4) Based on the data collected to date in Horton Street, as well as on concentrations anticipated after completion of the sidewalk area remediation, it does not appear that Proposition 65 notification will be required for future utility workers. If elevated soil levels are identified in the future, such that Proposition 65 warnings would be required, the appropriate notification will be provided.

(5) Using the DTSC-recommended value for airborne respirable dust of 1.0 mg/m^3 would result in a higher estimated risk level for utility workers (2.8×10^{-6}), because of the inhalation of respirable dust containing an average arsenic concentration of 130 mg/kg. However, conservative exposure frequency and duration parameters used in the risk calculations may overestimate risks to utility workers via all exposure pathways, resulting in a overly conservative cleanup level for arsenic. The contribution of the higher estimated risk level via the inhalation pathway to the overall excess lifetime cancer risk is minimal, and the total risk remains at 1×10^{-5} (see Table A3, attached).

If you have any comments or questions, please call Larry Mencin of Sherwin-Williams at (216) 566-1768 or the undersigned.

Sincerely,

Mark D. Knox

Mark D. Knox
Principal Engineer

Attachments: Tables A1 — A3

cc: Distribution List

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Emeryville, California 94608

TABLE A1

Summary of Results of the Baseline Ambient Air Monitoring in the Vicinity of the Sherwin-Williams Facility Horton Street, Emeryville, California

Sample ID	Sample Date	Total Weight (μg)		Total Air Volume	Ambient Air Concentration ($\mu g/m^3$)	
		Arsenic	Lead	(m^3)	Arsenic	Lead
2650 *	4/16/97	ND<1.8	ND<1.8	NA	NA	NA
2651	4/16/97	ND<1.8	16.8	737	ND<0.0024	0.023
2652	4/16/97	ND<1.8	18.0	737	ND<0.0024	0.024
2653	4/16/97	ND<1.8	17.7	754	ND<0.0024	0.023
2654	4/16/97	ND<1.8	21.4	763	ND<0.0024	0.028
0001	4/17/97	ND<1.8	10.7	787	ND<0.0023	0.014
0002	4/17/97	ND<1.8	11.6	822	ND<0.0022	0.014
0003	4/17/97	ND<1.8	11.9	790	ND<0.0023	0.015
0004	4/17/97	ND<1.8	11.7	793	ND<0.0023	0.015
0005	4/18/97	ND<1.8	14.5	683	ND<0.0026	0.021
0006	4/18/97	ND<1.8	17.0	912	ND<0.0020	0.019
0007	4/18/97	ND<1.8	14.7	821	ND<0.0022	0.018
0008	4/18/97	ND<1.8	15.9	802	ND<0.0022	0.020
0009 *	4/18/97	ND<1.8	ND<1.8	NA	NA	NA

* Field blanks samples submitted for analysis for purposes of quality control.

TABLE A2

Prepared by SECOR International, Inc.
(received by LFR via facsimile on May 9, 1997)

Recalculation of Arsenic TCL (greater than 2 feet bgs)
City of Emeryville

Acronym	Value	Units	Source/Basis
EF1	30	day/yr	Assumed
ED1	1	yr	Assumed
EF2	5	day/yr	Assumed
ED2	24	yr	Assumed
IR	480	mg/day	Cal-EPA DTSC
BW	70	kg	Cal-EPA PEA Manual
ATc	25550	day	70-year lifetime
ATn	9125	day	Calculated for 25 years
InR	20	m^3/day	Cal-EPA PEA Manual
SA	3160	cm^2/day	Levine-Fricke-Recon
AdF	1	mg/cm^2	Cal-EPA PEA Manual
DAF	0.03	unitless	Cal-EPA PEA Manual
SFo	1.5	$(mg/kg/day)^{-1}$	Cal-EPA DTSC
SFi	12	$(mg/kg/day)^{-1}$	Cal-EPA DTSC
RfDo	0.0003	mg/kg/day	USEPA (IRIS)
TR	1.00E-05	unitless	Assumed
HQ	1	unitless	Assumed
CF	1.00E-06	kg/mg	Constant
PEF	5.00E-08	kg/m^3	Cal-EPA PEA Manual

TCL Equation (noncancer):

$$Cs = \frac{(THQ \times BW \times ATn)}{[(EF1 \times ED1)+(EF2 \times ED2)] \times [((1/RfDo) \times CF \times IR) + ((1/RfDo) \times DAF \times AdF \times SA \times CF)}$$

where Cs = target soil concentration

TCLn = 2223 (across entire 25-year duration)
TCLn = 445 (for 30-day exposure frequency over 1 year only; uses only EF1 and ED1 with averaging time of 365 days)

Because the level for the 30-day exposure period is lower, the value of 445 mg/kg should be used.

TABLE A3

Utility Maintenance and Installation Worker Scenario: Summary of Excess Lifetime Cancer Risks in the Vicinity of the Sherwin-Williams Facility, Horton Street, Emeryville, California

Risk Via Incidental Ingestion	8E-06
Risk Via Dermal Contact	2E-06
Risk Via Inhalation	3E-06
TOTAL RISK	1E-05
TARGET RISK	1E-05