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5 November 1998

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Mark Johnson
San Francisco Bay Regional Water Quality Control Board
2101 Webster Street
Suite 500
Oakland, California 94612

Subject: Comments Regarding Draft Outline of Work Plan Addendum for Remedial Investigation at the Sherwin-Williams Site, dated 15 September 1998
(EKI 970001.84)

On behalf of Chiron Corporation ("Chiron"), Erler & Kalinowski, Inc. ("EKI") has reviewed the draft outline for the Work Plan Addendum for the Remedial Investigation at the Sherwin-Williams Site ("Work Plan Addendum"). Sections A through E of this letter contain EKI's comments on the Work Plan Addendum. In addition to these comments, we request that the Work Plan Addendum also address all comments on the Current Conditions Report ("CCR") described in EKI's letter, dated 15 July 1998. This letter was prepared on behalf of Chiron and identifies issues of concern and inadequacies in materials presented in the CCR. It is our understanding that the CCR will not be revised but that outstanding issues will be addressed in the Work Plan Addendum, which will supplement the CCR. Therefore, all issues identified in EKI's comments, dated 15 July 1998, should be addressed in the Work Plan Addendum.

A. Comments Regarding Section III (Site Background and Setting)

Comment 1 (Soils and Vadose Zone): This section should clearly identify and describe soils that are above surrounding grade. Figures and cross-sections may be helpful in this regard.

Comment 2 (Human-Made Conduits): This section should either describe the ultimate discharge locations of conduits leading from, through, and adjacent to the Sherwin-Williams Site or identify this issue as a data gap.

B. Comments Regarding Section IV (Initial Evaluation of Site)

Comment 1 (Potential Pathways of Chemical Migration): This section should address current and potential past chemical migration pathways, including airborne migration, surface water runoff, groundwater flow, and migration through conduits and surrounding backfill material.

Comment 2 (Potential Remedial Actions): Discussions regarding selective potential remedial actions are premature at this time.

C. Comments Regarding Section V (Work Plan Rationale and List of Figures)

Comment 1 (Data Gaps Analysis): It may be appropriate to have a separate section on "Data gaps analysis", as this is the key section of the Work Plan Addendum document. This section should compare locations of existing chemical data for the Sherwin-Williams Site with (a) potential source locations and (b) conduit locations that could serve as historical or current migration pathways for chemicals of concern.

This section should include references to figures that (a) identify potential source locations for individual or selected groups of chemicals of concern (e.g., volatile organic compounds, semi-volatile organic compounds, metals, petroleum); (b) identify key conduits to which releases are known to have occurred or that may serve as potential migration pathways; and (c) show existing soil or groundwater data for the identified chemical or group of chemicals of concern. These figures should then be used to evaluate:

(a) if chemicals have been sampled in source locations and along potential conduits, and

(b) if the lateral and vertical extent of these chemicals has been sufficiently characterized.

Distributions of all chemicals of concern that exceed potential action levels should be addressed. If groups of chemicals were used in certain areas (e.g., solvents or petroleum products) these chemicals can be evaluated as a group. However, if large variations exist in the mobility and/or risk associated with chemicals in a given group it would be appropriate to evaluate these chemicals individually. Also, see Comment E.

D. Comments Regarding Section VI (Remedial Investigation Tasks)

Comment 1 (Review of Quarterly Monitoring Program): Review of the existing Quarterly Monitoring Program should also be included. Potential data gaps and appropriate levels of monitoring should be identified.

E. Comments Regarding Figures

The list of proposed figures appears to be inadequate. As indicated in Section C above, figures depicting sampling locations and concentrations (i.e., depicting chemical distribution) of either individual or groups of chemicals of concern, should be included.

In order to identify data gaps:

(a) correspondence between existing soil and groundwater sampling locations, potential source areas, and conduit locations should be evaluated and addressed for all potential chemicals of concern used at the Sherwin-Williams Site; and

(b) the lateral and vertical extent of chemicals of concern in soil and groundwater on the Sherwin-Williams Site should be evaluated.

The existing methodology used to identify chemicals of concern for which figures will be included in the Work Plan is flawed. Specifically, the data set used to identify and evaluate the distribution of chemicals of concern includes only monitoring well data collected in 1997 and 1998. This eliminates from consideration data from grab groundwater samples and destroyed wells that are not located near currently existing wells. The most recent data from all wells and grab groundwater sample locations should be included in this analysis. Historical sample results may be eliminated if more recent data are available from wells located adjacent to historical sample locations.

In order to identify potential data gaps, we recommend that all chemicals of concern on the Sherwin-Williams site be discussed in the text. We also recommend that, at a minimum, figures depicting the distribution of chemicals of concern be included for chemicals detected in groundwater at more than one location at concentrations three times greater than the lowest potentially applicable regulatory action levels (e.g., the lower of the tap water preliminary remediation goal ("PRG"), the maximum contaminant level ("MCL"), and the San Francisco Bay water quality objective).

Table 1 lists maximum concentrations and potential regulatory action levels for chemicals detected on the Sherwin-Williams Site that meet the recommended criteria. Figures depicting the distribution all of these compounds should be prepared. Possible exceptions can be made for chemicals whose distribution closely matches the distribution of other chemicals for which figures have been included (for example, the Work Plan may not need to include groundwater figures for methyl ethyl ketone ("MEK") and methyl isobutyl ketone ("MIBK") because these compounds appear to be distributed similarly to acetone). In these cases, a figure should be included for the chemical most frequently detected (for example, acetone has been detected in groundwater at more locations than MEK and MIBK; therefore, a figure should be included for acetone vs. MEK or MIBK).

Using the criteria discussed above, EKI recommends that, at a minimum, figures depicting the distribution of the following chemicals in groundwater be provided in the Work Plan: arsenic, acetone, benzene, 1,2-dichloroethane, cis-1,2-dichloroethene, 1,2-dichloropropane, lead, toluene, trichloroethene, 1,2,3-trichloropropane, vinyl chloride, total xylenes, and zinc. Although concentrations of tetrachloroethene ("PCE")

greater than three times the lowest criteria value were detected at only one location, we recommend that a figure depicting the distribution of this compound in groundwater also be included in the Work Plan. Such a figure could address and identify the apparent absence of data available where elevated PCE concentrations were detected. In order to minimize reproduction costs, we recommend that figures be provided in an 11-inch by 17-inch size. An example of such a figure, previously prepared by EKI on behalf of Chiron, is attached.

Please call if you have any questions.

Very truly yours,

ERLER & KALINOWSKI, INC.

Vera H. Nelson

Vera H. Nelson, P.E.
Project Manager

cc: Ric Notini (Chiron Corporation)
Barbara Cook (Department of Toxic Substances Control)
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TABLE 1
MAXIMUM CONCENTRATIONS OF SELECTED COMPOUNDS DETECTED IN GROUNDWATER ON THE SHERWIN-WILLIAMS SITE AND ASSOCIATED POTENTIAL ACTION LEVELS

Chiron Corporation, Emeryville, California
(EKI 970001.84)

Compound (a)	Location of Maximum Concentration	Maximum Concentration Detected (ug/L) (b)	Potential Action Levels (ug/L) (c)		
			Tap Water PRG	MCL	S.F. Bay Water Quality Objectives
Acetone	SW-1	2,500,000	610	-	-
Methyl ethyl ketone (d)	SW-1	1,300,000	1,900	-	-
Methyl isobutyl ketone (d)	SW-1	320,000	160	-	-
Benzene	4525-6	60	0.39	1	21
Ethylbenzene (e)	LF-6	4,000	1,300	700	29,000
Toluene	SW-2	260,000	720	150	300,000
1,2,4-Trimethylbenzene (e)	EX-2	380	12	-	-
1,3,5-Trimethylbenzene (e)	EX-2	140	12	-	-
Xylenes	SB-8	20,000	1,400	1,750	-
Chloroform (f)	EX-3	9	0.16	100	480
1,2-Dichloroethane	LF-B5	240	0.12	5	130
cis-1,2-Dichloroethene	LF-28	29	61	6	-
1,2-Dichloropropane	LF-29	190	0.16	5	-
Tetrachloroethene	LF-6	45,000	1.1	5	6.9
Trichloroethene	4563-A	610	1.6	5	92
1,2,3-Trichloropropane	LF-29	20	0.0016	-	-
Vinyl chloride	MW-1	13	0.02	0.5	34
Arsenic	SW-1	740,000	0.045	50	36
Lead	4543-C	90	4	50	5.6
Zinc	LF-10	2,300	110,000	5,000 (g)	86

Notes:

(a) Iron and manganese were also detected at concentrations greater than 3 times their lowest potential action level. However, it is unclear if the concentrations detected on the Sherwin-Williams Site are the result of unfiltered groundwater samples. Therefore, further investigations of the dissolved iron and manganese concentrations in groundwater is needed. If dissolved concentrations are greater than 3 times the lowest criteria value at more than one location, the extent of groundwater contamination should also be further evaluated (e.g., provide figures depicting chemical distribution).

(b) Concentrations listed are the maximum concentrations detected in groundwater samples collected on or immediately adjacent to the Sherwin-Williams Site. Only the most recent data at each sample location were used for this summary.

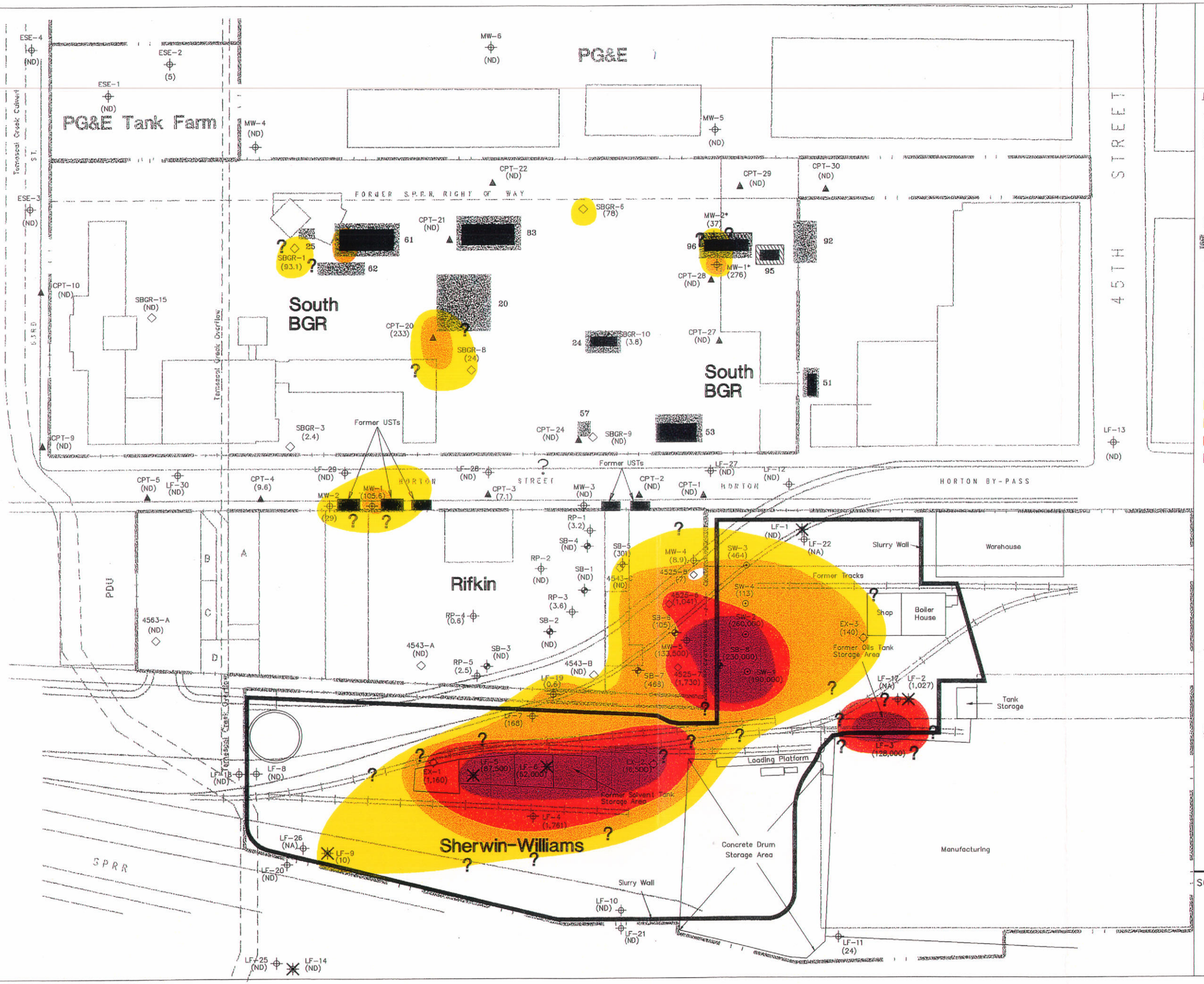
(c) Tap water preliminary remediation goals ("PRGs") were obtained from *Region 9 Preliminary Remediation Goals*, U.S. Environmental Protection Agency, Region IX, dated 1998. Maximum contaminant levels ("MCLs") were obtained from California Code of Regulations, Title 22, Section 64431, et seq. San Francisco Bay Water Quality Objectives were obtained from *California Enclosed Bays and Estuaries Plan*, California Environmental Protection Agency, State Water Resources Control Board, dated May 1993.

(d) EKI's review of the data indicate that the distributions of methyl ethyl ketone and methyl isobutyl ketone in groundwater are similar to that of acetone. Therefore, it may be only necessary to plot only the distribution of acetone in groundwater.

(e) EKI's review of the data indicate that the distributions of ethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene in groundwater are similar to those of benzene, toluene, and/or xylenes. Therefore, it may be only necessary to plot only the distributions of benzene, toluene, and xylenes in groundwater.

(f) Chloroform concentrations appear to be close to the detection limit. In addition, chloroform is a common laboratory contaminant. Therefore, a figure depicting the distribution of chloroform in groundwater may not be necessary.

(g) Value listed is a secondary treatment standard.



LEGEND

- Existing Monitoring Well Location
- Destroyed Monitoring Well Location
- Existing Extraction Well Location
- Grab Groundwater Location by EKI
- CPT/Hydropunch Location by EKI
- Potential Tank Location
- Potential Source Area Location
- Area of Excavation
- Grab Groundwater Location by Levine-Fricke
- Grab Groundwater Location by TMC
- * Well Abandoned
- (11) Total BTEX Concetration Detected in Groundwater (ug/L)
- (ND) Not Detected
- (NA) Not Analyzed
- 10–100 ug/L
- 100–1,000 ug/L
- 1,000–10,000 ug/L
- >10,000 ug/L

Potential Source Area and Tank Locations Identified on Shell Development Company Property Map (24 May 1962)

- 20 Chemical Products Bldg
- 24 Fuel Tank (Abandoned)
- 25 Chemical Processing
- 51 Boilers Fuel Tank (15,000 gal.)
- 53 Tank Farm No. 4
- 57 Waste Hydrocarbon Disposal Unit
- 61 Tank Farm No. 1
- 62 Pump Shelter Tank Farm No. 1
- 83 Tank Farm No. 2
- 92 Solvent Storage Bldg.
- 95 Tank Farm No. 5 Tanks Removed 9/87
- 96 Tank Farm No. 3 Tanks Removed 7/87

Notes:

1. All locations are approximate.
2. Data from wells MW-4, MW-5, and MW-6 on PG&E are from 1984. All other data are from 1990 through 1997.
3. Concentrations shown indicate Total Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) concentrations detected in groundwater.

Erler & Kalinowski, Inc.

SOUTH BGR, RIFKIN, and SHERWIN-WILLIAMS PROPERTIES: BTEX Concentration Detected In Shallow Groundwater (<25 feet bgs)
Chiron
Emeryville, CA
January 1998
EKI 970001.82
Figure 2