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INTEROFFICE CORRESPONDENCE

DATE: September 4, 1990 CWA-KW-432-90

TO: M. Levin, Clean Water Act Division, Bldg T130B, Ext. 4237

FROM: K. Woldow, Clean Water Act Division, Bldg T130B, Ext. 6078 *fw*

SUBJECT: TCE IN POND B-2

Per your request, I have made inquiries into sampling records regarding the incidence of trichloroethene in and around Pond B-2 in order to determine the most likely source for the organic contamination. A review of the appendices compiled for the 903 Pad, Mound, and East Trenches Area (OU #2) Surface Water Interim Measures/Interim Remedial Action Plan furnished the following data about TCE in media near Pond B-2 and within the drainage area which supplies the pond.

CAS # 79-01-6 Trichloroethene shows

Date	ug/l	station/location
12-14-89	22	B-2
87/88/89	8	sediment 50031
compiled data	27	soil BH5787: east trenches claystone
from 903 IMRAP	7000	soil BH2587 903 pad colluvium
	16,000	soil BH2587 903 pad claystone
11-11-87	70	sfc wtr SW-061
5-15-89	15	"
6-9-89	12	"
7-21-87	62	sfc wtr SW-059
7-1-88	49	"
3-20-89	260	"
5-11-89	180	"
6-8-89	60	"
7-6-89	55	"
9-18-89	63	"
10-3-89	52	"
7-6-88	14	sfc wtr SW-063
7-22-87	20	sfc wtr SW-064
5-22-89	16	"
6-27-89	12	"

# of samples	# above ARARs	avg. conc.	location
24	16	132+	903 pad/lip sfc wtr
28	14	29+	upper S. Walnut Creek
8	8	98+	SW-059, near bldg 993

(see also attached table A-6 from Appendix A of document referenced above)

ADMIN RECORD

A-DU02-001560

M. Levin

September 4, 1990

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The highest values for TCE were found in groundwater just to the south and upgradient of Pond B-2 (Figure 2-10). Fairly large concentrations are also detected in upper South Walnut Creek and at the seep at SW-059, which is located just east of the PSZ near Bldg. 993. A preliminary survey by Doug Murray of the hillside above the southern edge of B-2 did not find any active seeps; however, he did note several vegetation changes which are most likely indicative of seeps which may be active only during wetter periods of the year.

Based on this information, it is my opinion that the TCE which has been seen in samples drawn from B-2 is coming from the surface water influent to the pond and is not necessarily provided from contamination incorporated in the sediments. Sediment sampling may be done in Pond B-2 to check this assumption and to determine if there is any additional component being contributed by contaminated sediments, but I believe that the previously assembled data is sufficient to make such sampling currently unnecessary. Treatment of the seeps and groundwater of the East Trenches area as proposed in the SWIM/IRAP should reduce the incidence of TCE in the pond. CWA may wish to monitor progress of the IRAP treatment and institute sampling at a later date to confirm any improvement in water quality brought about by the remediation project.

KW:fm

cc:

F. Hobbs

TABLE A-6
VOLATILE ORGANIC COMPOUNDS DETECTED
IN GROUND WATER
MAXIMUM CONCENTRATIONS¹

Matrix	Well	Carbon Tetra- chloride (ug/l)	Tetra- chloro- ethene (ug/l)	Trichloro- ethene (ug/l)	Chloro- form	Methylene Chloride (ug/l)	1,1-Di- chloro- ethane (ug/l)	1,1-Di- chloro- ethene (ug/l)	Vinyl Chloride (ug/l)	Acetone (ug/l)	Carbon Disulfide (ug/l)	Total-1,2- Dichloro- ethene (ug/l)
Rocky Flats Alluvium	33-86	Dry	845	418	107	6JB	320	26		17		7
	39-86	2392	160	3JB						5J		17
	41-86	4835	3200	(1400)						1300B		
	42-86	6								9JB		
	43-86									19JB		
	10-87	Dry	900	510	42	15		5J				
	15-87	4305	160R	83	4J					31		
	17-87	471										
	19-87	Dry										
	24-87	Dry										
	26-87	Dry										
	27-87	15	44	4J	3J	5JB						
	32-87	Dry	95		44	2JB	3JB		33			
	33-87	Dry										
35-87	Dry											
Colluvium	63-86	Dry	99	4J		268				9JB		
	67-86	Dry										
	29-87	Dry										
	44-87	Dry										
Valley Fill Alluvium	35-86	12		19	340	36	62	48	930			1600
	36-86			6								
	37-86		30R									
	64-86		8J									
	65-86		49		26	8	23			2J	3J	3J
Weathered Claystone	1-71	4800	800	2000	1525	14	535	5J				346
	82-71	40	8	28800	410	12	28	10				92
	81-74		528000	18000	38	5J	20	90		6JB		15
	1-74	1885	1080	812	45	56J		22		84JB		15
	1-74											
Weathered Sandstone	62-86	2J				10				2JB		
	9-87									7JB		
	11-87	605	28	1090	129	9		4J				
	12-87	404	57	3570	17	7						
	23-87	835	74R	109	23	8		1J		26	3JB	
25-87	840	840	258	6JB	13JB				1108			
36-87	3673	4654	221860	5427	119				38			

EXPLANATION



INDIVIDUAL HAZARDOUS SUBSTANCE SITE (RSS)

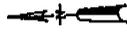


LINE OF EQUAL TRICHLOROETHENE (µg/l) CONCENTRATION (µg/l)
DASHED WHERE APPROXIMATELY LOCATED

NOTE: DATA VALUES SHOWN ON TABLE B-1

- 2587 ● BEDROCK MONITOR WELL
- 3789 ○ ALLUVIAL MONITOR WELL
- 0382 ▲ PRE-1988 MONITOR WELL

Scale: 1" = 500'
0' 300' 600'
CONTOUR INTERVAL = 20'



U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant
Golden, Colorado

OPERABLE UNIT NO. 2
SURFACE WATER IM/IRA

FIGURE 2-10

TRICHLOROETHENE ISOPLETHS
FOR THE UNCONFINED GROUND-WATER
FLOW SYSTEM

Second Quarter 1989

August 1990

