SDMS Document
116024

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March 7, 2011

VIA EMAIL AND OVERNIGHT DELIVERY

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Re: Standard Chlorine Chemical Co. Inc. Superfund Site

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Dear Ms. Flanagan and Ms. Hess:

On behalf of Thermo Fisher Scientific Inc. (Thermo Fisher) and Apogent Transition Corp. (ATC), I enclose a completed response to the USEPA's CERCLA §104(e) information request (Response) relating to the Standard Chlorine Chemical Co. Inc. Site in Kearny, New Jersey (Site). On January 31, 2011, with the permission of the USEPA, Thermo Fisher provided a partial Response relating to its relationship to The Tanatex Chemical Corporation (Tanatex). Please let me know if you have any questions regarding any portion of the Response.

Thermo Fisher and ATC also wish to take this opportunity to respond to certain contentions presented to the USEPA by Standard Chlorine Chemical Co. (SCCC) in its so-called "Preliminary PRP Report" relating to Tanatex. Although there are many errors in this report, the most critical of these relates to the purported nexus between Tanatex's former operations and the presence of 1,2,4-trichlorobenzene (TCB) on Lot 50 of the Site. In fact, as set forth below in more detail, the presence of TCB on Lot 50 of the Site is entirely attributable to SCCC's own operations.

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INTRODUCTION

SCCC has acknowledged that it annually processed millions of pounds of mixed isomers of dichlorobenzene (DCB) in Building 2 on Lot 50. It is also indisputable that SCCC's operations resulted in releases of DCB, which has been detected at numerous locations on Lot 50. It is well documented that commercial DCB such as SCCC processed contains low concentrations of TCB. In fact, the environmental data from Lot 50 are entirely consistent with releases of the type of DCB that SCCC processed on the Site. Wherever TCB has been detected on Lot 50, it was present at very low concentrations relative to DCB -- generally less than 1% of the

concentration of all chlorinated benzenes (DCB plus TCB). Moreover, the highest concentration of TCB relative to all chlorinated benzenes detected on Lot 50 (2.7%) was found in a soil sample collected on the west side of Building 2 where SCCC loaded shipments of chemicals. This location is on the opposite side of Building 2 (and over two hundred feet away) from the building once used by Tanatex in its production operations. The analysis of this soil sample -- collected in a location that could not have been impacted by Tanatex -- establishes that the chemicals that SCCC released included TCB.

In contrast, contrary to SCCC's insinuations, there is no evidence to suggest that Tanatex released TCB or any other chemicals on Lot 50. As set forth in detail in the Response, Tanatex's operations in Kearny mainly involved mixing chemicals together to form textile auxiliaries. None of its processing operations created wastes requiring disposal, including any wastewater. Tanatex never used DCB in its operations at the Kearny site (although very low concentrations of DCB may have been present in the TCB used by Tanatex). Moreover, Tanatex's operations presented virtually no opportunity for releases of chemicals. Neither the 1993 *Remedial Investigation Report* (*RIR*), the 1997 *Focused Remedial Investigation Report* (*FRIR*) nor the 1999 *Supplemental Remedial Investigation Report* (*SRIR*) indicate that sampling was performed at any areas of environmental concern in the vicinity of the building that Tanatex used at the Site. In short, there is no direct or indirect evidence of any releases in Tanatex's operations and no reason to believe that such releases occurred.

The previous rounds of sampling at the Site have established beyond any reasonable dispute that SCCC released DCB at multiple locations on Lot 50 and that the relatively low TCB concentrations detected on Lot 50 can be entirely attributed to these releases. There is no basis to attribute any TCB or any other contaminant present on Lot 50 to Tanatex.

A. TCBs are present in DCBs

According to the USEPA, *Support Document, Health Effects Test Rule: Chlorinated Benzenes* (June 1980), TCB is present in commercial grades of DCB. In this report, the USEPA quoted a 1973 Allied Chemical publication, which stated that "standard grade" ortho-DCB (1,2-DCB or o-DCB) contains:

82.7% o-DCB (1,2-DCB)

0.5% m-DCB (1,3-DCB)

15.4% p-DCB (1,4-DCB)

1.6% TCB (all isomers)

Id., Table 2, p. 22. This report also notes that a purified grade of o-DCB would be expected to contain less than 1% of TCB. *Id.*

A more recent reference still indicates that technical grade o-DCB would be expected to contain up to 1% TCB. Krishnamurti, *Chlorobenzenes*, KIRK-OTHNER ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY, Vol. 6, p. 222.

It is important to note that SCCC did not use purified grade or even technical grade o-DCB in its processing operations on Lot 50. Instead, SCCC has acknowledged that it produced technical grade o-DCB and other DCB isomers from "purchased mixed dichlorobenzene isomers":

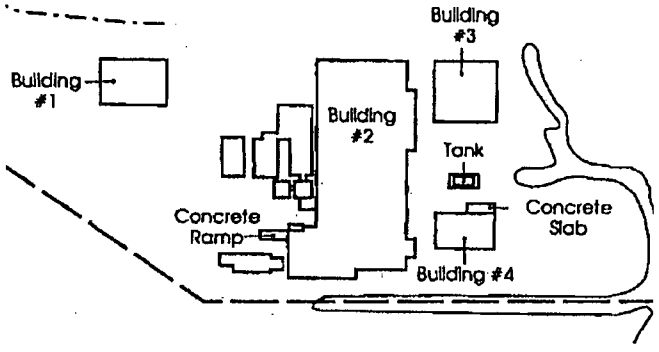
> In a Selected Substance Report dated October 1983, SCCC reported that orthodichlorobenzene was produced at the plant from 1963 to November 1981. Purchased mixed dichlorobenzene isomers were separated by continuous fractional crystallization and the separated isomers were stored on-site for later sale. Annual production averaged 2,500,000 pounds of technical grade orthodichlorobenzene. The report states that no waste products were generated. Between 1981 and 1987, the orthodichlorobenzene was brought to the site in tank trucks and blended with an emulsifier in dedicated tanks to produce Cloroben.

RIR at 1-7 (emphasis added). Because SCCC began its purification operations with an unrefined product, the materials that it processed in Building 2 may have had a higher percentage of TCB than present in standard grade o-DCB. As noted above, some soil sampling results from the vicinity of Building 2 support this.

In any event, the presence of low concentrations of TCB accompanied by much higher relative concentrations of DCB is exactly what one would expect to find in environmental samples at sites where technical (or lower) grades of DCB had been released. This is precisely what each round of sampling of Lot 50 has revealed.

B. The Configuration of Lot 50

The buildings on Lot 50 of the Site were constructed by Thomas A. Edison Incorporated. In December 1953, Lot 50 was sold to Crown Rubber Products, Inc., which later leased one building (Building 3) and still later a portion of another (Building 1) to Tanatex. The only building used by Tanatex for production operations was Building 3. In 1962, Lot 50 was sold to Standard Chlorine. The basic configuration of Lot 50 is set forth in this detail from Figure 2-1 of the *RIR*:



RIR, Figure 2-1, p. 2-3 (detail).

C. Sampling for DCB and TCB on Lot 50

The environmental sampling conducted on Lot 50 exhibits a consistent pattern: wherever TCB is detected, DCB is also detected in much higher concentrations such that the concentration of TCB is usually less than 1% of the total concentration of chlorinated benzenes (DCB plus TCB).

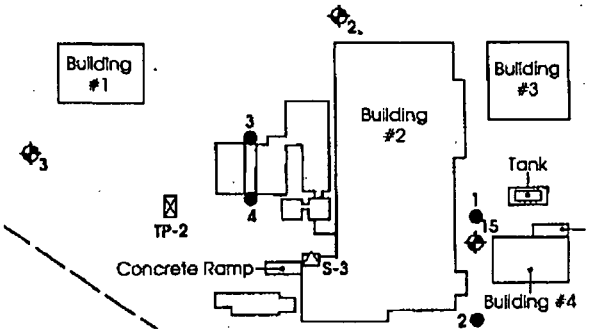
In a 1983 site investigation, SCCC analyzed groundwater samples from monitoring well (MW) 1 on Lot 50. This monitoring well location was near the western border of the Site. Although no chlorinated benzenes were detected in the shallow well, the DCB and TCB concentrations in the deep well exhibited the highly skewed ratio of DCB to TCB that would be expected at a DCB spill site:

1983 Well 1 DCB and TCB Sampling Results (ppb)

	Well 1 shallow	Well 1 deep
1,2-DCB	ND	2,700
1,3-DCB	ND	1,400
1,4-DCB	ND	3,700
Total DCB	ND	7,800
1,2,4-TCB	ND	10
TCB as % of TCB+DCB		0.13%

RIR, Table 1-2, p. 1-13.

In the sampling conducted for the 1993 RIR, SCCC analyzed both soil and groundwater samples from Lot 50. Soil samples were collected from three sampling locations: the boring for MW-2 (located just north of Building 2); soil boring (SB)-2 (located at the southeast corner of Building 2) and SB-3. As described in the RIR, SB-3 was located "to the west of Building 2 where in the past above ground storage tanks were located and chemicals for production or shipment were loaded." (Emphasis added.) These locations are shown in this detail from Figure 4-1 of the *RIR*:



RIR, Figure 4-1, p. 4-19 (detail).

Where TCB was detected in these samples, it was in low concentrations relative to the total DCB concentrations found:

RIR DCB and TCB Bldg. 2 Soil Sampling Results (ppm)

	MW-2L	SB-2B	SB-3A
1,2-DCB	1.14	9,200	400
1,3-DCB	0.833	1,300	410
1,4-DCB	1.29	1,300	430
Total DCB		11,800	1,240
1,2,4-TCB	ND	240J	34
TCB as % of TCB+DCB		2%	2.7%

J: estimated concentration below method detection limit

Perhaps the most significant of these sample results is that collected at location SB-3. SB-3A was collected on the western side of Building 2. This location is approximately 250 feet from any rail spur and hundreds of feet from any Tanatex operations associated with Building 3 (located on the opposite side of Building 2). Moreover, during the years Tanatex was on the Site, the area of SB-3 would have been under the control of and actively used by other parties (Crown Rubber and Keaton Rubber until 1962; SCCC thereafter.) Accordingly, this sample location could not have been impacted by any Tanatex-related activity. However, this location was an area of high use by SCCC, in particular for chemical storage and transfer operations. Accordingly, the results from SB-3A establish that some of SCCC's products released on Lot 50 contained TCB in concentrations at least up to 2.7%.

As part of the remedial investigation, SCCC sampled three monitoring well locations on Lot 50: MW-2L (north of Building 2), MW-3L (west of Building 2) and MW-15 (east of Building 2). Two phases of sampling were conducted. As in the case of the 1983 sampling round, the groundwater samples from the vicinity of Building 2 exhibited ratios of TCB to DCB characteristic of DCB releases:

1993 RIR - Phase I DCB and TCB groundwater results - Bldg. 2 vicinity (ppb)

	MW-2L	MW-3L	MW-15L	MW-15U
1,3-DCB	18,500	24,600	15,200	78.6
1,4-DCB	21,900	29,500	19,500	109
1,2-DCB	19,600	30,300	20,600	104
Total DCB	60,000	84,400	55,300	291.6
1,2,4-TCB	89.6	127	81.2	ND
TCB as % of TCB+DCB	0.15%	0.15%	0.15%	

RIR, Table 5-11, p. 5-44.

In the Phase II sampling results, all of the concentrations reported for TCB were "J" values (estimated below method detection limit). However, even if these TCB values were accepted, the concentrations revealed the same great preponderance of DCB over TCB:

1993 RIR - Phase II DCB and TCB groundwater results - Bldg. 2 vicinity (ppb)

	MW-2	MW-3	MW-15
1,3-DCB	9,800	7,500	21,000
1,4-DCB	14,000	11,000	33,000
1,2-DCB	13,000	11,000	33,000
Total DCB	36,800	29,500	87,000
1,2,4-TCB	140J	62J	190J
TCB as % of TCB+DCB	0.4%	0.2%	0.2%

RIR, Table 5-12, p. 5-54.

The pattern of a highly skewed ratio between DCB and TCB demonstrated by these groundwater data is consistent and unmistakable.

The 1999 *SRIR* involved the collection of soil samples at three different depth intervals from two new borings -- SB-15 and SB-16 -- in the far western portion of the Site "to provide data to support an evaluation of the source of constituents previously detected in groundwater in monitoring well MW-3L." *SRIR*, p. 3-1. For the same reason, two new monitoring wells -- MW-16L and MW-17L -- were installed along the western boundary of the site. *SRIR*, p. 3-2.

The soil samples results from SB-15 and SB-16 were entirely non-detect for TCB and largely non-detect for DCB, except in the lower depth profiles where the soil had apparently been impacted by DCB migrating in the saturated zone from the vicinity of Building 2. *SRIR*, Table 3-2. The groundwater sampling results were as follows:

1999 SRIR Groundwater Sampling results Bldg. 2 vicinity (ppb)

	MW-16L	MW-17L	MW-17L(diluted)
1,3-DCB	460	4,100	7,400
1,4-DCB	540	3,500	11,000
1,2-DCB	330	3,800	12,000
Total DCB		11,400	
1,2,4-TCB	< MDL	17	< MDL
TCB as % of TCB+DCB		0.15%	

SRIR, Table 3-3.

As the foregoing demonstrates, in three separate groundwater sampling rounds, the concentrations of TCB were <u>consistently</u> measured as well below 1% of the total concentration of the sum of TCB and DCB. This would be expected if the only

chlorinated benzene products released on Lot 50 were unpurified mixed isomers of DCB. However, these sample results are completely inconsistent with the occurrence of any release of a TCB product impacting groundwater on Lot 50.

D. The sampling for DCB and TCB on Lot 49

The DCB and TCB sampling results from Lot 50 are all the more striking when contrasted with the sampling results from the northeastern corner of the Site where SCCC acknowledges that it produced an estimated 1,500,000 pounds of technical TCB annually between 1970 and 1980. *RIR*, p. 1-7. For example, in boring TSS-1, near where SCCC stored TCB in tanks, TCB was detected at 75,000 ppm, together with total DCB of 7,290 ppm. *RIR,* p. 5-20, Table 5-5 *(see also* p. 5-18, Figure 5-2 for sample location). In nearby monitoring well MW-11, TCB was detected at 6,070 ppb with total DCB at 10,530 ppb. *RIR*, p. 5-44, Table 5-11. These are the type of results one might expect to find in an area where both commercial TCB and DCB products had been released. In contrast, the minute concentrations of TCB in relation to DCB detected on Lot 50 indicate a release of a DCB product only.

CONCLUSION

As described in the Response, the operations of Tanatex were of such a character that they presented no known potential for any release of materials to the environment. In particular, none of the product formulation or other material processing operations that Tanatex conducted created any waste requiring disposal on or off the Site. There is absolutely no direct evidence that any release from Tanatex's operations occurred during the period it occupied leased premises on the Site. Moreover, the groundwater sampling results -- in every case exhibiting TCB concentrations below 0.4% of the concentrations of total chlorinated benzenes -- are entirely consistent with releases of mixed isomers of DCB such as SCCC processed at the Site, but are completely inconsistent with any impact from releases of TCB-based products. For all these reasons, the USEPA should entirely reject the effort of SCCC to implicate the operations of Tanatex as a source of the groundwater conditions beneath Lot 50 of the Site. Simply put, it does not add up.

Thermo Fisher and ATC appreciate your consideration of the matters set forth in this letter. If you have any questions concerning these matters, we would be pleased to provide additional information.

Very truly yours,

J. Forrest Jones

Enclosure

cc: Lanny S. Kurzweil, Esq.