

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE ADMINISTRATOR

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In the Matter of)
Robert Ross & Sons, Inc.,) Docket No. TSCA-V-C-008
Respondent)

Initial Decision

This is a civil penalty proceeding under Section 16(a) of the Toxic Substances Control Act (15 U.S.C. 2615(a)). The proceeding was commenced by the issuance of a complaint by the Director of the Enforcement Division, EPA Region V, on March 31, 1980. The complaint alleged that Robert Ross and Sons, Inc. (Respondent) operates an incinerator intended to destroy and dispose of liquid waste, that at the time of an inspection on July 10, 1979, PCB laden waste oils were found in concentrations of 4400 and 760 parts per million (ppm) in violation of Section 6 of TSCA and regulations promulgated thereunder (40 CFR 761.10(a)) and that at the time of a subsequent inspection on October 2, 1979, it was found that the referenced PCB laden waste oils with a concentration greater than 500 ppm had been incinerated in an unapproved incinerator in violation of Annex I, 40 CFR 761.40. It was further alleged that at the time of an inspection of Respondent's facility on November 5, 1979, PCB laden waste oils in concentrations of 67.3 ppm were found in violation of Section 6 of TSCA and regulations promulgated thereunder 40 CFR 761.10(a). A penalty of \$18,750 was proposed to be assessed for the July 10 violation and \$17,000

for the November 5, 1979, violation for a total of \$35,750. Although it is not altogether clear, the second charge is also based on improper disposal of PCBs. Respondent answered, denying the alleged violations and asserting, inter alia, that Complainant's sampling and testing methods were inaccurate, improper and did not comply with law, with approved or recommended EPA methods or with generally accepted industry standards. Respondent requested a hearing.

A hearing on this matter was held in Chicago, Illinois, September 22-24, 1981.

Based on the entire record, including the proposed findings, conclusions and briefs of the parties,^{1/} I find that the following facts are established:

Findings of Fact

1. Respondent, Robert Ross & Sons, Inc., operates an incinerator and waste disposal facility at Grafton, Ohio.
2. On July 10, 1979, representatives of EPA conducted an inspection of Respondent's facility. Samples were drawn from three storage tanks, a concrete mixing pit, from scrubber liquor, from a low or swampy area on the northeast corner of the property and from a pond containing Ford Motor Company assembly waste (Sampling Inspection Report, EPA Exh 1).

^{1/} Proposed findings not accepted are either rejected or considered unnecessary to the decision.

3. Two of the samples (S01 and S08) drawn during the referenced inspection were taken from an 80,000-gallon storage tank. These samples were collected by Mr. Donald Schregardus, an environmental engineer from EPA's Region V Eastern District Office (Tr. 18-24; EPA Exh 1). Mr. Schregardus ascended the steps on the side of the 80,000 gallon tank and drew the first sample (S01) from an opening in the top of the tank (Tr. 21). For this purpose, he used what he referred to as a pole sampler--an 8-foot length of aluminum conduit to which was strapped a plastic container and into which was inserted a one-quart glass bottle. The liquid was within two feet of the top of the tank and quite thick. Mr. Schregardus in his words "had to literally push it [the sampler] down into the substance" (Tr. 22). He inserted the sampler approximately four feet and upon removing it the plastic container and glass jar were covered with a thick, goeey substance. He then used a glass pipette to extract a sample of approximately two ounces from the glass jar. Under cross-examination, he testified that the material in the tank had clearly layered (Tr. 63, 64).
4. A second sample, S08, was drawn by Mr. Schregardus from the 80,000-gallon tank. This sample was taken from a five-gallon bucket, which had been filled approximately three quarters full from a valve in a pipe from the tank relatively close to the bottom (Tr. 23, 24). The liquid in the bucket was drawn after a recirculating pump, which draws liquid through the pipe and injects it into the tank

approximately one-half the distance from the bottom, was operated for approximately ten minutes. This material was much thinner and less viscous than the sample drawn from the top of the tank.

According to Respondent's President, Mr. Gary Ross, the purpose of running the recirculating pump was to "purge" the lines (Tr. 395). Respondent has not been charged with a violation based on testing of this sample.

5. Other samples drawn during the inspection on July 10, 1979, were taken from a 50,000-gallon tank, from which the waste is pumped or metered into the incinerator, and from a 17,000-gallon tank, also referred to as the silver tank, the contents of which are sometimes used as start-up fuel for the incinerator. The sample from the 50,000-gallon tank (S02) was actually taken from a 55-gallon drum which had been filled to approximately two-thirds of capacity with liquid collected over at least a two-week period from the leaking pump used to pump the waste into the incinerator (Tr. 26-28). Sample S03 was collected from a plastic jug, which Mr. Ross had filled from a valve approximately ten feet above ground level on the side of the 17,000-gallon silver tank (Tr. 28, 29).
6. The samples were tested in EPA's Central Regional Laboratory (CRL) in Chicago, resulting in a finding of 4,400 ppm PCBs (Aroclor 1016) in sample S01, 26 ppm in sample S02, 760 ppm in sample S03, 95 ppm in sample S08, and trace amounts in other samples (memo, dated September 20, 1979, Respondent's Exh 7; EPA Exh 1). Tests for PCBs were conducted by gas chromatography with Ni-63 electron capture detection.

7. The results of the tests caused the convening of a meeting at Respondent's facility on October 2, 1979, attended by representatives of Respondent, the Ohio EPA and a representative of the U.S. EPA (memo, dated October 4, 1979, EPA Exh 2). The purpose of the meeting was to ascertain, if possible, the source of the PCBs and determine their disposition. Respondent's representatives insisted that the company did not knowingly accept PCB wastes and stated that customers were required to complete a survey form identifying each waste stream (separate waste) delivered to Respondent. It developed that wastes in the 80,000-gallon tank had been incinerated since the inspection by U.S. EPA on July 10, 1979 (Tr. 37, 38; EPA Exh 2). At the conclusion of the meeting, representatives of the Ohio EPA collected samples from the mixing pit, from the top and bottom of the 80,000-gallon tank, from the top of the 50,000-gallon tank, from the 17,000-gallon tank and from the fuel stream prior to injection into the incinerator. Duplicates of these samples were left with Respondent.
8. Results of tests on the samples drawn by the Ohio EPA on October 2, 1979, showed concentrations of PCBs well below 50 ppm, the highest concentration being 17.94 ppm of Aroclor 1016 (telecon record, dated October 15, 1979, Respondent's Exh 17). The sample from the 17,000-gallon silver tank tested approximately 12 ppm (actually 11.89 ppm) (telecon record, dated October 4, 1979, Respondent's Exh 22). In a letter, dated November 6, 1979, the Director of the Ohio EPA informed Respondent that the results of the sampling

showed that the PCBs found did not constitute a threat to human health and that no action concerning alleged PCB violations was contemplated (Respondent's Exh 24).

9. On November 5, 1979, representatives of the U.S. EPA conducted a second inspection of Respondent's facility (memorandum, dated December 7, 1979, EPA Exh 3). As in the prior inspection of July 10, 1979, samples were drawn from, inter alia, the 80,000-gallon storage tank, from the 50,000-gallon storage tank, from the 17,000-gallon silver tank and from the mixing pit (Id.; Tr. 43-51). Samples were drawn from the top of each of these tanks and also from points described as "mixed tank" or "mixed" in the case of the mixing pit and from the bottom of the 17,000-gallon silver tank. A pole type sampler was used to draw the samples, it being inserted approximately a foot and a half to two feet in drawing the top sample from the mixing pit (S27) and approximately three feet in drawing the mixed sample (S28) (Tr. 51). The paddle-type-mixer in the mixing pit was operated for five to ten minutes prior to drawing the samples (Tr. 51, 425). Contents of the 80,000 and 50,000-gallon tanks were mixed approximately 30 to 40 minutes prior to sampling (Answers to Interrogatories, Respondent's Exh 1 at 19). Intermediate containers were not used in drawing most of the samples, instead the samples were collected in the bottles or vials used to ship the waste to the laboratory (Tr. 49, 50). Split or duplicates of these samples were left with Respondent (Tr. 44).
10. Of the 24 samples collected during the inspection on November 5, 1979, fifteen were analyzed on a priority basis by EPA's Central Regional Laboratory. Seven of the samples showed detectable

quantities of PCBs and two of these showed quantities in excess of 50 ppm (EPA Exh 3). A sample (S19), referred to as "mixed tank," from the 80,000-gallon tank was tested as containing 21.7 ppm Aroclor 1242 and 44.0 ppm Aroclor 1260 for a total of 65.7 ppm PCBs. A sample (S28), referred to as "mixed," from the mixing pit, was tested as containing 10.3 ppm Aroclor 1242 and 57.0 ppm Aroclor 1260 for a total of 67.3 ppm PCBs. The sample from the top of the mixing pit (S27) tested less than 50 ppm of Aroclor 1242 and 1260. Results of tests on the balance of the samples were forwarded under date of March 17, 1980 (memorandum from Director Surveillance and Analysis Division to Director of Enforcement, Respondent's Exh 20). This showed results of tests on a sample (D20, apparently a duplicate of S19), identified as from the 80,000-gallon tank and with the sampling point described as "mixed tank," as 23.4 ppm Aroclor 1242 and 15.1 ppm Aroclor 1260 for a total of 38.5 PCBs.

11. A mistake was made in calculating test results for samples S19 and D20 referred to in the preceding finding (memoranda, dated March 14 and March 12, 1980, Respondent's Exhs 12 & 13). The error resulted because gas chromatographic peaks used in calculating PCB concentrations contained interfering materials. Recalculated values for sample S19 were 22 ppm Aroclor 1242 and 25 ppm Aroclor 1260 for a total of 47 ppm. Recalculated values for sample D20 were 20 ppm Aroclor 1242 and 23 ppm Aroclor 1260. Complainant has not charged Respondent with a violation based on analyses of these samples.
12. Tests by Environmental Research Group, Inc. (ERG), using what were asserted to be appropriate EPA methods, on the split or duplicates of the samples taken by EPA on November 5, 1979, showed 1.6 ppm PCB

on sample S19 from the 80,000-gallon storage tank mixed as compared to 65.7 ppm found by the EPA and 10 ppm on sample S28 from the mixing pit, mixed, as compared to 67.3 ppm found by EPA (letter from Henry R. Friedberg, consultant, dated January 17, 1980, Respondent's Exh 18). The Aroclor or type of PCB was not identified. At another point the letter states that our (ERG) results on the sample equivalent to S28 were 15 ppm and our results on the sample equivalent to S19 were 11 ppm. Because of the condition of the samples, the bottles having been dipped into the waste, labels on several of the jars or bottles were illegible and there is no certainty that sample numbers were correct (Tr. 481-82). Mr. Friedberg, a consultant and expert witness for Respondent, testified that EPA had the same problem.

13. During the period April 24 through May 29, 1980, representatives of EPA drew additional samples of waste from Respondent's facility (memo, dated September 24, 1980, Respondent's Exh 21). PCBs above the detection limit were found in only one sample, a concentration of 3.4 ppm of Aroclor 1248 being found in a sample drawn from the 80,000-gallon tank (sampling point mixed) on May 29, 1980.
14. As indicated previously (finding 7), the CRL analyses for PCBs of samples collected at Respondent's facility during the inspection on July 10, 1979, was performed by gas chromatography with electron capture detection (GCEC). The instrument separates the various components in the sample and produces a strip chart recording referred to as a chromatogram (Tr. 125-26). Identification of the

type of PCBs or Aroclor is made by comparing the chromatogram of the sample with chromatograms of standards (Tr. 145-46). The extent or concentration of PCBs is determined by use of a formula involving the concentration of the standard times the area of the sample divided by the area of the standard times the final volume of the diluted sample divided by the weight of the sample (Tr. 146; Respondent's Exh 36).

15. CRL procedure specifies that oil samples to be analyzed for PCBs be first examined for the presence of suspended matter (Tr. 133). If none is detected an aliquot of the sample is weighed and dissolved in a minimum amount of hexane. The aliquot is placed on top of a Florisil column and PCBs are eluted from the sample using a volume of 200 mls. of 1% ethyl ether/hexane. By use of an evaporator, the extract is concentrated to a volume of five mls. and an initial injection into the gas chromatograph is made (Tr. 134; memo, dated January 9, 1980, Respondent's Exh 9). The analyst makes a determination of whether further clean-up is needed by examining the chromatogram. If no further clean-up is needed, a final volume of up to 100 mls. is made for gas chromatography using n-hexane.
16. Mr. Henry Friedberg, identified finding 12, described Robert Ross wastes as a mixture of paint sludges, waste from various chemical processes, solvents, printing inks and as containing plasticizers (Tr. 446). He denied that these wastes could be considered oil, asserting that he did not know of any oil as such being in the waste. CRL used the procedure for oil in cleaning-up or separating

the samples for testing. This was because laboratory procedure is to treat as oils materials soluble in hexane and Mr. Gilbert Frye, Acting Chief of the Organic Section at CRL, testified that the Ross samples were soluble in hexane (Tr. 214-15). See also testimony of Curtis Ross, Director of the CRL, at Tr. 272. From his knowledge of Robert Ross wastes, Mr. Friedberg stated categorically that these wastes were not completely soluble in hexane. Because he did not perform the analysis or see the samples, Mr. Friedberg's testimony on this point is not accepted.

17. ERG conducted tests on what were apparently duplicates of samples referred to in finding 13 (Tr. 470; ERG letter to Henry Friedberg & Associates, dated June 24, 1980, Respondent's Exh 26). Analysis of the samples was first attempted by gas chromatography with electron capture detection (GCEC). However, because of strong interferences, it was recommended that the presence of PCBs be confirmed by gas chromatography mass spectroscopy (GCMS) and the samples were forwarded to ERG's Ann Arbor, Michigan laboratory (Id.; Tr. 294). The samples were described as appearing to be a paint sludge or some sort of resinous material by Mr. Paul Epstein, senior research scientist at ERG, who conducted or supervised conducting of the tests (Tr. 293). He testified that generally samples were divided into different matrices such as oil, water or sediment, but that these samples did not fit any of the matrices ERG had analyzed in the past clearly enough to say that there was an accepted technique (Tr. 294). Because of this fact, the samples were injected into the GCMS without clean-up or separation. This resulted in a finding of no detectable PCBs in all but two of the samples, and on these the best precision possible was simply less than 50 ppm (Tr. 294-95; Extraction Method, Respondent's Exh 26 at 2).

18. Mr. Epstein, identified in the preceding finding, attributed the difficulties in analyzing Robert Ross waste to the presence of other compounds which "co-elute" or come out of the gas chromatograph column at the same time as PCBs and show on the chromatogram as overlapping peaks and spikes (Tr. 297). He also described inherent problems encountered by ERG in considering Robert Ross waste as oil and in using that matrix for sample clean-up and separation. Although he stated that the fact ERG did not pre-clean the samples made the resulting chromatograms (Respondent's Exhs 26A & 26C) more complex than in clean GCEC samples, he testified that the clean-up technique was critical when not using GCMS, because the GCEC was orders of magnitude more sensitive to halogenated compounds [e.g., PCBs] than to the interferences which were present in an order of magnitude higher than organo chlorines in the sample (Tr. 299, 301). He asserted that even if most of the interferences were cleaned-up, some would still be there at levels the GCEC could not detect.
19. Mr. Epstein testified in effect that the only way of determining whether clean-up of a sample of Robert Ross type waste using an oil matrix was satisfactory was to compare the result with tests on samples of that type which had been spiked with PCBs (Tr. 302). Mr. Epstein reviewed the complete CRL file on tests of samples of Robert Ross wastes. He indicated that although CRL had performed several spikes in their QC audit, i.e., tests on samples spiked with PCBs, which had a good recovery rate, these tests appeared to be on water samples rather than Ross type wastes or oil (Tr. 302-03). He asserted there were no "matrix effect spike tests" on

Ross samples. He testified that these spike tests were a method of determining whether techniques were acceptable, i.e., reproducible values obtained, and that good laboratory procedure required that these tests be documented. Mr. Friedberg (finding 12) was even more emphatic, asserting that adding PCBs to water and recovering them as was done by CRL meant nothing [as a check on the validity of tests on Robert Ross type waste] (Tr. 468).

20. Mr. Epstein described problems in calculating PCB concentrations where more than one type of PCB was present. He stated that the different Aroclors, 1016, 1242, 1248, 1260, are mixtures of the same chemical compound; Aroclor 1242, for example, meaning 42% chlorine (Tr. 304). He explained that if Aroclor 1242 and 1260 were present in the same sample, peaks at the end of the 1242 chromatogram would coincide with peaks at the beginning of the 1260 chromatogram and that there was no way of determining how much of each peak came from the 1242 and how much from the 1260 (Id.). He asserted that this made analysis extremely difficult if those peaks were used in the calculations. These difficulties are confirmed by the mistake made by CRL in calculating PCB concentrations for samples S19 and D20, collected in the inspection of November 5, 1979 (finding 11).
21. Referring to a handwritten memo entitled "Oil Analysis," describing methods of preparing samples collected during the inspection on November 5, 1979, for testing (Respondent's Exh 16), Mr. Epstein testified that it appeared CRL had centrifuged oil and sludge or sediment samples, thereby separating the oil and neglecting the sludge (Tr. 316-17). This assumption is confirmed with respect to

later tests on the November 5 samples (EDO-456A) (memo, dated January 9, 1980, Respondent's Exh 9). He stated that if it be assumed that the sample was 50% by weight oil and 50% by weight sludge, the result would be to double the answer obtained in the analysis. This testimony is particularly significant with regard to sample S28 from the mixing pit, described as sludge mixed with oil, as to which CRL obtained results of 10.3 ppm Aroclor 1242 and 57.0 ppm Aroclor 1260 and upon which the November 5, 1979, finding of violation is predicated. Mr. Frye's testimony that both oil and sludge matrices were used is limited to samples collected on July 10, 1979 (Tr. 135-36). Mr. Epstein indicated that proper procedure in analyzing sludge and oil samples would be to test the oil and sludge separately and average the results or report the results as separate tests on the same sample (Tr. 317).

22. As part of his review of the CRL files, Mr. Epstein recalculated results obtained by CRL on sample S28 collected during the inspection on November 5, 1979. In examining the computer printout for the calculation of Aroclor 1260 on sample S28 (Respondent's Exh 37), he noted that the ratio of the area of the sample to the area of the standard on Peak No. 4 (6.99454) was much larger than the other nine peaks used in the calculation (Tr. 319). By reference to the chromatogram for that test (Respondent's Exh 37), he determined that Peak No. 4 appeared as a small shoulder on the internal standard (Tr. 319-20). Calculating some standard deviations, he was of the opinion that good laboratory technique required the elimination of Peak No. 4 in the calculation, with the result that the PCB concentration for Aroclor 1260 dropped from 57.1 ppm to 44.5 ppm.

23. Mr. Epstein also reviewed the CRL determination of 10.3 ppm Aroclor 1242 on sample S28. He testified that from the numbers on the second page (Respondent's Exh 37), there was no way he could determine the 10.3 ppm reached by CRL (Tr. 321). By back-calculating from the 10.3, he determined that the average of the peak ratios used by CRL was .573, which is very close to two of the peaks (9 & 10) in the data set. He concluded that these two peaks with areas of 60.8 and 152.5, and retention times of 5.21 and 6.20 minutes, respectively, corresponded with retention times of 5.13 and 6.14 shown in the calculation for Aroclor 1260 (Respondent's Exh 38), but were nevertheless used by CRL in the calculation of Aroclor 1242 (Tr. 322-23). Mr. Epstein made a recalculation using only peaks clearly appearing to be Aroclor 1242 and arrived at a figure of 4.9 ppm Aroclor 1242 (Tr. 323-24). His final conclusion for PCBs in sample S28, that is Aroclor 1242 and 1260, was 49.4 ppm plus or minus an accuracy or precision range of approximately 30 percent, which he estimated at 12 (Tr. 324). Mr. Curtis Ross (finding 16) confirmed that an accuracy or precision range of 20% to 30% in testing duplicate samples for PCBs was reasonable (Tr. 280, 283). According to Mr. Epstein, total PCB concentrations in sample S28 would be in the range of 37 to 61 ppm.
24. Mr. Friedberg (finding 12) examined CRL files relating to tests on samples of Respondent's wastes (Tr. 461). He reviewed a report (memo, dated April 8, 1980, Respondent's Exh 2) and listened to testimony of EPA representatives as to methods of drawing samples during the inspections on July 10 and November 5, 1979 (Tr. 449). Based on this examination and knowledge of how the samples were taken, he expressed the opinion that the CRL results could not be considered scientifically valid (Tr. 469). One of the reasons for

this opinion was an apparent inability to determine from the file precisely how the PCB concentrations reported by CRL (4,400 ppm on sample S01 and 760 ppm on sample S03) on samples collected during the July 10 inspection were calculated. CRL representatives furnished reconstructions of the calculations to Mr. Friedberg on the morning of the third day of the hearing. Mr. Friedberg's review of this data has been furnished by affidavit, dated November 17, 1981.* The affidavit, states that his calculations for samples S01, S03, S04 and S08 from the inspection of July 10, 1979, were sufficiently close to the CRL reported results to cause him to concur in the CRL calculations. With respect, however, to calculations for sample S02, the affidavit reflects Mr. Friedberg's calculation of 26,000 ppm PCBs as compared to the CRL reported result of 26 ppm. According to Mr. Friedberg, the 26,000 ppm result is required by the dilution factor of 10,000 specified on the worksheet furnished by CRL. Although acknowledging that sample S02 is not at issue in this proceeding, he stated that this large discrepancy cast considerable doubt on the validity of all test results reported by CRL. Mr. Friedberg also alluded to the possibility of human error inherent in the apparent CRL practice of manually calculating final results rather than including dilution factors in data entered into the computer.

* Based on assurances of counsel two days were allotted for the instant hearing and it was necessary to adjourn in order for the ALJ to preside at a hearing in another city. Respondent was given the option of filing a motion to re-open the record after the CRL data had been reviewed. In lieu thereof, the parties stipulated that additional evidence would be presented by affidavit.

25. Countering Mr. Friedberg's affidavit, Complainant has submitted the affidavit of Mr. Gilbert Frye (identified finding 16). Although conceding that the results of sample S02 are not reproducible from the file, Mr. Frye points out that the fact Mr. Friedberg was able to reproduce the results for samples S01, S03, S04 and S08 substantiates the worksheet data as applied to these samples. He states that all samples at CRL are analyzed and verified at the 95% confidence level, which means that out of a group of 100 samples five will be in error, but will appear to be correct. He asserts that the error or possible loss of data for sample S02 is not distributed to other sample populations and that accordingly, it is inaccurate to conclude that results of other samples are incorrect. He further states that Mr. Friedberg's criticism of manual calculations is based on a lack of knowledge of the CRL computer and how it functions. The CRL computer computes the final results by calculating the concentration of each peak that appears after the solvent peak (presumably internal standard peak) and averages them. The average of all peaks for which the computer has calculated a concentration value is the final result reported by the computer. However, if the analyst notes peaks in the chromatogram of the environmental extract that do not fit the peak configuration of the standard and/or the ratio of the major peaks to those [standard] peaks does not fit, he removes the calculated concentration value from the computer's final result and recalculates the results manually. According to Mr. Frye, this is accepted procedure for PCB analysis and self-explanatory as to why only analysts with high expertise should evaluate PCB data.

26. Samplers and Sampling Procedures For Hazardous Waste Streams, EPA-600/2-80-018, January 1980 (Respondent's Exh 29) provides that for sampling storage tanks, one sample should be collected from the upper, middle and lower sections of the tank with a weighted bottle sampler, that the samples should be combined and submitted as a composite sample (Id. at 39). A weighted bottle sampler is a suitably weighted bottle attached to a chain or cable having a mechanism whereby the stopper can be removed to collect liquid at various depths in the tank (Id. at 22, 23; Tr. 473). Although the cited EPA publication bears a date of January 1980, it is essentially a restatement or compilation of sampling methods, including ASTM, which have been employed for years (Tr. 453-54).
27. Mr. Friedberg has been involved in collecting samples and supervising the collection thereof for approximately 25 years and is accepted as an expert in that respect (443). Although he was not present at the inspections of Respondent's facility on July 10 and November 5, 1979, he listened to testimony as to the methods of collecting the samples (finding 24). He was of the opinion that none of the samples at issue could be considered representative of the contents from which the samples were drawn. He referred to sample S01, drawn from the top of the 80,000-gallon tank during the inspection on July 10, 1979, as a "grab sample" representing nothing more than the particular spot sampled (Tr. 449-50). This opinion was based in part on the fact that the contents of the tank had not been mixed and upon the non-homogeneous nature of Ross wastes. He also characterized as a grab sample, sample S08, which had been drawn

from a valve in a pipe relatively close to the bottom of the 80,000-gallon tank after the lines had been purged. Mr. Friedberg described as non-representative, sample S03, which had been taken from a valve approximately ten feet above ground level on the 17,000-gallon silver tank without mixing. Sample S28, collected from the mixing pit during the November 5 inspection after the mixing paddles had been operated approximately ten minutes, was regarded as non-representative, because Mr. Friedberg considered the mixing time to be inadequate for a 30,000-gallon container and because the waste was not homogeneous (Tr. 457-60).

28. Mr. Gary Ross, Respondent's President, described operations at Respondent's facility. He testified that materials arriving at the facility come to the receiving dock, that the majority of the wastes are mixed in the mixing pit and then pumped through the separator tanks into the 80,000-gallon tank (Tr. 384; sketch, Respondent's Exh 28). The waste is mixed from one-half hour to two hours in the 80,000-gallon tank and then pumped to the 50,000-gallon tank where it is metered into the incinerator (Tr. 385-86). When the incinerator is operational, this occurs once or twice a day (Tr. 409-10). Although the incinerator was not operational at the time of the inspection on July 10, 1979, it was operated between that date and the time of the inspection by the Ohio EPA on October 2, 1979 (Tr. 405, 410-11).
29. Mr. Ross testified that at the time of the inspection on July 10, 1979, the 17,000-gallon silver tank contained a styrene based product (Tr. 389, 401). This material is sometimes used as a thinner to cut the viscosity of waste in the mixing pit so that

it can be more readily handled and sometimes used as a start-up fuel for the incinerator (Tr. 390, 402). He was positive that no wastes were added to or removed from the 17,000-gallon tank between July 10 and October 2, 1979, the date of the inspection by the Ohio EPA (Tr. 397-98, 411, 412-13). See also the memo to Mr. Henry Friedberg, dated April 8, 1980, Respondent's Exh 2. There is no evidence to the contrary in the record.

30. Ms. Maureen Cromling, Executive Vice-President of Respondent, whose duties included administrative functions and customer relations, described the company's policy as to the receipt of waste. She testified that waste was received only from the original generator or producer of the waste and that all customers were required to submit a Waste Product Survey form (Respondent's Exh 3) specifically identifying the waste to be submitted, including chemical analysis thereof (Tr. 415-19). Although the Waste Product Survey form includes a question as to whether the waste contains PCBs (if the answer is affirmative, the concentration and supporting documentation are to be provided), she stated that the service agreement with the customer specifically provides that PCBs cannot be accepted. Respondent does not have wastes tested or analyzed, but relies on customer certifications and analyses for the content of the waste (Tr. 435-36). Ms. Cromling described wastes received as a wide variety of industrial waste such as paint, chlorinated solvents, non-chlorinated solvents, resins, adhesives, printing inks, and processed wastes including plasticizers (Tr. 419).

31. As indicated (finding 29), all wastes received at Respondent's facility come to the receiving dock and a majority are mixed in the mixing pit and then pumped through the separator tanks into the 80,000-gallon tank. While there is no evidence that normal procedures were not utilized in handling the waste present in the mixing pit on November 5, 1979, there is also no evidence as to the disposition of this waste. A memorandum written by Mr. Schregardus indicates that Respondent disposes of wastes which cannot be incinerated at Norton Landfill (EPA Exh 1 at 2). Accordingly, there is no basis for an inference that wastes present in the mixing pit on November 5, 1979, were incinerated.
32. There is no evidence and no contention has been made that Respondent's incinerator complies with Annex I, 40 CFR 761.40. A memorandum summarizing the meeting at Respondent's facility on October 2, 1979 (EPA Exh 2 at 2) reflects that although Respondent's attorney contended that the firm could be certified to incinerate PCBs, Respondent did not choose to apply.

Conclusions

1. Sample S01 drawn from the top of the 80,000-gallon tank, and sample S03 drawn from the 17,000-gallon silver tank on July 10, 1979, upon which the first of the charges of illegal disposal is predicated, were not representative of the contents of the tanks from which the samples were drawn.
2. Tests on samples referred to in conclusion 1 by EPA's Central Regional Laboratory have not been shown to have been improperly

conducted or calculated and the reported PCB concentrations, to-wit: 4,400 ppm for sample S01 and 760 ppm for sample S03, are accepted as accurate.

3. The contents of the 80,000-gallon tank were incinerated by Respondent sometime during the period July 10 to October 2, 1979.
4. Uncontradicted testimony is to the effect that wastes in the 17,000-gallon tank on July 10, 1979, were the same wastes present in the tank on October 2, 1979, and Complainant has not shown that the contents of this tank were incinerated or otherwise disposed of during that period as charged.
5. Respondent's incinerator does not comply with Annex I, 40 CFR 761.40.
6. Notwithstanding conclusions 2, 3 and 5 above, the samples tested were not representative of the contents of the tanks and Complainant has not shown by a preponderance of the evidence that Respondent disposed of PCBs in excess of 500 ppm in violation of 40 CFR 761.10(a) as charged.
7. Uncontradicted testimony supports the conclusion that the mixing pit from which sample S28 was drawn on November 5, 1979, was not mixed sufficiently for the sample to be representative. Even if the sample was representative of the contents of the mixing pit, Complainant has not shown by a preponderance of the evidence that this sample, S28, reported by CRL to contain 10.3 ppm Aroclor 1242 and 57 ppm Aroclor 1260, contained PCBs equal to or in excess of 50 ppm as charged.
8. There is no evidence in the record as to the disposition of the wastes present in the mixing pit on November 5, 1979.

9. Complainant having failed to demonstrate by a preponderance of the evidence that Respondent disposed of PCBs having concentrations greater than 500 ppm and 50 ppm in violation of 40 CFR 761.10(a) as charged, the complaint must be dismissed.

Discussion

The regulation, 40 CFR 761.1(b), provides:

"(b) This part applies to all persons who manufacture, process, distribute in commerce, use, or dispose of PCBs or PCB Items. Unless it is otherwise specifically provided, the terms PCB and PCBs are used in this rule to refer to any chemical substances and combinations of substances that contain 50 ppm (on a dry weight basis) or greater of PCBs, as defined in 761.2(s), including any byproduct, intermediate, or impurity manufactured at any point in a process. Any chemical substances and combinations of substances that contain less than 50 ppm PCBs because of any dilution, shall be included as PCB and PCBs unless otherwise specifically provided. Substances that are regulated by this rule include, but are not limited to, dielectric fluids, contaminated solvents, oils, waste oils, heat transfer fluids, hydraulic fluids, paints, sludges, slurries, dredge spoils, soils, materials contaminated as a result of spills, and other chemical substances or combination of substances, including impurities and byproducts."

Insofar as pertinent here, regulations also provide that PCBs must be disposed of in an incinerator which complies with Annex I (40 CFR 761.10(a)). As indicated (finding 32), there is no evidence and no contention that Respondent's incinerator complies with Annex I. There is also no evidence and no contention that Respondent is within any of the exceptions relating to disposal of liquids having PCB concentrations of greater than 50 ppm but less than 500 ppm (40 CFR 761.10(a)(2)(D)(3)).

Complainant disputes Respondent's contention that the samples collected on July 10, 1979, were not representative of the contents of the tanks from which the samples were drawn. It is undisputed, however, that the material in the tank had layered (finding 3) and uncontradicted is Mr. Friedberg's testimony that sample S01 drawn from the top of the 80,000-gallon tank was a "grab sample," representing nothing more than the contents of the particular spot sampled (finding 27). It is also clear that an accepted technique for sampling the contents of large tanks is to draw samples from at least three different locations or elevations in the tank, thoroughly mix the samples and then draw a sample for testing purposes from the mixture or composite (finding 26). This was not done and Mr. Epstein's testimony that the orders of magnitude variation between the result of sample S01 from the top of the 80,000-gallon tank (4400 ppm) and sample S08 from the bottom of that tank (95 ppm) establishes that sample S01 was not representative (Tr. 311) is accepted as reasonable. The contention that sample S01 was representative of the contents of the 80,000-gallon tank is rejected.

The evidence is that the 17,000-gallon silver tank, also sampled on July 10, 1979 (sample S03), contained a styrene based product which was thinner and less viscous than the substance in the 80,000-gallon tank. While there is no evidence that this substance had a tendency to layer or separate, it is clear that the contents of the tank were not mixed in any fashion and that the accepted technique of drawing samples from three different elevations in the tank was not followed--the only sample taken being drawn from a container which had been filled from a

valve approximately ten feet up on the side of this tank. Uncontradicted is Mr. Friedberg's testimony that for the reasons just stated, sample S03 is not representative (finding 27). Complainant's contention to the contrary cannot be accepted.

While for reasons discussed hereinafter, the fact that samples drawn on July 10, 1979, were not representative of the contents of the tanks from which the samples were drawn requires dismissal of the charge based on that inspection, a brief discussion of Respondent's contentions concerning the CRL analyses of these samples is warranted in the event the issue should be reached on appeal. Respondent's first point is that the samples should not have been treated as oil (Posthearing Brief at 13 et seq.). CRL procedure is to treat as oil materials that completely dissolve in hexane. Mr. Friedberg testified unequivocally that Robert Ross waste would not completely dissolve in hexane, thus leaving an unanalyzed residue and possible distorted test results (Tr. 463-64). It is not clear, however, that Mr. Friedberg is sufficiently familiar with all waste handled by Respondent so that his testimony in this respect is credible. There is no evidence that Mr. Friedberg saw the samples in question and Mr. Frye of CRL, who did see the samples, testified that the samples did dissolve in hexane. Respondent's contention that the samples should not have been treated as oil is rejected.

Respondent also points out that there is confusion in the record as to whether dilution factors are included in data fed into the computer or whether this is accomplished manually after the principal calculation has been performed by the computer (Posthearing Brief at 20). Respondent argues that if the former is the case, the CRL analyses on samples S01 and

S03 show PCB concentrations below the legal limit of 50 ppm. This argument is based upon the fact that the computer printouts reflecting test results for these samples (average of two runs equaling 4377.56 for S01 and 854.64 for S03) are in terms of micrograms per liter (ug/l) or parts per billion (Respondent's Exhs 10 and 10A), requiring dividing by 1,000 in order to convert to parts per million. Respondent further argues that this confusion could have resulted in dilution factors being accounted for twice and thus reported PCB concentrations might have been greatly inflated. Respondent acknowledges, however, that it is not possible to conclusively determine from the file whether such a mistake, i.e., accounting for dilution factors twice, actually occurred. Curiously, Complainant has not attempted to explain the procedure used in this instance, but contents itself with the assertion that dilution factors can be hand calculated or programmed into the computer as desired by the analyst (Reply Brief at 4). Nevertheless, the fact that Mr. Friedberg was able to duplicate the results reported by CRL as to all samples except S02 is sufficient refutation of Respondent's contentions in this respect.^{2/}

Respondent also argues that the CRL reported results for sample S01 is scientifically suspect (Posthearing Brief at 21), because in a base neutral test for nonvolatiles on this sample conducted by GCMS, having a dilution factor of one to ten and a reported instrument detection level

^{2/} Complainant has objected to the form and content of the Friedberg and Epstein affidavits as beyond the scope of issues unresolved when the hearing adjourned. While it is true that the matters at issue related to precisely how CRL derived reported PCB concentrations, and the affidavits address additional matters such as good laboratory practice, disposition of the validity of the tests on the samples collected on July 10, 1979, in Complainant's favor, makes it unnecessary to rule upon the motion to strike.

for PCBs of 200 ppm, PCBs, if present in a concentration of 4400 ppm (440 ppm, diluted by ten), should have shown as a peak or peaks on the chromatogram and did not (Tr. 176-92; Respondent's Exh 35). It appears, however, that analysis of this sample for PCBs had previously been accomplished, that the analyst was not instructed to look for PCBs on this test and that dilution of the sample was accomplished with benzene or naphthalene, thus masking the PCBs (Tr. 204-05).

It is concluded that the tests on samples S01 and S03 for PCBs have not been shown to have been improperly conducted or calculated.

Although Complainant has not so contended, it is recognized that it might be argued that any incineration of PCBs in concentrations in excess of 500 ppm, regardless of the quantity, the incinerator not being in compliance with Annex I, 40 CFR 761.40, constitutes a violation of 40 CFR 761.10(a). Further, so the argument might go, the evidence demonstrating that at least one layer or portion of the 80,000-gallon tank contained PCBs at a concentration of 4400 ppm and that the entire contents of the tank was incinerated, a violation of the Act and regulation has of necessity been established. Fatal to any such argument, however, is evidence that in the process of incinerating waste at Respondent's facility, the liquid is mixed from one-half hour to two hours and pumped from the 80,000-gallon tank into the 50,000-gallon tank, from which it is pumped or metered into the incinerator. There is no evidence indicating in any manner the PCB concentration of any portion of this waste at the time of incineration. Moreover, the fact that in determining PCB concentrations in oils or other fluids, representative samples should be obtained is certainly indicated, if not specifically required (40 CFR 761.10(g)).

While as Respondent points out the cited provision of the regulation is applicable to individual firms or persons using or handling PCB oils or fluids rather than EPA (Posthearing Brief at 9), Complainant must be held to the same standard in attempting to establish a violation of the law.

Evidence of the dilution of Respondent's wastes to reduce PCB concentrations below 50 ppm (40 CFR 761.1(b)) or of the addition thereto of PCBs in concentrations of 500 ppm or greater (40 CFR 761.10(g)(ii) is lacking and these provisions of the regulations are not applicable.

With respect to sample S28, collected during the inspection of November 5, 1979, and upon which the second charge of illegal disposal^{3/} is predicated, the evidence establishes that this sample was not a composite of samples collected from different locations in the container (mixing pit) as accepted sampling technique requires. Although the mixing paddles were operated for approximately ten minutes before this sample was drawn, uncontradicted testimony is that this time is insufficient to thoroughly mix the contents of the 30,000-gallon container from which the sample was drawn and that this sample may not be regarded as

^{3/} As noted at the outset of this opinion and as pointed out by Respondent, the Complaint does not specifically allege that the PCBs found on November 5, 1979, were incinerated or otherwise subject to improper disposition. That improper disposal is the basis of the charge, however, may be inferred from that portion of the complaint concerning the civil penalty:

"Count I

Failure to Properly Dispose of Liquid PCBs

July 10, 1979

November 5, 1979

18,750


17,000"

representative. Even if sample S28 is considered representative of the contents of the mixing pit, the uncontradicted testimony of Respondent's expert, Mr. Epstein (findings 18 to 23), has cast sufficient doubt upon the PCB concentrations of this sample as reported by CRL that it cannot be held Complainant has established by a preponderance of the evidence the sample contained PCBs equal to or in excess of 50 ppm. Moreover, as noted (finding 31) there is no evidence that the contents of the mixing pit on November 5, 1979, have been incinerated or otherwise subject to improper disposition.

Conclusion^{4/}

Complainant having failed to establish the violations charged, the complaint is dismissed.^{5/}

Dated this 15th day of February 1982


Spencer T. Nissen
Administrative Law Judge

^{4/} Unless this decision is appealed in accordance with 40 CFR 22.30 or unless the Administrator elects, sua sponte, to review the same as therein provided, this decision shall become the final order of the Administrator (40 CFR 22.27(c)).

^{5/} Respondent has indicated (Posthearing Brief at 32) that it intends to assert a claim for attorneys fees and expenses pursuant to the Equal Access to Justice Act (5 U.S.C. 504, Supplement IV, 1980). As it does not appear that EPA has promulgated any regulations implementing that Act, I am without authority to consider any such claim even if this decision becomes final. See, e.g., 46 FR No. 192, October 5, 1981, at 48921 (interim Department of Justice implementation of the Act).