

Morse Chain Division — INTER-OFFICE CORRESPONDENCE

FROM K. A. Dolby
TO R. C. Curran
SUBJECT: TRICHLORETHYLENE

DATE August 4, 1972

REF.

CONFIDENTIAL

Through my efforts to trace our oil source into the reservoir under the paint building, I found deposits of Trichlorethylene and oil in the catch pit which feeds the reservoir. At first I was unable to identify the liquid so I sent samples to Dow Chemical and Diamond Shamrock for identification of the solvent. Both sources said that it was definitely Trichlorethylene. Since the 507 Degreaser is the only user in the entire plant, it must be the source. Bill Wood and I found a faulty Trichlor-Water separator, however, we cannot be sure that this was the only source or even the main source. We have alerted John Hanglow and Bill McGourty as to corrective action to keep this from contributing any further to our problem.

I have taken three representative samples of the reservoir which should be analyzed in an effort to determine the actual Trichlor concentration. This should be done to determine the magnitude of our problem. I would also like to take a fourth sample which would be a scoop off the bottom where the Trichlor would settle. I did take a sample like this earlier, and it had a strong, distinct, Trichlor odor. Once the concentration is known, we will have to decide on the appropriate steps to be taken.

Before we consider possible steps to take, we should discuss a couple of facts about the reservoir and Trichlorethylene.

1. The reservoir is 31' x 33' x 20' and has a holding capacity of 75,000 gallons. The bottom has collected 5' of sludge or approximately 210 cubic yards. The water level is approximately twice that.
2. Trichlorethylene is insoluble in water, and much heavier. Thus it forms a layer below the water, and it is relatively stable when it has a water blanket over it. Trichlor is extremely toxic in all forms. In a water system, it will kill all bacteria, in fact it has been known to put entire sanitary sewer systems out of commission by killing constructive bacteria. Thus we cannot let it leave in either water system.

The following is a list of options.

1. Hire an outsider, such as Northeast Oil, to come in and pump out as much of the Trichlor layer as possible. This would be expensive in fact there is doubt as to whether or not they would even take the job, because of the extensive sludge deposits.
2. Pump out the top water, and seal off the reservoir. This would be hazardous since the Trichlor will decompose to Hydrogen Chloride,



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an acid, if given sufficient time.

3. Divert any further flow around the reservoir. This is not recommended because it was the reservoir which kept us from pouring the Trichlor straight down to the Six Mile Creek.
4. Try to reclaim the Trichlor by pumping the layer up and through one of our stills. If the concentration is high enough, this would be a profitable venture since we are currently paying \$1.50/gallon. We would have to screen the material to keep rocks, links, etc. from clogging the pump. We would also have to use metal piping since Trichlor will decompose any rubber hoses. This could be done after the new still is in operation and before we do something else with the other stills.
5. Another alternative would be to let things go as is. Since Trichlor is relatively stable under water, it may last for along time without any repercussions. However, if the state gets wind of our problem, they may require an extensive and expensive sampling program.
6. One step which I think we should definitely take is to use a preliminary catch pit between the degreaser and the reservoir. This could either be constructed underground or we could use a jumbo tank (approx. 500 gal.) which would let the water flow off the top. This would enable us to easily monitor the effluent and catch any losses without having to worry about separating it from the sludge.

Kad.

KAD:gj

CC: H. C. Cornwall