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March 17, 1943

REPORT ON TANK CLEANING ACCIDENT OCCURRING AT
SAN JUAN
TEXAS COMPANY'S TERMINAL, PUERTO RICO

MEMORANDUM FOR FILE:

A meeting was held yesterday afternoon, March 16, for discussion of this matter. Those present were Mr. H. M. Hanbury, Texas Company's representative in Puerto Rico, Mr. O. B. Small, Manager of the Caribbean Operations of the Texas Company, Dr. Robert A. Kehoe, Mr. H. W. Kaley, Mr. E. O. Jones, and Mr. O. B. Lewis. Mr. Hanbury, who had just arrived from Puerto Rico, described the accident.

It appears that some 31 men were involved in cleaning a 7,500 bl. aviation gasoline tank between the dates of February 10 and 15. Of this number two men died and four are still apparently very ill as they are mentally deranged. When it became evident that the men were suffering, 13 were sent to one clinic, Industriale, and 18 to the clinic, Diego Biascoechea. Mr. Hanbury felt that the treatment of the two men who died may have been partly responsible for their death.

As the men became ill, they found it impossible to sleep and later several of them became violent. Apparently to quiet them down a treatment of glucose and morphine was given them. The two that died actually were not the most violent, but approached a comatose state which simply became worse as time went on. Dr. Kehoe stated that morphine was very bad treatment as in cases of this kind when one succeeds in putting the patient to sleep, the patient might simply not wakeup, and that ordinary amounts of morphine might tend to further excite rather than quiet the victim of these accidents.

After Dr. Kehoe's telephone conversation with a Dr. Diego Biascoechea, in charge of all the men, the situation appeared to be better under control. Dr. Kehoe expressed himself as of the opinion that since the men had not succumbed after 10 or 12 days, that those who were now alive would probably recover. Mr. Hanbury stated that the clinic, Industriale, was very poorly equipped and could not be rated better than a second-class boarding house, but that the institution for the insane, Clinic Julia, where the worst cases were finally taken, is a very good hospital.

The worst exposures appeared to be during the first part of the cleaning as the men who died and who worked during the first 2 or 3 days were very ill, whereas the crews coming in later had only been slightly effected.

Previous to the cleaning the tank had been stripped of gasoline. The floating roof had been raised by water pressure to a distance of approximately 6' above the floor and hung on repair straps. After the water had been drained, ventilation was effected through one bottom and one

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top manhole. The tank was thus aired for 3 days, after which the men entered for the removal of the sludge. There was between 2" and 3" of this material and it took 2-1/2 to 3 days to remove. This was done by pushing with squeegees to a point near the lower manifold opening, loading into buckets, and removing to a point on the side of the fire wall. After the bulk of the material was out, the tank was more thoroughly cleaned by brushes and hosing. The sludge was very wet the first day or two and gradually dried out so that there was some dust during the latter part of the cleaning. However, this was kept down by oiling the sides.

The men had no special equipment and no special instructions. In fact, no instruction that precautions were necessary to guard against lead hazards had gone forward to Puerto Rico.

Dr. Kehoe explained that the main intoxication occurs because of the probability of large amounts of Tetraethyl Lead in the sludge and that the vapors in which the men worked became saturated after the sludge was moved about in the tank. A secondary source of absorption was possible through skin contact. It was suggested that the shoes the men wore should all be picked up and destroyed and that the clothes should all be properly laundered, even at this late date. Additional poisoning might have occurred through inhalation and ingestion, but apparently the dust factor was kept pretty well under control.

It was reported by Mr. Hanbury that one man had collapsed while at work in the tank. Dr. Kehoe pointed out that there was distinct evidence of contributing gasoline poisoning as well as the evidence of lead poisoning in this case. He stated that the man who had collapsed in the tank, which was part of Mr. Hanbury's statement, was evidence that the tank had not been kept free of gasoline vapors because such a collapse would not be caused by lead intoxication. No gas indicator readings had been taken, as the operation had proceeded on the customary method in Puerto Rico, which apparently is to allow several days for ventilation and then go ahead.

The tank had been very hot, with an approximate average temperature in the outside shade of 85°. Perhaps because of this and other reasons, the men only worked in the tank for approximately 15 minutes at a stretch, after which they were relieved and other men went in.

From the reports of Mr. Hanbury, it is evident that the two men who died had their exposure on the 10th and 11th of February, and possibly the 12th. They died on the 19th and 20th, which is a week to 10 days after their exposure, depending upon whether they take the first day or last day of exposure. Mr. Hanbury is cooperating fully with Dr. Kehoe in securing certain specimens, and will endeavor to secure full medical reports. Also, he will pick up a pint jar of the sludge from the middle section. This sludge was inspected by Mr. Hanbury and finally buried adjacent to the fire wall.

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The Department of Labor of Puerto Rico apparently is interesting itself in this case. A letter was received from Mr. German P. Nater requesting information on the regulations for handling and mixing Ethyl Fluid. (Incidentally, no mixing whatever occurred in Puerto Rico as the gasoline used there is supplied from the Texas Company's Port Arthur plant, and more laterally from Aruba and consists of gasoline of 91 octane number containing 2.5 cc of lead.)

Mr. Small says that the Texas Company will follow up diligently in all their operations to see that a similar accident does not happen. He solicited the help of the Ethyl representatives present to go over their material and plans to the end of making this program effective. Ethyl, on its part, promised the fullest cooperation possible.

OB Lewis

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