



Reorder No. 912-1/3

PARK BRAND FOLDER
MEDIUM HEAVY WEIGHT

Tank Incident #24

Brief Summary

Tank #15 - Continental Oil Company, Artesia, New Mexico - December 1944

Tank cleaned November 27, 28 and 29, 1944, for inspection of leaking bottom. Full equipment used during cleaning and no illness developed as result of cleaning. Small holes found in bottom. Instructions given by Ethyl Corporation representative that new steel bottom could not be installed unless bottom and bottom of sides sandblasted. It was agreed that new concrete bottom could be poured without protective equipment although tank had not been declared "clean." Tank was steamed intermittently for three days after cleaning presumably to vaporize gasoline which might have been under floor. Concrete floor poured December 9, 1944.

Seven men were on concrete job and all worked in tank for varying periods.

██████, the contractor, was in and out of tank but was in tank probably for only short periods. ██████ and ██████ were in tank an indeterminate time but probably very short time. ██████ was in tank a "considerable" amount of time. ██████ was in tank "part time," ██████ was in one-half day and felt ill and refused to reenter. ██████ was in essentially full time and worked very hard.

Illness in relationship to in-tank time is shown by following table:

<u>Name</u>	<u>In Tank</u>	<u>Urine</u> <u>Pb</u> <u>Mg./L.</u>	<u>Blood</u> <u>Pb</u> <u>Mg./100 g.</u>	<u>Symptoms</u>
██████	very little			No symptoms
██████	"out most of time"			No direct statement made but nervousness and insomnia - reported for his group
██████	"out most of time"			No symptoms
██████	"considerable time"	0.13	0.070	Insomnia - "shaky"- "afraid," unstable, recovered in about a w
██████	"probably half or more time"	0.80	0.050	Moderate intoxication - is epileptic - recovery in about 10 days

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<u>Name</u>	<u>In Tank</u>	<u>Urine</u> <u>Pb</u> <u>Mg./L.</u>	<u>Blood</u> <u>Pb</u> <u>Mg./100 g.</u>	<u>Symptoms</u>
[REDACTED]	half day	0.80	---	Very mild intoxication - recovery three days
[REDACTED]	full day	----	0.125	Symptoms started on job. Not only greatest exposure in terms of time but worked the hardest and must have taken in more air. Severe intoxication. Died.

Discussion

All evidence would point to a very high concentration of lead in the tank atmosphere against which there was no defense.

Correlation between time in tank and illness is fairly consistent excepting for Nobles who had only a very mild intoxication in spite of a fairly clear record of 1/2 day in tank. However, time in tank for Nobles is consistent with urine Pb findings which is consistent with more severe intoxication than was in evidence. Gibson's moderate illness is consistent with time in tank but not consistent with blood and urine lead.

The entire picture is consistent with what might be expected considering all of the circumstances.

Cause - Working in tank with no protective equipment. Tank had been cleaned but lead vapors undoubtedly forced from beneath tank through holes by weight of concrete. Organic lead in side scale presumably as result of steaming.

10- 7-1963 LWS

KE 0021393

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13 men on job

4 or more worked in tank for from 1 to 8 hours

4 were ill

1 died

Factors responsible:

1. Tank steamed
2. Leaking bottom
3. No respiratory protection
4. Fatal illness produced by eight hours of very hard work without mask.
5. Extremely high concentration of organic lead found in sludge.

11- 1-63 -

Lester W. Sanders, M.D.

KE 0021394

Samples of urine and blood received from men involved in cementing bottom in tank for the Continental Oil Company, (Dr. Schradin) Artesia, New Mexico.

Name	Urine			Blood				
	Analysis Number	Volume Ml.	Mg. Pb/L.	Analysis Number	Spectrographic		Dithizone	
					Weight Grams	Mg. Pb/100 g.	Weight Grams	Mg. Pb/100 g.
[REDACTED]	44A-6949	90	0.80	44A-6950	7.8	0.125	13.2	0.12
[REDACTED]	44A-6947	100	0.80	44A-6948			15.6	0.055
[REDACTED]	44A-6945*	100	0.13	44A-6946	12.9	0.065	14.8	0.070

*Specific gravity not taken, but urine was colorless indicating dilution.

Samples Collected: 12-14-44

Samples Received: 12-18-44

Samples Reported: 12-20-44

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