

SEWAREN, NEW JERSEY
SHELL OIL COMPANY

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PARK BRAND FOLDER
MEDIUM HEAVY WEIGHT

KE 0021220

N 24535

Shell Oil Company, Sewaren, N. J.
Tank-cleaning, Tank # 85

DEC. 12-19

Dear Roy:

On December 6 the New York Division office received a tank-cleaning notification from H.B. Quigley, Superintendent at Shell's Sewaren, N. J., terminal. Advice was given that tank-cleaning would begin and be made on December 7. Mr. Turnley requested this cleaning.

Accordingly I went to Sewaren on Tuesday, arriving at 8:45 A. M. Mr. Quigley was not being confined to his home with broken ribs and informed that a Mr. Gilman, plant engineer, would be in charge during Quigley's absence. I had a talk with him. During the cleaning operation I observed safety precautions during tank-cleaning operations. Mr. Gilman had attended a course in Safety at Rutgers University a couple of years before. He was thoroughly conversant with our regulations.

The tank in question, number 85, is two years old, a diaphragm roof type of 110,000 bbl. capacity. It has side manholes (diametrically opposite), and a roof manhole. Until a little over four months ago the tank was in burning oil service (kerosene, light fuel oil). At that time the tank was washed and pumped dry and put in gasoline storage service, 80 Octane. It is now a storage tank.

Beginning a week previous to December 7 the tank has been airing, aided by an electric eductor pump from the roof manhole. This pump or blower sucks air in through the side manholes and out the roof manhole at the rate of 3,000 cubic feet per hour. (On December 7 I was able to note the effectiveness of this circulation by movement of dust-motes in the sunlight into the manholes. A piece of Kleenex when held in the manhole tended to be drawn into the tank.) The air blower mentioned was in continuous operation through the week ending December 6th with the exception of a four-hour period from 4:00 P.M. to 8:00 P.M. when it was shut down for ventilation and cooling purposes. Prior to December

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tank had been washed with fire-hose from the outside pumped dry with a sludge pump five distinct times. reason for the tank-cleaning was the need for repair the diaphragm roof. The repairs to be done by the er, Chicago Bridgg and Iron, and involving the use welding apparatus. (see appended sketch.)

After this discussion with Gilman I met Mr. Z plant Safety man. Zehrner was to be in charge o assist in the tank-cleaning operation. He had man in charge of cleaning a leaded tank some two ye so he said, and was acquainted with our regulation the way to the tank he stopped to pick up safety eq and appeared with two canister masks. Before go further I handed him a copy of our regulations and out the tank-cleaning problem from A to Z, includin erence between lead-free and gas-free, reasons for gloves etc. Zehrner then exchanged the canister complete airline equipment including positive blowe lent hose and two masks. That morning Zehner sp 45 minutes in the tank with a high pressure hose. pump was in operation, sucking water and sludge. charge hose of the pump was placed in a pit five fe six feet square, with a step up to another pit of but only two feet deep. The heavy deposits settl pit and the liquid spilled over and across the shal a x short ditch which was connected to a drainage d through the property into a settling tank at the ed which flows into the river. In the afternoon tw were spent by Zehrner in hosing the sides and roof and then the men cleaned the rubber gear, changed c bathed. On leaving I mentioned that I could not what time I would appear the next day.

On Wednesday, December 8th, at Mr. Turnley' went to Hackensack in the early A.M. to be on ha a tank at Standard Oil Company of New Jersey's term This tank was to be repaired and put back into serv ly and was then in process of being cleaned. I at Sewaren to tell him that I would not be down the afternoon, and cautioned him along safety lines.

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that no work would be done on Tank 85 that day. entering the tank in Hackensack at 4:15 P.M., and leaving the Standard plant I called Gilman to tell I would have to go to Philadelphia on Thursday, December 1, and again could not definitely say what time I would be back at tank 85. He doubted that work would be done on the tank again on Thursday. I went to Philadelphia and observed construction changes in the piping at the aviation blending plant (8500, Philadelphia Yard) of the Standard Refining Company's Point Breeze refinery.

On Friday, at 8:30 A.M. I called Gilman at the Standard and ascertained that tank-cleaning would be done on Friday day. Since I had been requested to observe construction changes in Standard Oil Company of New Jersey's Bayonne aviation Ethyl fluid unloading lines, and I could not be certain just what time I would get to Sewaren I again called Gilman on the observance of our safety regulations.

The work at Bayonne lasted well into the afternoon and at 3:00 P.M. it became apparent that I could not get to Sewaren before work was stopped (3:30 P.M.). Accordingly I called Gilman again to check on the tank-cleaning. He informed that the job was almost completed and that I would be ready for my inspection the next morning (Saturday).

I drove to Sewaren Saturday morning, arriving at 9:00 A.M., to find Zehrner waiting for me at the Gate. We went right down to Tank 85. As we mounted the stairs I saw a man in ordinary work clothes emerge from the tank. I asked him who he was and what he was doing. He told me he was an electrician and was taking out a proof lamp which had been used in the tank on the previous day. I asked him if he knew that the tank had been in line for inspection had not yet been inspected, and knew that no one was allowed on such a tank without proper clothing and airline masks. The Ethyl engineer had declared the tank lead-free. I was strangely at Zehrner, and confessed his ignorance. I then quizzed Zehrner and he told me that three men had spent about 4½ hours cleaning the tank on Friday without masks of any sort. The only safety factor had

M. D. Ritchie

Westfield,

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boots, use of Company safety clothing (white) while
ing, and bath at the end of the work-day. Zehrner
then went on to explain that when Gilman requested
laborers for tank-cleaning on Friday, a Harry Miner
man of laboring department had automatically been asked
to supervise the work. That he (Zehrner) had explained
to Miner the need for airline equipment and rubber
but lacked necessary authority either to force them to
stop the work. That he feared to go over Miner's
because of jealousies and politics. That if Quigley
been on hand in the plant he could have appealed to

Zehrner then told me that Quigley had put in
ance at his desk this morning, and while I proceeded
ley's office Zehrner went off to seek Miner. Before
engage Quigley alone, Zehrner and Miner entered the
I asked Miner whether or not his men had worn masks
gloves during the tank-cleaning on Friday. He replied
affirmative. I then asked to speak to Quigley
and requested that Zehrner be asked to wait close by
asked Quigley either to get to the bottom of the re
or to ascertain where the three men in question could
so that I could talk with them. He stated that
to be at Tank #85 in ten or fifteen minutes time and
at liberty to speak with them. I went right to
found Miner and two men, Tirpak and Govolitz setting
blower and hosing. I took Miner aside and went
routine explanation of needs for our safety regulations
ceived his assurances that he would respect them in
Then I spoke casually to Tirpak and Govolitz and learned
neither masks nor gloves had been used on Friday,
roof air eductor had been in operation continuously
seemed in good spirits and discreet questioning elicited
plaints about health from either man. I was told
third man who had been exposed was a part-time employee
full time) who worked as a paid fireman in the Wood
fire department. Zehrner said that I could see
the firehouse in Woodbridge. Accompanied by Zehrner
incidentally is a volunteer member of the same fire
I went immediately to Woodbridge and we found our
reading in the firehouse lounge. For obvious

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my business connection nor the real purpose of our visit was disclosed. It was just a friendly visit to show me the firehouse. Messick, when led into discussing the previous day's work at Shell's plant, said that he had a funny taste in his mouth until a couple of hours past dinner on Friday, but that by the time he went to bed the taste had disappeared. He claimed to be in good health and expressed pleasure in the exercise gained during the tank-cleaning.

Within a half hour from the visit with Me I was back at the tank farm and there at Tank 85 found a man named Olsen grinding away at the MDA crouched about four feet inside the tank adjacent to the manhole. He complained of the wind and bit when I hauled them all out of the tank. Miner in a minute, coming around from the far side of the tank. He said he had left Olsen but a minute or two before and berated him for not following orders. I then asked Miner to explain to the three men why they were wearing masks, rubber gloves and boots, figuring to impress upon them his absorption of our previous talk and to impress upon them, at least, with the story coming from their friend. Miner did a good job. Then Miner entered the tank to gather up the two remaining buckets of material and changed my clothes, donning safety clothes, boots and rubber gloves and entered the tank. Inspection of the tank was found to be lead-free.

I saw to it that the sludge pit was covered and that the men cleaned boots gloves and hosing with water followed by kerosene and then warned them of the urgent necessity for a bath all round, not just on the face but at the end of every day of such cleaning.

I now went to Mr. Quigley's office, following a phone conversation with you, during which you impressed upon me the need for close observation of the exposure during the next five days. With Quigley I reviewed the whole affair and pointed out that our Medical

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might wish to examine the men who had been exposed. I emphasized the need for his setting up his organization in such a manner that there could be no possibility of a repetition of the foregoing events. Quigley claimed that these events could not have occurred if he had not been on sick-leave. That evening I responded, was exactly what he must take steps to guard against. He promised to co-operate in the investigation and stated that he was calling an immediate meeting of all persons involved in tank-cleaning and Ethyl activities. He promised to keep a close watch on Tirpak and Govolitz, and so arrange their work for a few days that he could speak to them several times. He would do the same in Messick's case on the day that Messick worked at the plant.

It is obvious that the reasons underlying the exposure of Messick, Tirpak, and Govolitz are the result of lack of and/or improper delegation of authority by Mr. Quigley. Zehrner, a safety man (ex-pipefitter foreman) was given authority to diagnose safety needs, but no power to stop work until remedies were applied. Gilman's authority reached to Miner in that he could assign him to work but could not specify how the job should be done. Zehrner, having been a foreman in charge of cleaning a tank in the past, and being by experience, as well as through our talk of Tuesday, well acquainted with proper safety procedures, nevertheless lacked the force of his convictions. Rather than inform Gilman of his co-operation, or call your office even, he backed weakly on the premise that he had fulfilled his duty when he cautioned Miner.

The circumstance of the five-time washing and sludging and the presence in operation of the air eductor together with the fact that the tank had been in short-time gasoline service and hence was comparatively clean was a fortunate combination.

I shall report further on this matter.

Very truly yours, *M. D. Ritchie*

KE 0021226

Repairs to be effected upon diaphragm roof of Tank
83, Shell Oil Company, Sewaren, N. J.

CA -- Welding of lower plate of roof overhang where cracks
developed due to breathing process of roof.

Installation of series of drains to carry condensate
roof overhang back into tank proper; from CA to
drain meets and enters tank-side.

Holes to be cut in roof at points between B and E
circumference, to facilitate installation of baffles
interior of lower roof or overhang plate.

KE 002122?