

Lead in scale from Tank #501, Gulf Refining Company, Toledo, Ohio. This tank was recently cleaned and then was dismantled for scrap.

Side Scale (Area of 100 sq. ft. or 12 sheets)

Analysis Number = 40A-3969
Sample total = 81 gms
Sample analyzed = 10.0 gms
Organic Pb = 0.0002% (0.2 mg/100 gms) ✓
Inorganic Pb = 0.38% (380 mg/100 gms)

Bottom Scale (Area of 100 sq. ft. or 6 sheets)

Analysis Number = 40A-3970
Sample total = 235 gms
Sample used = 10 gms
Organic Pb = 0.0005% (0.5 mg/100 gms) ✓
Inorganic Pb = 2.2% (2200 mg/100 gms)

Samples Received: 11-14-40

Samples Reported: 11-26-40

Study and read for each thought changed
Nov. 9, 1940

Dr. Robert Kehoe.

Dear Dr. Kehoe:

I am submitting two samples of scale scraped from bottom and side sheets of leaded gasoline storage tank, recently cleaned and then dismantled for scrap by the Gulf Refining Co., Toledo, Ohio.

The tank #501, of 55000 bbl. capacity had been used for the storage of leaded gasoline for the past six years and had not been cleaned during that time.

The method of cleaning was as follows. The tank was stripped of gasoline, then all of the remaining water was pumped off. High pressure steam was introduced through the bottom manhole for 84 hours, having the roof manhole open at all times. After the tank had cooled, one large roof sheet and two lower side sheets on opposite sides of the tank were removed. Two large pits 5' x 15' x 6' deep were dug on each side of the tank, the position being close to the tank where the side sheets had been removed so that the sludge and scale could be flushed directly into the pits. For two days, working about seven hours per day, the men standing on the outside flushed the tank with high pressure water, washing the sludge into the pits. The excess water was pumped from the pits through the refinery sewer to the refinery separator.

The third day, the men properly equipped entered the tank and washed down the scale from the roof, side sheets and superstructure and flushed this scale into the pits.

The fourth day all remaining scale and sludge was swept from around the base of the steel supports and the angle at the edge of the tank. This was flushed into the pits and again the entire tank was flushed with high pressure water for about an hour.

I then made an inspection and found the sides, bottom and especially the seams of the side and bottom sheets free of sludge.

The tank was cut down with a torch, first removing the roof sheets. The sides were cut vertically, that is from top to bottom, through the angle iron continuing across the bottom sheets until the cuts met. This left the sides with part of the bottom in six sections and these were then pulled to the ground and later cut into smaller sections six by fifteen feet and the inside surfaces then coated with oil.

After these sections were on the ground I was able to make a very close inspection and there appeared to be no more scale or sludge in the seams than on the sheets themselves.

RE 0022389

I took a sample, #1 of scale scraped from bottom sheets. This was scraped from six different sheets in various locations in the tank and represents the amount of scale possible to secure from an area of approximately one hundred square feet.

Sample #2 is from the side sheets. This was taken from twelve sheets, four each of first, second and third ring of the tank in various locations and also represents the amount of scale possible to secure from an area of approximately one hundred square feet.

This tank, I believe was as thoroughly cleaned as is possible with only the use of high pressure water. In pulling the superstructure, roof and side sheets down there was very little dust.

I have tried to give all of the information that might be needed and anything in addition I will be glad to supply if possible.

Very truly yours,

M. D. Siebenthaler

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