

Wright Aeronautical Corporation
Dr. John R. Meek



Reorder No. 1112-1/3

PARK BRAND FOLDER
HEAVY WEIGHT

and sumps over the tanks where gasoline
visited in the company of Mr. Davidson.

The tanks are apparently used
100, 91 and 62 octane gasoline, "Varsol",
trade-name of "a low grade petroleum nap
an "experimental fluid" of which they ha
but have none at present.

The odor of gasoline was evident
valve-house, and rather strong in the pl
operating area. There were visible leak
the area. Mr. C. Roby demonstrated one
get further exposure to gasoline fumes.
disc in the pipe leading from the filling
tank needs changing. This is accomplished
a long rubber hose to the drain-pipe lead
and leading the hose to a pillar. There
flooring around this pillar through which
but which is not large enough to allow t
hose to be inserted in it. When the dra
gallons of gasoline flowed through the
amount spilling on the floor at the entr
hose. I was informed that to empty the
75 gallons of gas are so discarded. The
region of the drainage crack was then wa
There is no forced ventilation to this

in the sump and get sufficient light to these covers are removed, a relatively f between the ambient and pit air can take ventilation.

The most apparent hazards is 1 areas, but in the pits over the storage tanks are on the north and south of each are about 48 in number. The top of each of a concrete chamber about 6x8x6 feet. chamber is through a man-hole about 3 fe the center of the top. The man-hole cov and does not seal the opening tightly.

These pits allow access to the leading to the storage tanks. About six pits were inspected, chosen at random. gasoline was strong - Roby and Albright fifteen minutes was the longest a man co in these pits without developing dizziness Albright stated that Roby was once overo pit, and had to be pulled out. Roby con Mr. Walker of the Safety Department stat of it.

The men enter these pits (dall Albright and Roby) to repair minor leaks procedure is to uncover the man-holes to

I spoke to Mr. Walker about the major leaks are repaired by a special crew doing the work wearing an air-line mask, by a manually operated Mine Safety Appli

The men use steel wrenches. It is noted that a year ago copper wrenches were used

Mr. Walker also stated that all work is done at intervals with an explosion meter to determine the frequency of the sampling and the re

Discussion

In the design of the pits above ground, safety against explosion and death from the fumes was to have been considered. The evidence is

- (1) The pits do not appear essential to tank operation.
- (2) Natural ventilation will not remove a sump of vapors heavier than air.
- (3) The "aqua" system, being a closed system, apparently uniformly allows gasoline into these areas.
- (4) The vapor pressure of gasoline is such that explosive concentrations are reached when free gasoline is in the sump.

men are to be believed, they uniformly
the concentration is such that it makes
minutes. (Possibly 0.3% can do this.)
they apparently violate established saf

It would appear to be relativ
to design precautions such that the sum
rendered free of dangerous concentratio
in the presence of small leaks, so that
pits without the use of air-line masks.

Conclusions

The sumps above the gasoline
are dangerous to life through explosion
of the potential and actual occurrence
of gasoline.

The present design of safety
both in theory and practice to control

From a standpoint of the expl
hazard, the best method of control woul
ground level to the top of the tanks an
cells on top of the tanks.

It would be relatively simple
establish a procedure in cleaning out t
that would be theoretically and practic

The first step in such an investigation is to select the men and determining if they have unexplained symptoms since their exposure began. This should be followed by weighing another group of men of comparable age, occupation, of industrial, social and economic exposure to the company, but with no significant exposure to the hazard. It would be of interest to us to have this study taken. It does not appear absolutely essential that this step to properly discharge the company's responsibility for the health of the workmen. This decision should be left to the company physicians.

We would appreciate all records and data on the gasoline concentrations in the air in the plant by the safety department.

Submitted by:

Henry W. Ryder, M.D.

Approved

September 12, 1944

Robert