Syntex Verona
Id#: MOD007452154
Break: 12.1
Other: [illegible]
N/D

RON - I SPENT MONDAY INVESTIGATING NEPACCO, & TO THE BEST OF MY JUDGEMENT & CALCULATIONS I CONCLUDE THE FOLLOWING:

1. APPROX. 100,000 GAL OF SOLUTION IS MISSING FROM TANK. AS OF DEC 27 WE HAVE THEM BILLED FOR 210,000 GAL & ONLY 101,500 GAL IS IN TANK (BASED ON CALC.). EVAPORATION COULD BE ONLY A FRACTION OF THIS LOSS. A CONTINUAL 1½ GPM LEAK EXISTS SOMEWHERE.
2. THE MOST LIKELY LEAK IS THRU THE JOINT @ INTERSECTION OF 1st & 2nd TRAPEZOID. IF THIS IS PROBLEM, IT COULD BE SEALED ONCE THE LEVEL DROPS TO EXPOSE JOINT

3. SOLUTION IS ENTERING WATER TABLE WHICH RAISED DUE TO LAST RAINS.

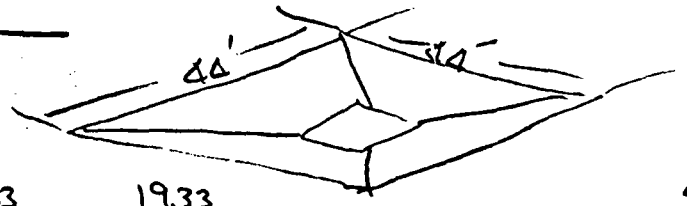
4. POSSIBLE ACTIONS
   a. CONTINUE AS NOW UNTIL TREATMENT PROCESS IS DEVELOPED
   b. GIVE 30 DAYS NOTICE SINCE POSSIBLE HAZZARD EXISTS. IF WE CAN CORRECT BEFORE 30 DAYS CONTINUE CONTRACT @ THAT TIME.

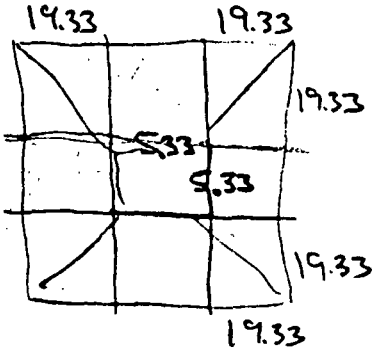
7 01388 71-1

BY JAN 30 WE WILL HAVE BILLED NEPACCO FOR APPROX. $8000.00 WHICH WE CAN JUSTIFY BY LABOR & RESEARCH MATERIAL.

40026898
SUPERFUND RECORDS

# 1st TRAPEZOID






$$\begin{array}{r} 44.00 \\ -\ 5.33 \\ \hline 2\,\big|\,38.67 \\ \hline 19.33 \end{array}$$

VOL: $\dfrac{38.67 \times 38.67 \times 5}{2} = 3760\ FT^3$

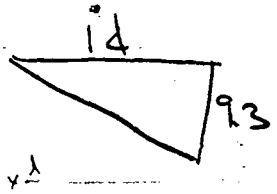
$5.33 \times 5.33 \times 5 = 142\ FT^3$

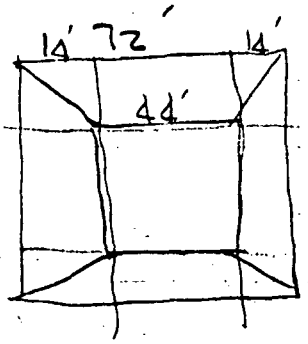
$\cancel{4}^{\,2} \times 5.33 \times \dfrac{19.33 \times 5}{\cancel{2}} = 1030\ FT^3$

$4932\ FT^3$

$7.4\ GAL/FT^3 \therefore 4932 \times 7.4 = \underline{36{,}500\ GAL}$

# 2nd TRAPEZOID




h = 9'-4"

$$\begin{array}{r} 72 \\ 44 \\ \hline 28 \end{array}$$

100

$4 \times 10^2 \times 4$

1600

$\dfrac{28 \times 28 \times 9.33}{2} = 3650\ FT^3 = 3{,}650$

360
60
600
9600

$44 \times 44 \times 9.33 = 18{,}000\ FT^3 = 18{,}000$

2500

$4 \times 44 \times \dfrac{14 \times 9.3}{2} = 11{,}450\ FT^3 = 11{,}450$

$33{,}100\ FT^3$

160 x 60

600

$33{,}100 \times 7.4 = \underline{244{,}000\ GAL}$

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3rd SQUARE

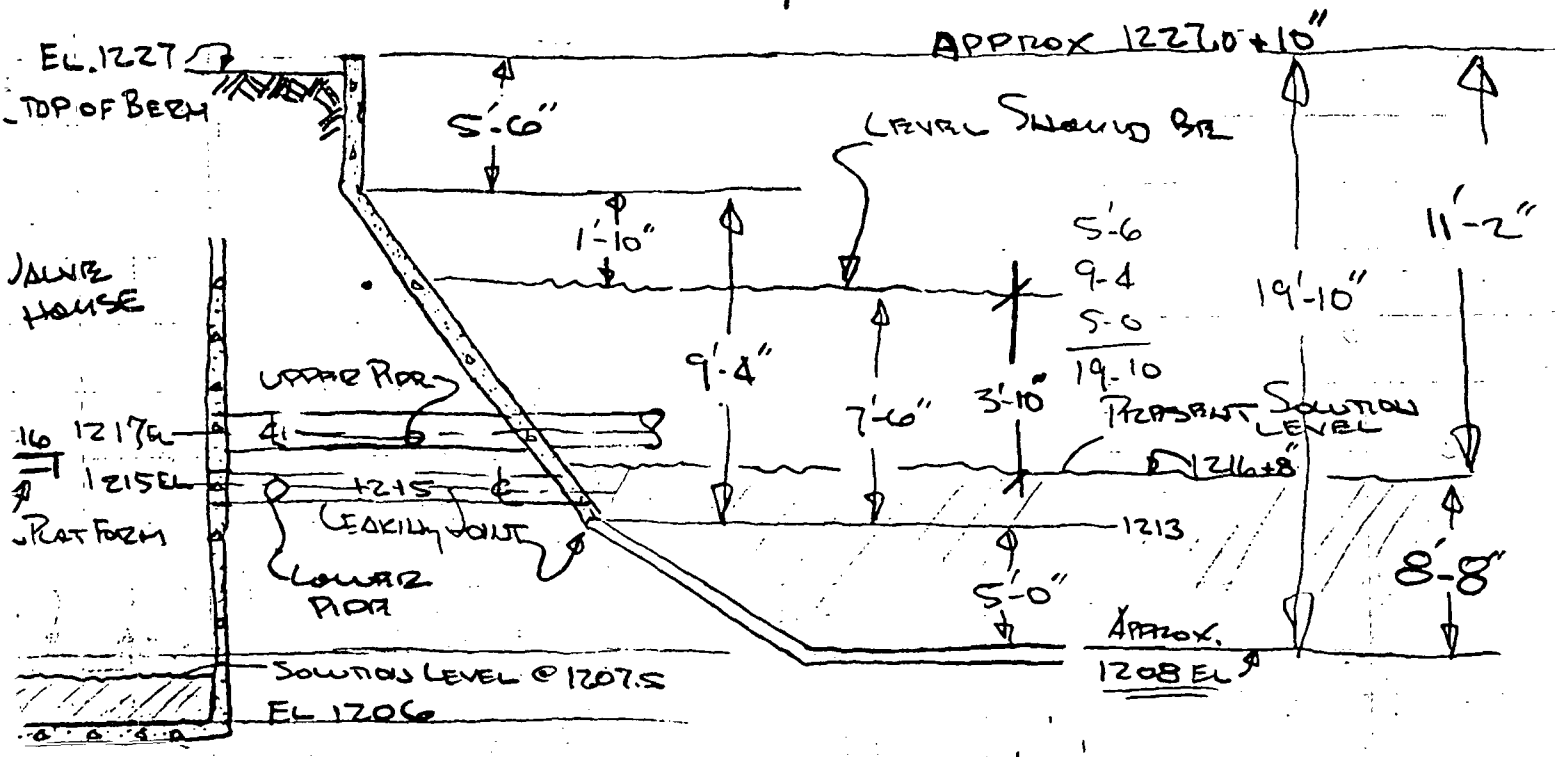
72 x 72 x 5.5 = 28,600 FT³

250 x 10²

28,600 x 7.4 = 212,000 GAL

∴ TOTAL CAPACITY = 36,500
244,000
212,000
492,500 GAL

AS OF DEC. 27, 1971 TOTAL OF 210,000 GAL WAS PLACED IN TANK. (BASED ON BILLING)




1227-12
19-10
1208 2

GROUND ELEVATION @ BASE OF TANK
APPROX 1216

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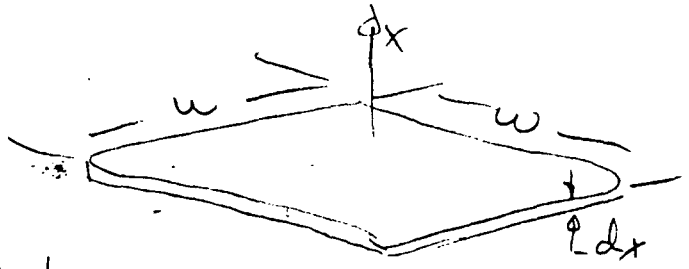
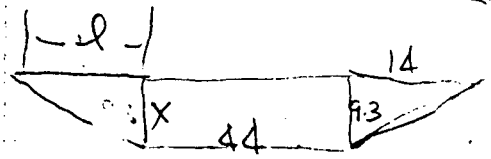
210,000
− 36,000
174,000 GAL IN 2nd TRAPEZOID




$\frac{14}{9.3}x$

$w = 44 + 2\left(\frac{14}{9.3}x\right) = 44 + \frac{28}{9.3}x$

$w =$

$dV = w^2 dx = 44 +$

$dV = \cancel{44+44x}\ (44)^2 + 4(44)\left(\frac{14}{9.3}x\right)\frac{x}{2} + 2\left(\frac{14}{9.3}x\right)^2 x$

where $w = 44 + 2l$ & $l = \frac{14}{9.3}x$

$\therefore w = 44 + \frac{28x}{9.3}$

$w^2 = (44 + 3x)^2 = (44)^2 + 2(44 \cdot 3x) + 9x^2$

4 $dV = \left[(44)^2 + 264x + 9x^2\right]dx$

$x^3$
$3x^2 dx$

$V = \int 1930\,dx + \frac{1}{2}\int 264(2)x\,dx + \frac{1}{3}\int 9(3)x^2\,dx + C$

$= 1930x + \frac{264}{2}x^2 + \frac{9}{3}x^3 + C$

WHEN $x = 0$ $V = 0$ $\therefore C = 0$

$\therefore V = 1930x + 132x^2 + 3x^3$

WHEN $x = 9.3$

$V = 1930 \times 9.3 + 132(9.3)^2 + 3(9.3)^3$

$\underline{18{,}000} + \underline{11{,}400} + \underline{2{,}420}$

TOTAL VOLUME = 18,000
11,400
2,420
31,820 WHICH IS CLOSE

PROBABLY OFF BY $\frac{28}{9.3}$ FACTOR ERROR

$\therefore$ 174,000 IN TRAPEZOID WOULD MAKE X:

$\frac{174{,}000}{7.4} = 23{,}500 \text{ FT}^3$

$\begin{array}{r} {}^{1}49 \\ 20 \\ \hline 980 \end{array}$

$\therefore 23{,}500 = 1930x + 132x^2 + 3x^3$

IF $x = 7'$ THEN $13{,}500 + 6{,}500 + 1030$

$= \begin{array}{r} {}^{1}13500 \\ 6{,}500 \\ 1{,}030 \\ \hline 21{,}030 \end{array}$

$\begin{array}{r} {}^{1}14500 \\ 7420 \\ 1260 \\ \hline 23180 \end{array}$

THUS WOULD BE IN EXCESS OF 7'

IF $x = 7.5$ $14500 + 7420 + 1260 = 23180'$

$\therefore$ SHOULD BE 7'-6" ABOVE BOTTOM OF TRAPEZOID

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~~OCT 1 - 1800~~ ~~NOV. - 2,000~~ OCT. - $1875 NOV. - $2125

(5)

VERY LITTLE LOSS TO EVAPORATION —
1st LOAD AROUND OCT 1 ∴ TO JAN 1 - 3 NO.
OR 90 DAYS @ 1/4" PER DAY EVAPORATION & NOT
CONSIDERING RAIN

$$\frac{90}{4} = 22.5 \text{ say } 24'' \text{ OR } 2' \text{ LOSS.}$$

EVAPORATION OF CONTAINER @ TOP WAS MAX. OF
1" IN 3 WKS TO 1 NO. (∴ THIS DOES NOT HAVE
OIL FILM & INCLUDES RAIN FALL. THUS MAX
LOSS DUE TO EVAPORATION COULD NOT BE
MORE THAN 6". AS OF JAN 1, LOSS OF TANK IS
3'-10".

VOLUME IN TANK AT THIS TIME
8'-8" - 5'-0" = 3'-8" = 3.6 FT IN 2nd TRAPEZOID
THUS VOL. IN 2nd TRAPEZOID —

$$V = 1930x + 132x^2 + 3x^3$$

IF $x = 3.6$

$$V = 1930(3.6) + 132(3.6)^2 + 3(3.6)^3$$

$$6950 + 1710 + 140$$

$$= 1710$$
$$140$$

$$8{,}800 \text{ FT}^2 = 8{,}800 \times 7.4 = 65{,}000 \text{ GAL}$$

LOWER TRAPEZOID 36,500 GAL

TOTAL IN TANK AS OF DEC. 27 → 101,500 GAL

TOTAL BILLING AMOUNT 210,000 GAL
− 101,500 GAL
108,500 GAL UNACCOUNTED FOR

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PROBABLY JOINT @ 1st & 2nd TRAPEZOID IS LEAKING, ALLOWING SOLUTION TO ENTER SOIL DOWN TO WATER TABLE. WITH LAST RAIN, WATER TABLE RAISED TO 1206 + 1.5 OR 1207.5 ELEVATION. THIS PLACES WATER 18" ABOVE 1206 EL FLOOR OF VALVE HOUSE. WATER TABLE IS RATTRING THRU FLOOR SUMP.

216,000 IN 4 MO OR 16 WK = 13,000 GAL/WK
− 36,500 @ 3rd WK

173,500 GAL OVER 3 MO. PERIOD

$\frac{173,500}{90}$ = 1920 GAL/DAY LOSS

OR $\frac{1920}{24}$ = 77 GAL/HR

OR **1.3 GPM LOSS**

NOTE: (1) WATER LEVEL IN VALVE HOUSE REMAINS RELATIVELY CONSTANT @ 18" @ THIS PARTICULAR TIME & QUICKLY RETURNS TO THIS LEVEL ONCE PUMPED OUT. THIS INDICATES WATER IS FROM WATER TABLE ~~& NOT~~ OUTSIDE BLDG

(2) WATER LEVEL IN VALVE HOUSE IS BELOW BOTTOM OF NEPACCO.

(3) WATER LEVEL IN PRIMARY CLARIFIER IS @ 1209 THE APPROX WATER TABLE INDICATED @ VALVE HOUSE. WATER CAN BE OBSERVED FLOWING

(4) LEAKAGE FROM TANK IS FROM LOWER PIPE @ SOME POINT UNDER GROUND, THRU WALLS OF TANK OR THRU VALVE IN VALVE ROOM.

a. IF LEAKAGE IS FROM PIPE UNDERGROUND COULD DIG TO CONFIRM. & PIPE COULD BE SPACED OR CAPPED. THIS COULD ACCOUNT FOR PHENOL IN VALVE ROOM.

b. IF LEAK IS THRU WALLS, COULD FURTHER CONFIRM BY DIGGING. REPAIR WOULD REQUIRE DRAINING TANK, & SPALLING.

c. IF VALVE IS CRACKING, PHENOL SHOULD SHOW UP IN SYSTEM. VALVE COULD BE PLUGGED.

(5) RECOMMENDATIONS —

~~GIVE HRPACCO 30 DAYS NOTICE SINCE WE THIS P~~

a. FIND ALTERNATE RESERVOIR

b. CONTINUE AS IS

c. GIVE HRPACCO 30 DAYS NOTICE SINCE A POTENTIAL HAZARD POSSIBLY EXISTS. IF WE CAN CORRECT SITUATION BEFORE 30 DAYS THEN @ THAT TIME CONTINUE WITH CONTRACT. ~~[illegible]~~

tank

COST ESTIMATE FROM BOWLER

LARGE TANK (DIGESTOR) ROOFING TAR & JOINTS

| | |
|---|---|
| CLEAN JOINTS: 2 MEN FOR 2 DAYS @ 25.00/DAY EACH | $50.00 |
| JACK HAMMER @ 6.00/HR | |
| f/2 DAYS | $96.00 |
| | $146.00 |
| SEALING JOINTS | 150.00 |
| | $296.00 |

CLARIFIER - USE MASTIC

| | |
|---|---|
| 2 MEN f/2 DAY @ 25.00/DAY = | 50.00 |
| MATERIAL | 50.00 |
| MISC | 100.00 |
| | $200.00 |

TOTAL $596.00

THIS WOULD ONLY BE A TEMPORARY FIX
PROBABLY WOULD NOT HOLD FOR MORE THAN YR

| | |
|---|---|
| INSTALLATION OF TRANSFER PUMP (FROM NEPACCO) | $100.00 |
| RENTAL OF PORTABLE PUMPS | 50.00 |
| MISC | 200.00 |
| TOTAL COST | 950.00 |

Say $1000.00 TOTAL COST

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BOWLER - GL-1-1781

IND. EQUIPMENT RENTAL

150,000 GAL TOTAL TO BE REMOVED
15,900 GAL/HR @ 10' LIFT. COST $600.00

A TO Z RENTAL 781-2200 ~~[illegible]~~
PORTABLE PU 150,000 GAL

"NEPACCO"

2" GASOLINE PUMP
7,000 /HR

$4.00 /HR 12.00/DAY

A TO Z HAS 2 EACH 2" GASOLINE PUMPS
RATED @ 7,000 GAL /HR THEY RENT $12.00/DAY EA.
2"

$50.00

1-~~[illegible]~~-498-6655

~~[illegible]~~ 3x2 3Φ 3HP MOTOR ON BASE

NEXT WK 02 2MO. - ON POSSIBLY CLOSE PLANT
SHUT DOWN

$\frac{100,000}{7.4} = 13,500 FT^3$ W/ SOIL CAPACITY OF .1

∴ 135,000 $FT^3$ COULD BE SATURATED

70' WIDE × 10' DEEP = 700 $FT^2$

$\frac{135,000}{700} = 193$ FT

SAY A VOLUME THE WIDTH OF TANK (70')

10' DEEP & 200 FT LONG

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40' × 40' × 2 = 3,200 $FT^3$

(1) FIND STRENGTH OF NEDACCO SOLUTION IN VALVE ROOM & IN TANK.

7 01338