

CHAMBERS

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Hene

Are the air emissions the same?

~~Check~~
Lab for plant

BLG 1163

① Du Don: Bldg 1163

② Env. Treatment

③ STRIPPER??

④ Recycling (20%-25%) from woks
and building 1205 (one scrubber stack)
and 1156 (Telomer)
Shopper

LAB: #samples

Shimizu

1. Save project as ~~Shimizu~~

C:\shimizu\shimizu.dat

(verify)

Output file = C:\shimizu\shimizu.lst

2. TOOLS

↳ Import DXF file } import map

ROTATION = NORTH 99° (rotate so North is up)

REF POINT

DXF X & Y → mouse click

Coord X & Y → 0,0

CONTROL OPTIONS

3. FLAT TERRAIN

Disp / Avg. : annual
concentration (not dep.)

URBAN

4. Met data

→ check anemometer

5. output options

enter Buildings

enter all sources

Run BPIP ~~WORK~~ ANALYSIS

Boundary
50m

Add receptor
distance 100m

All receptors
"Generate"

51x51

pg 9-25 an disp manual

URBANI PRIME
RURAL PRIME
RFB

$$h_c = H_b \{ 1 + 1.6 \exp[-1.3 (L_a/H_b)] \}$$

h_c = cavity height

H_b = Building ht = 23.9 m

L_a = along wind building length = 17 meters

$$h_c = 39 \text{ m}$$

$$\frac{L_a}{H_b} = \frac{17}{23.9} = .71$$

$$\text{cavity length } \left(\frac{L_a}{H_b} < 2 \right) = \frac{(A)W}{[1 + B(W/H_b)]} = X_r$$

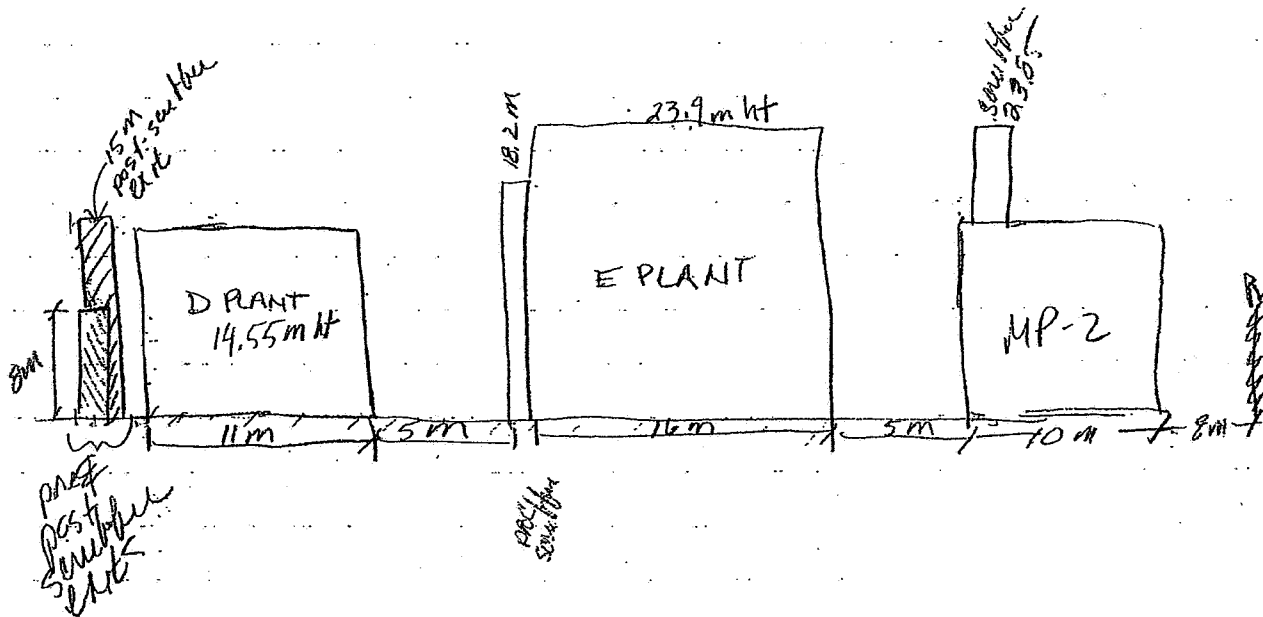
$$L_a = 17$$

$$W = 37.5 \text{ m}$$

$$A = -2 + 3.7(.71)^{-1/3} = 2.15$$

$$B = -.15 + .305(.71)^{-1/3} = .19$$

$$X_r = \frac{(2.15)(37.5)}{[1 + (.19)(\frac{37.5}{23.9})]} = 62.11 \text{ m} = X_r$$



Effects of 9m stack

- $3 \times (14.55) = \text{cavity effect} = 43.65 \text{ m}$

- wake region = 43.65 m to 145.5 m

CAB000315

EID719387

rural & town > urban

SHIMIZU WORST Conditions	USING INCORRECT EMISSIONS LOCATION OF MIXING	MAX CONC
97, Urban	82.5, -25.4	9.073 $\mu\text{g}/\text{m}^3$
97, Urban no scrubber	82.5, -25.4	35.45 $\mu\text{g}/\text{m}^3$
98, Urban	82.5, -25.4	9.689 $\mu\text{g}/\text{m}^3$
WORST * 99, Urban	82.5, -25.4	10.556 $\mu\text{g}/\text{m}^3$
BEST OF WORST 99, Urban ALL scrubber?		

SHIMIZU Method

- ① Save project as c:\SHIMIZU\SHIMIZU.DAT
- ② Verify output file = c:\SHIMIZU\SHIMIZU.LST
- ③ TOOLS
 - ↳ Import DXF file } IMPORT MAP
 - (i) Scale
 - (ii) Rotate so NORTH ARROW IS UP → 99°
 - (iii) Establish reference pt
DXF X and Y → use mouse to click on point
- Set COOR X and Y = 0,0
- ④ CONTROL OPTIONS - FLAT, ANNUAL AVE, URBAN
- ⑤ ^{IMPORT} MET DATA * CHECK ALL HT
- ⑥ OUTPUT OPTIONS
- ⑦ Enter buildings
- ⑧ Enter all sources
- ⑨ Load BIP (analysts)
- ⑩ Add receptors
 - for active (building) receptors use some
 - of "generic"
 - for passive receptors use (1 x 100000)
 - 5151

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Assume
pre-
scrubbed
flourish
constant

Bounding example:

- (1) Assume scrubbed runs all time
- (2) Assume scrubbed never runs

Assume scrubbed runs all time
subtle change

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CRP-711/2214

~~Tanaka-san~~

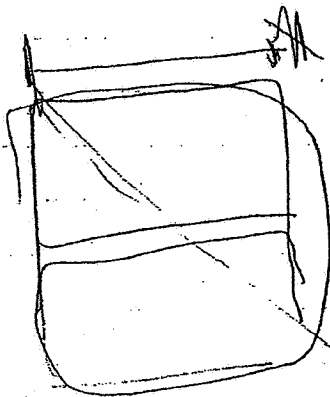
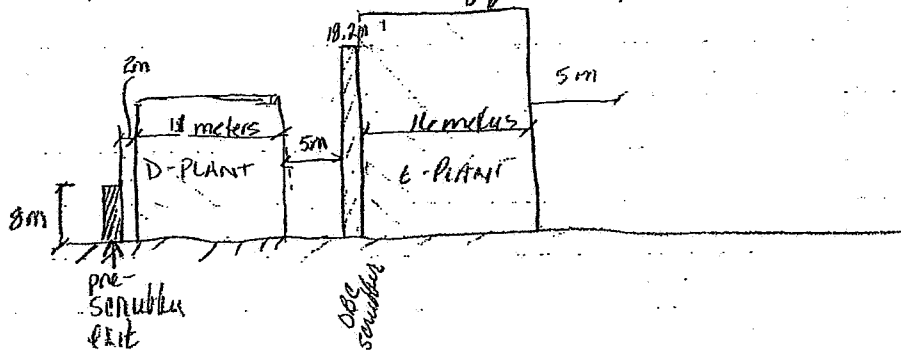
~~Shibata-san~~

~~DBR~~

Rule: If stack is 2.5x height of nearby building emitted effluent will be free of resulting building downwash.

E PLANT = 23.9 meters ; required stack height 60m
AO scrubber exit & pre-scrubber exits affected

DBO scrubber affected
MP-2 scrubber affected

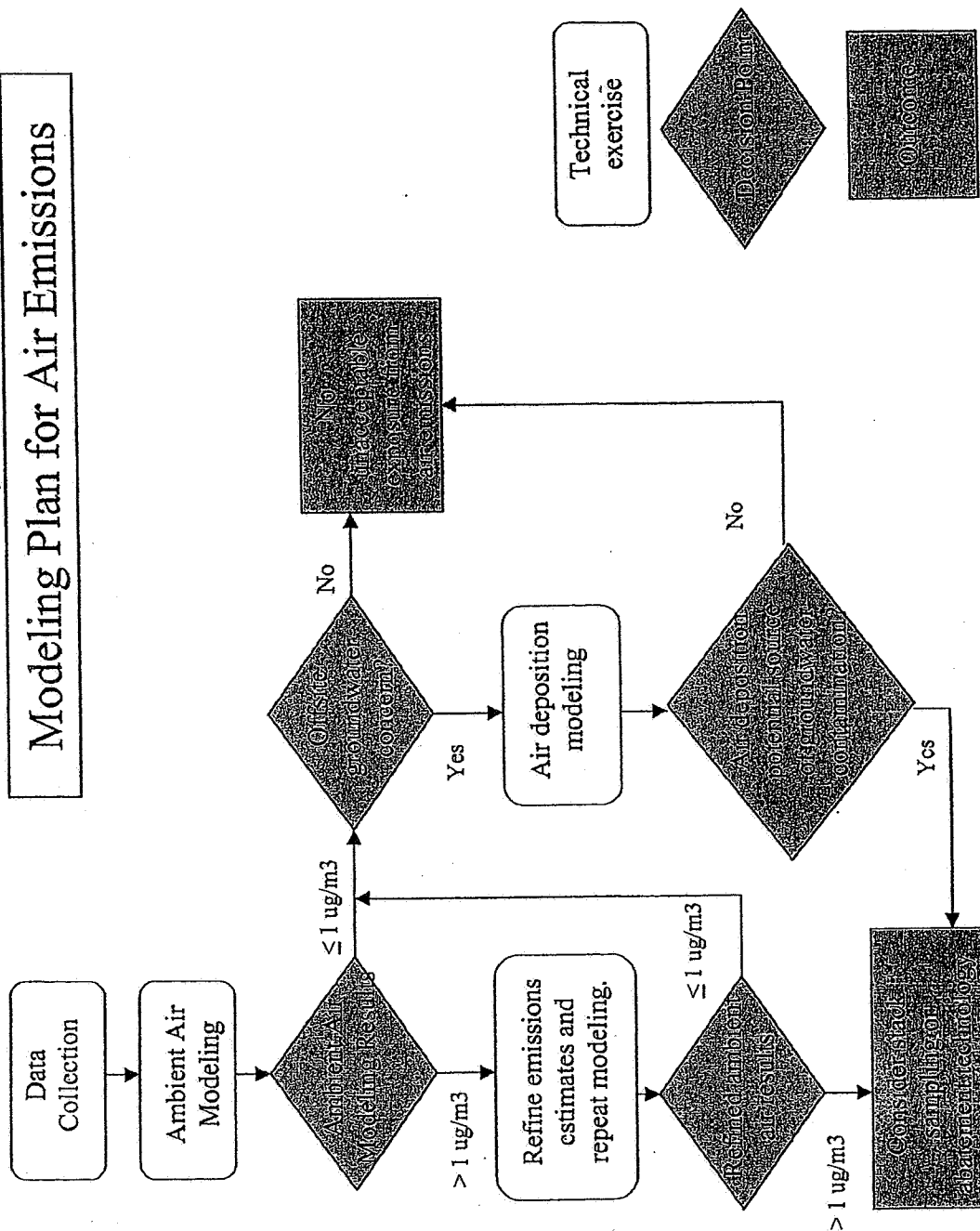


$\sqrt{32^2 + 38^2}$

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Modeling Plan for Air Emissions



April - May

CAB000345

EID719391