



FAX COVER PAGE

DATE: 4/10/97 PROJECT NO. _____

TO: Amy Leach FAX NO. _____

FROM: Ray Kaminsky

NUMBER OF PAGES: 2 (including cover page)

COMMENTS: John Young asked me to send a copy of Table 3
from the RBCA report for the former Merritt Tier Sales
site to you.

The font is rather small, let me know if you
need a copy mailed to you.

Please check one of the boxes below:

Original will follow by: Regular mail Federal Express Other _____

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1921 Ringwood Avenue, San Jose, California 95131

RBCA TIER 1/TIER 2 EVALUATION

Table 3

Site Name: Goodyear
Site Location: Castro Valley

Job Identifier:
Date Completed: 1/22/97
Completed By: EMCON

Software: GSI RBCA Spreadsheet
Version: v 1.0

NOTE: values which differ from Tier 1 default values are shown in bold (italics and underlined).

DEFAULT PARAMETERS

Exposure Parameter	Definition (Units)	Residential		Commercial/Industrial		
		Adult	(1-6yrs)	(1-16 yrs)	Chronic	Construction
ATc	Averaging time for carcinogens (yr)	70				
ATn	Averaging time for non-carcinogens (yr)	30	8	16	25	1
BW	Body Weight (kg)	70	15	35	70	
ED	Exposure Duration (yr)	30	6	15		
EF	Exposure Frequency (days/yr)	350			250	1
EF _{derm}	Exposure Frequency for dermal exposure	350			250	180
IR _{gw}	Ingestion Rate of Water (l/day)	2			1	
IR _s	Ingestion Rate of Soil (mg/day)	100	200		50	100
IR _{ad}	Adjusted soil ing. rate (mg/yr/kgbw)	1.1E+02			3.4E+01	
IR _{in}	Inhalation rate indoor (m ³ /day)	15			20	
IR _{out}	Inhalation rate outdoor (m ³ /day)	20			20	10
SA	Skin surface area (dermal) (cm ²)	5.8E+03	2.0E+03		5.6E+03	5.8E+03
SA _{adj}	Adjusted dermal area (cm ² /yr/kg)	2.1E+03			1.7E+03	
M	Soil to Skin adherence factor	1				
AA _F	Age adjustment on soil ingestion	FALSE			FALSE	
AA _{Fc}	Age adjustment on skin surface area	FALSE			FALSE	
lor	Use EPA tox data for soil for PEL based?	TRUE			FALSE	
gwMCL?	Use MCL as exposure limit in groundwater?	FALSE				

Matrix of Exposed Persons to

Complete Exposure Pathways	Residential		Commercial/Industrial	
	Groundwater Pathways:		Chronic	Construction
GW _i	Groundwater Ingestion	FALSE	FALSE	
GW _v	Volatilization to Outdoor Air	FALSE	TRUE	
GW _b	Vapor Intrusion to Buildings	FALSE	FALSE	
Soil Pathways				
S _v	Volatiles from Subsurface Soils	FALSE	TRUE	
SS _v	Volatiles and Particulate Inhalation	FALSE	FALSE	FALSE
SS _d	Direct Ingestion and Dermal Contact	FALSE	FALSE	FALSE
S _i	Leaching to Groundwater from all Soils	FALSE	FALSE	
S _b	Intrusion to Buildings - Subsurface Soils	FALSE	FALSE	

Matrix of Receptor Distance and Location on- or off-site

	Residential		Commercial/Industrial	
	Distance	On-Site	Distance	On-Site
GW		TRUE		TRUE
S		TRUE		TRUE

Matrix of Target Risks

Target Risks	Individual		Cumulative
TR _{ab}	Target Risk (class A&B carcinogens)	1.0E-05	
TR _c	Target Risk (class C carcinogens)	1.0E-05	
THQ	Target Hazard Quotient	1.0E+00	
Opt	Calculation Option (1, 2, or 3)	1	
Tier	RBCA Tier	1	

Parameters	Definition (Units)	Commercial/Industrial		
		Residential	Chronic	Construction
I	Exposure duration (yr)	30		
A	Contaminated soil area (cm ²)	2.2E+06	25	1
W	Length of affected soil parallel to wind (cm)	1.5E+03		1.0E+03
W _{gw}	Length of affected soil parallel to groundwater (cm)	1.5E+03		1.0E+03
U _{air}	Ambient air velocity in mixing zone (cm/s)	2.3E+02		
delta _s	Air mixing zone height (cm)	2.0E+02		
L _{so}	Definition of surficial soils (cm)	1.0E+02		
Pe	Particulate steel emission rate (g/cm ² /s)	2.2E-10		

Groundwater

Parameters	Definition (Units)	Value
delta _{gw}	Groundwater mixing zone depth (cm)	2.0E+02
I	Groundwater infiltration rate (cm/yr)	3.0E+01
U _{gw}	Groundwater Darcy velocity (cm/yr)	2.5E+03
U _{gw<tr< sub=""></tr<>}	Groundwater Transport velocity (cm/yr)	6.5E+03
K _s	Saturated Hydraulic Conductivity (cm/s)	
grad	Groundwater Gradient (cm/cm)	
Sw	Width of groundwater source zone (cm)	
Sd	Depth of groundwater source zone (cm)	
BC	Biodegradation Capacity (mg/L)	1.6E+00
BIO?	Is Bioattenuation Considered	FALSE
phi _{eff}	Effective Porosity in Water-Bearing Unit	3.8E-01
loc _{oc}	Fraction organic carbon in water-bearing unit	1.0E-03

Soil

Parameters	Definition (Units)	Value
hc	Capillary zone thickness (cm)	5.0E+00
hw	Vadose zone thickness (cm)	3.0E+02
rho	Soil density (g/cm ³)	1.7
loc	Fraction of organic carbon in vadose zone	0.01
phi	Soil porosity in vadose zone	0.38
L _{gw}	Depth to groundwater (cm)	3.0E+02
L _s	Depth to top of affected soil (cm)	1.0E+02
L _{sub}	Thickness of affected subsurface soils (cm)	2.0E+02
pH	Soil/groundwater pH	6.6
		capillary vadose foundation
phi _w	Volumetric water content	0.342
phi _a	Volumetric air content	0.038
		0.12 0.12 0.26

Building

Parameters	Definition (Units)	Residential	Commercial
L _b	Building volume/area ratio (cm)	2.0E+02	3.0E+02
ER	Building air exchange rate (h ⁻¹)	1.4E-04	2.3E-04
L _{crk}	Foundation crack thickness (cm)	1.5E+01	
ite	Foundation crack fraction	0.01	

Dispersive Transport

Parameters	Definition (Units)	Residential	Commercial
Groundwater			
ax	Longitudinal dispersion coefficient (cm ²)		
ay	Transverse dispersion coefficient (cm ²)		
az	Vertical dispersion coefficient (cm ²)		
Vapor			
d _{cy}	Transverse dispersion coefficient (cm)		
d _{cz}	Vertical dispersion coefficient (cm)		

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