Jet Propulsion Laboratory

MW-1 0.07
MW-2
MW-3 2.1
MW-4 8.5*
MW-5 0.64
MW-6 1.2
MW-7 193*
MW-8 6.3*
MW-9 0.22
MW-10 3.2*
MW-11 0.51
MW-12 8.9
MW-13 47*
MW-14 1.3
MW-15 0.18
MW-16 222*
MW-17 7.6*
MW-18 2.9*
MW-19 0.89
MW-20 1.7
MW-21 2.4*
MW-22 1.1
MW-23 1.5
MW-24 65*
MH-01

La Canada Irrigation District Wells
Well #1: 0.006
Well #6: Not in Service

Valley Water Company Wells
Well #3: 0.9
Well #2: 1.1
Well #4: 1.3
Well #1: 1.5

City of Pasadena Arroyo Well 20*

City of Pasadena Well 52 3.1*

City of Pasadena Ventura Well 0.71

City of Pasadena Windsor Well 0.09

Lincoln Ave. Water Co. Well #3 3.5*

Lincoln Ave. Water Co. Well #5 1.7

Las Flores Water Co. Well #2 1.3

Rubio Cañon Land and Water Co. Wells
Well #4: 0.71
Well #7: 0.41

Oak Grove Ranger Station

Devil's Gate Reservoir

PREDOMINANT GROUNDWATER FLOW

GOULD AVE
HAMPTON RD
CROWN
VIRO RD
OAK GROVE DR
Spreading Grounds
CASITAS AVE
WINDSOR AVE
LINCOLN AVE
ALTADENA DR
HARRIET ST
MARIPOSA DR
VENTURA ST
FIGUEROA
CROSBY STREET

NOTE:

MAP DEPICTS OVERESTIMATION OF HYPOTHETICAL RISKS ASSOCIATED WITH EXPOSURE TO UNTREATED GROUNDWATER.

GROUNDWATER IS ROUTINELY MONITORED AND TREATED, IF NECESSARY, TO MEET STRINGENT DRINKING WATER STANDARDS BEFORE BEING USED.

Explanation

- JPL Shallow Monitoring Wells
- JPL Deep Multi-Port Monitoring Wells
- Municipal Production Wells
- City of Pasadena Monitoring Well
- * Target organ hazard index >1.0
- ? Extent of contour interval uncertain
- JPL Thrust Fault

- Hazard Index above 100
- Hazard Index between 10 and 100
- Hazard Index between 5.0 and 10.0
- Hazard Index between 1.0 and 5.0
- Hazard Index less than 1.0

Note: Distinctions between concentration (color) contours may become less clear in black and white photocopies. Refer to the original color figure for best resolution.

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800 400 0 800
SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 6-4

ISOPLETH MAP OF TOTAL HYPOTHETICAL NON-CARCINOGENIC RISKS

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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MW-1 N/A
MW-7 2.2E-03
MW-16 1.4E-03
MW-11 1.1E-05
MW-15 N/A
MW-24 5.2E-04
MW-9 N/A
MW-6 4.6E-06
MW-8 5.0E-05
MW-22 3.2E-06
MW-13 5.5E-04
MW-12 1.6E-04
MW-14 3.1E-06
MW-3 1.1E-04
MW-18 1.2E-04
MW-2
MH-01
MW-23 5.3E-06
MW-4 7.7E-05
MW-10 1.3E-05
MW-5 N/A
MW-17 8.5E-05
MW-19 1.0E-05
MW-20 7.3E-05

La Canada Irrigation District Wells
Well #1: 1.4E-06
Well #6: N/A

Valley Water Company Wells
Well #3: 3.6E-05
Well #2: 6.7E-05
Well #4: 9.8E-05
Well #1: 1.3E-04

City of Pasadena Arroyo Well 6.8E-05

City of Pasadena 2.2E-05

City of Pasadena Ventura Well 2.7E-06

City of Pasadena Windsor Well 3.7E-06

Lincoln Ave. Water Co. Well #3 3.3E-05

Lincoln Ave. Water Co. Well #5 1.4E-05

Las Flores Water Co. Well #2 6.5E-05

Rubio Cañon Land and Water Co. Wells
Well #4: N/A
Well #7: N/A

PREDOMINANT GROUNDWATER FLOW

Oak Grove

Oak Grove Park

Devil's Gate Reservoir

GOULD AVE
HAMPTON RD
CROWN
VIRO RD
OAK GROVE DR
LINCOLN AVE
ALTADENA DR
MARIPOSA
WINDSOR AVE
FIGUEROA
CROSBY STREET

#1 #2 #3 #4 #6 #7

NOTE:

MAP DEPICTS OVERESTIMATION OF HYPOTHETICAL RISKS ASSOCIATED WITH EXPOSURE TO UNTREATED GROUNDWATER.

GROUNDWATER IS ROUTINELY MONITORED AND TREATED, IF NECESSARY, TO MEET STRINGENT DRINKING WATER STANDARDS BEFORE BEING USED.

Explanation

- JPL Shallow Monitoring Wells
- JPL Deep Multi-Port Monitoring Wells
- Municipal Production Wells
- City of Pasadena Monitoring Well
- N/A — No carcinogenic compounds detected
- ? — Extent of contour interval uncertain

- > 1.0E-03
- > 1.0E-04 TO < 1.0E-03
- > 1.0E-05 TO < 1.0E-04
- > 1.0E-06 TO < 1.0E-0.5

Note: Distinctions between concentration (color) contours may become less clear in black and white photocopies. Refer to the original color figure for best resolution.

N

800 400 0 800
SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 6-5

ISOPLETH MAP OF TOTAL HYPOTHETICAL CARCINOGENIC RISKS

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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Continue

Jet Propulsion Laboratory
CCl4:2.0E-03
CCl4:1.2E-03
CCl4:4.0E-04
As:7.7E-05
CCl4:9.2E-06
Chlor:1.6E-06
MW-7
MW-16
MW-1
MW-15
NA
MW-9
NA
MW-11
MW-24
MW-22
MW-6
PCE:4.6E-06
PCE:3.2E-06
MW-13
MW-8
MW-12
CCl4:1.6E-04
CCl4:2.2E-04
CrVI:2.6E-04
CCl4:4.3E-05
As:9.2E-05
MW-14
PCE:1.8E-06
Chlor:8.6E-07
MW-23
CCl4:4.9E-05
TCE:9.6E-06
DCE:2.0E-06
MW-3
MH-01
MW-4
MW-2
TCE:2.7E-06
PCE:1.5E-06
Chlor:9.7E-07
CCl4:6.2E-05
City of Pasadena Arroyo Well
MW-18
CCl4:1.8E-05
TCE:1.9E-05
As:6.3E-05
CrVI:1.9E-05
MW-10
MW-5
CCl4:1.8E-05
TCE:5.1E-06
CCl4:2.2E-05
TCE:2.2E-05
CrVI:2.1E-05
Chlor:1.5E-05
TCE:5.1E-06
PCE:5.1E-06
Chlor:2.6E-06
City of Pasadena Well 52
Lincoln Ave. Water Co. Well #3
MW-17
CCl4:1.5E-05
TCE:1.5E-05
Oak Grove Ranger Station
MW-21
TCE:8.7E-06
PCE:8.6E-06
City of Pasadena Ventura Well
TCE:1.1E-06
PCE:1.6E-06
Lincoln Ave. Water Co. Well #5
TCE:1.3E-05
PCE:1.6E-06
City of Pasadena Windsor Well
TCE:1.2E-06
PCE:2.4E-06
As:6.5E-05
MW-20
MW-19
PCE:4.2E-06
Chlor:2.3E-06
Bromo:3.2E-06
PCE:1.1E-05
As:5.4E-05
Las Flores Water Co. Well #2
NA
Rubio Cañon Land and Water Co.
#4
#7
La Canada Irrigation District
#6
#3
#2
#4
#1
#1
As:3.4E-05
PCE:1.4E-06
PCE:2.1E-05
As:4.5E-05
Valley Water Company
PCE:5.2E-05
As:4.3E-05
PCE:8.8E-05
As:4.3E-05
Oak Grove Park
Devil's Gate Reservoir
Spreading Grounds
GOULD AVE
HAMPTON RD
CROWN
VIRO RD
OAK GROVE DR
ALTADENA DR
LINCOLN AVE
MARIPOSA DR
HARRIET ST
VENTURA ST
OLIVE AVE
GLENROSE AVE
WINDSOR AVE
FIGUEROA
CROSBY STREET

Explanation

- JPL Shallow Monitoring Wells
- JPL Deep Multi-Port Monitoring Wells
- Municipal Production Wells
- City of Pasadena Monitoring Well

MAJOR CONTRIBUTORS*

CCl4	Carbon Tetrachloride
TCE	Trichloroethene
PCE	Tetrachlorothene
DCE	1,1-Dichloroethene
Chlor	Chloroform
Bromo	Bromodichloromethane
Cr VI	Hexavalent Chromium
As	Arsenic

*Major contributors have cancer risk >1.0E-6 and contribute at least 10% to the total cancer risk.

N

800 400 0 800

SCALE IN FEET

Source: USGS, 7.5 Minute Topographic Map Pasadena, CA 1966, Revised 1988, 1994.

FIGURE 6-6

LOCATIONS OF MAJOR CONTRIBUTORS TO TOTAL ESTIMATED HYPOTHETICAL CARCINOGENIC RISKS

Jet Propulsion Laboratory
Pasadena, California

FOSTER WHEELER ENVIRONMENTAL CORPORATION

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