

HEM Chronic Cancer Output

HEM Cancer Input

00010	ff	1							
CANCER									
1	AVONDALE								
295542	901118							000001	
H	1.66E-016.15	1000	1	0.1	298				
CANCER									
2	BATH IRON								
435429	694856							000001	
H	3.06E-016.15	1000	1	0.1	298				
CANCER									
3	CASCADE								
4532551224315								000001	
H	0.00E+006.15	1000	1	0.1	298				
CANCER									
4	ELECTRIC BOAT								
412055	722055							000001	
H	3.54E-046.15	1000	1	0.1	298				
CANCER									
5	INGALLS								
302100	883400							000001	
H	1.02E+006.15	1000	1	0.1	298				
CANCER									
6	JEFFBOAT								
381638	854328							000001	
H	1.68E-016.15	1000	1	0.1	298				
CANCER									
7	NASSCO								
3241171170810								000001	
H	2.15E-016.15	1000	1	0.1	298				
CANCER									
8	NEWPORT								
365917	762615							000001	
H	1.45E-016.15	1000	1	0.1	298				
CANCER									
9	NORFOLK								
364919	761741							000001	
H	3.06E-056.15	1000	1	0.1	298				
CANCER									
10	NORSHIPCO								
364953	761732							000001	
H	7.71E+006.15	1000	1	0.1	298				



Tuesday 27 May 2003 - 16:15:00

Report Uses 2000 Population with Double Counting of People

Summary for CANCER  
Maximum Radius = 50.0 Km

Level	Concentration	Population	Exposure
1	1.10E-02		0.00E+00
2	1.00E-02		0.00E+00
3	5.00E-03		0.00E+00
4	2.50E-03		0.00E+00
5	1.00E-03		0.00E+00
6	5.00E-04	2	1.22E-03
7	2.50E-04	2	1.22E-03
8	1.00E-04	871	1.65E-01
9	5.00E-05	7,840	6.43E-01
10	2.50E-05	21,900	1.12E+00
11	1.00E-05	82,100	2.00E+00
12	5.00E-06	177,000	2.65E+00
13	2.50E-06	373,000	3.31E+00
14	1.00E-06	788,000	3.94E+00
15	5.00E-07	1,280,000	4.29E+00
16	2.50E-07	1,810,000	4.49E+00
17	1.00E-07	2,580,000	4.60E+00
18	5.00E-08	3,710,000	4.68E+00
19	2.50E-08	5,030,000	4.73E+00
20	1.00E-08	6,760,000	4.76E+00
21	5.00E-09	7,890,000	4.77E+00
22	2.50E-09	8,270,000	4.77E+00
23	1.00E-09	8,280,000	4.77E+00
24	5.00E-10	8,280,000	4.77E+00
25	2.50E-10	8,280,000	4.77E+00
26	1.00E-10	8,310,000	4.77E+00
27	5.00E-11	8,360,000	4.77E+00
28	2.50E-11	8,540,000	4.77E+00
29	1.00E-11	9,140,000	4.77E+00
30	5.00E-12	10,000,000	4.77E+00
31	2.50E-12	10,400,000	4.77E+00
32	1.00E-12	10,800,000	4.77E+00
33	5.00E-13	10,900,000	4.77E+00
34	4.11E-13	10,900,000	4.77E+00

Using a Unit Risk of 1.00E+00

Level	Risk Level	Population	Exposure*Unit Risk
1	1.10E-02		0.00E+00
2	1.00E-02		0.00E+00
3	5.00E-03		0.00E+00
4	2.50E-03		0.00E+00
5	1.00E-03		0.00E+00
6	5.00E-04	2	1.22E-03
7	2.50E-04	2	1.22E-03
8	1.00E-04	871	1.65E-01
9	5.00E-05	7,840	6.43E-01
10	2.50E-05	21,900	1.12E+00
11	1.00E-05	82,100	2.00E+00
12	5.00E-06	177,000	2.65E+00
13	2.50E-06	373,000	3.31E+00
14	1.00E-06	788,000	3.94E+00
15	5.00E-07	1,280,000	4.29E+00
16	2.50E-07	1,810,000	4.49E+00
17	1.00E-07	2,580,000	4.60E+00
18	5.00E-08	3,710,000	4.68E+00
19	2.50E-08	5,030,000	4.73E+00
20	1.00E-08	6,760,000	4.76E+00
21	5.00E-09	7,890,000	4.77E+00
22	2.50E-09	8,270,000	4.77E+00
23	1.00E-09	8,280,000	4.77E+00
24	5.00E-10	8,280,000	4.77E+00
25	2.50E-10	8,280,000	4.77E+00
26	1.00E-10	8,310,000	4.77E+00
27	5.00E-11	8,360,000	4.77E+00
28	2.50E-11	8,540,000	4.77E+00
29	1.00E-11	9,140,000	4.77E+00
30	5.00E-12	10,000,000	4.77E+00
31	2.50E-12	10,400,000	4.77E+00
32	1.00E-12	10,800,000	4.77E+00
33	5.00E-13	10,900,000	4.77E+00
34	4.11E-13	10,900,000	4.77E+00

Summary for CANCER  
with a Unit Risk of 1.00E+00

Sorted by Input Order

- M a x i m u m -					- - M i n i m u m - -											
Conc	People	Exposure	Lifetime Incidence	Max Risk	Conc	People	Exposure	Annual Incidence	Repeat Interval	S	o	u	r	c	e	
1.89E-05	2	3.77E-05	3.77E-05	1.89E-05	5.22E-09	1,160,000	8.78E-02	0.0013	800.	1	AVONDALE					
1.19E-04	20	2.38E-03	2.38E-03	1.19E-04	6.56E-09	401,000	8.26E-02	0.0012	850.	2	BATH IRON					
1.00E-38*****		1.85E-32	1.85E-32	1.00E-38	1.00E-38	1,850,000	1.85E-32	<0.0001		3	CASCADE					
4.16E-08	122	5.07E-06	5.07E-06	4.16E-08	5.03E-12	1,150,000	2.47E-05	<0.0001*****		4	ELECTRIC BOAT					
3.31E-05	785	2.60E-02	2.60E-02	3.31E-05	3.31E-08	353,000	1.32E-01	0.0019	530.	5	INGALLS					
6.07E-05	30	1.82E-03	1.82E-03	6.07E-05	3.41E-09	1,110,000	1.08E-01	0.0015	650.	6	JEFFBOAT					
1.01E-05	5,870	5.90E-02	5.90E-02	1.01E-05	3.89E-09	2,270,000	2.65E-01	0.0038	260.	7	NASSCO					
1.53E-05	2	3.06E-05	3.06E-05	1.53E-05	2.05E-09	1,530,000	5.16E-02	0.0007	1,400.	8	NEWPORT					
3.71E-09	7	2.60E-08	2.60E-08	3.71E-09	4.39E-13	1,450,000	1.52E-05	<0.0001*****		9	NORFOLK					
7.04E-04	1	7.04E-04	7.04E-04	7.04E-04	1.06E-07	1,450,000	4.04E+00	0.058	17.	10	NORSHIPCO					
						10,900,000	4.77E+00	0.068	15.		O	v	e	r	a	l

Summary for CANCER  
with a Unit Risk of 1.00E+00

Sorted by Max Concentration

- M a x i m u m -					- - M i n i m u m - -											
Conc	People	Exposure	Lifetime Incidence	Max Risk	Conc	People	Exposure	Annual Incidence	Repeat Interval	S	o	u	r	c	e	
7.04E-04	1	7.04E-04	7.04E-04	7.04E-04	1.06E-07	1,450,000	4.04E+00	0.058	17.	10	NORSHIPCO					
1.19E-04	20	2.38E-03	2.38E-03	1.19E-04	6.56E-09	401,000	8.26E-02	0.0012	850.	2	BATH IRON					
6.07E-05	30	1.82E-03	1.82E-03	6.07E-05	3.41E-09	1,110,000	1.08E-01	0.0015	650.	6	JEFFBOAT					
3.31E-05	785	2.60E-02	2.60E-02	3.31E-05	3.31E-08	353,000	1.32E-01	0.0019	530.	5	INGALLS					
1.89E-05	2	3.77E-05	3.77E-05	1.89E-05	5.22E-09	1,160,000	8.78E-02	0.0013	800.	1	AVONDALE					
1.53E-05	2	3.06E-05	3.06E-05	1.53E-05	2.05E-09	1,530,000	5.16E-02	0.0007	1,400.	8	NEWPORT					
1.01E-05	5,870	5.90E-02	5.90E-02	1.01E-05	3.89E-09	2,270,000	2.65E-01	0.0038	260.	7	NASSCO					
4.16E-08	122	5.07E-06	5.07E-06	4.16E-08	5.03E-12	1,150,000	2.47E-05	<0.0001*****		4	ELECTRIC BOAT					
3.71E-09	7	2.60E-08	2.60E-08	3.71E-09	4.39E-13	1,450,000	1.52E-05	<0.0001*****		9	NORFOLK					
1.00E-38*****		1.85E-32	1.85E-32	1.00E-38	1.00E-38	1,850,000	1.85E-32	<0.0001		3	CASCADE					
						10,900,000	4.77E+00	0.068	15.		O	v	e	r	a	l

Summary for CANCER  
with a Unit Risk of 1.00E+00

Sorted by Plant Exposure

- M a x i m u m -					- - M i n i m u m - -											
Conc	People	Exposure	Lifetime Incidence	Max Risk	Conc	People	Exposure	Annual Incidence	Repeat Interval	S	o	u	r	c	e	
7.04E-04	1	7.04E-04	7.04E-04	7.04E-04	1.06E-07	1,450,000	4.04E+00	0.058	17.	10	NORSHIPCO					
1.01E-05	5,870	5.90E-02	5.90E-02	1.01E-05	3.89E-09	2,270,000	2.65E-01	0.0038	260.	7	NASSCO					
3.31E-05	785	2.60E-02	2.60E-02	3.31E-05	3.31E-08	353,000	1.32E-01	0.0019	530.	5	INGALLS					
6.07E-05	30	1.82E-03	1.82E-03	6.07E-05	3.41E-09	1,110,000	1.08E-01	0.0015	650.	6	JEFFBOAT					
1.89E-05	2	3.77E-05	3.77E-05	1.89E-05	5.22E-09	1,160,000	8.78E-02	0.0013	800.	1	AVONDALE					
1.19E-04	20	2.38E-03	2.38E-03	1.19E-04	6.56E-09	401,000	8.26E-02	0.0012	850.	2	BATH IRON					
1.53E-05	2	3.06E-05	3.06E-05	1.53E-05	2.05E-09	1,530,000	5.16E-02	0.0007	1,400.	8	NEWPORT					
4.16E-08	122	5.07E-06	5.07E-06	4.16E-08	5.03E-12	1,150,000	2.47E-05	<0.0001*****		4	ELECTRIC BOAT					
3.71E-09	7	2.60E-08	2.60E-08	3.71E-09	4.39E-13	1,450,000	1.52E-05	<0.0001*****		9	NORFOLK					
1.00E-38*****		1.85E-32	1.85E-32	1.00E-38	1.00E-38	1,850,000	1.85E-32	<0.0001		3	CASCADE					
						10,900,000	4.77E+00	0.068	15.		O	v	e	r	a	l

10 Sources Processed  
10 was the Greatest Number of Sources per Chemical



Tuesday 27 May 2003 - 16:15:00

Report Uses 2000 Population with Single Counting of People

Summary for CANCER  
with a Unit Risk of 1.00E+00

Level	Concentration	Population	Exposure
1	4.96E-03		0.00E+00
4	5.00E-04	2	1.22E-03
5	2.50E-04	2	1.22E-03
6	1.00E-04	871	1.65E-01
7	5.00E-05	7,840	6.43E-01
8	2.50E-05	21,900	1.12E+00
9	1.00E-05	82,100	2.00E+00
10	5.00E-06	178,000	2.65E+00
11	2.50E-06	374,000	3.32E+00
12	1.00E-06	830,000	4.00E+00
13	5.00E-07	1,300,000	4.34E+00
14	2.50E-07	1,780,000	4.52E+00
15	1.00E-07	2,490,000	4.62E+00
16	5.00E-08	3,540,000	4.70E+00
17	2.50E-08	4,730,000	4.74E+00
18	1.00E-08	6,140,000	4.76E+00
19	5.00E-09	6,780,000	4.77E+00
20	2.50E-09	6,850,000	4.77E+00
21	1.00E-09	6,850,000	4.77E+00
22	5.00E-10	6,850,000	4.77E+00
23	2.50E-10	6,850,000	4.77E+00
24	1.00E-10	6,860,000	4.77E+00
25	5.00E-11	6,890,000	4.77E+00
26	2.50E-11	6,990,000	4.77E+00
27	1.00E-11	7,380,000	4.77E+00
28	5.00E-12	7,990,000	4.77E+00
29	2.50E-12	7,990,000	4.77E+00
30	1.00E-12	7,990,000	4.77E+00
31	5.00E-13	7,990,000	4.77E+00
32	2.50E-13	7,990,000	4.77E+00
33	1.00E-13	7,990,000	4.77E+00
34	5.00E-14	7,990,000	4.77E+00
35	2.50E-14	7,990,000	4.77E+00
36	1.00E-14	7,990,000	4.77E+00
37	5.00E-15	7,990,000	4.77E+00
38	2.50E-15	7,990,000	4.77E+00
39	1.00E-15	7,990,000	4.77E+00
40	5.00E-16	7,990,000	4.77E+00
41	2.50E-16	7,990,000	4.77E+00
42	1.00E-16	7,990,000	4.77E+00
43	5.00E-17	7,990,000	4.77E+00
44	2.50E-17	7,990,000	4.77E+00
45	1.00E-17	7,990,000	4.77E+00
46	5.00E-18	7,990,000	4.77E+00
47	2.50E-18	7,990,000	4.77E+00
48	1.00E-18	7,990,000	4.77E+00

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Report Uses 2000 Population with Single Counting of People

49	5.00E-19	7,990,000	4.77E+00
50	2.50E-19	7,990,000	4.77E+00
51	1.00E-19	7,990,000	4.77E+00
52	5.00E-20	7,990,000	4.77E+00
53	2.50E-20	7,990,000	4.77E+00
54	1.00E-20	7,990,000	4.77E+00
55	5.00E-21	7,990,000	4.77E+00
56	2.50E-21	7,990,000	4.77E+00
57	1.00E-21	7,990,000	4.77E+00
58	5.00E-22	7,990,000	4.77E+00
59	2.50E-22	7,990,000	4.77E+00
60	1.00E-22	7,990,000	4.77E+00
61	5.00E-23	7,990,000	4.77E+00
62	2.50E-23	7,990,000	4.77E+00
63	1.00E-23	7,990,000	4.77E+00
64	5.00E-24	7,990,000	4.77E+00
65	2.50E-24	7,990,000	4.77E+00
66	1.00E-24	7,990,000	4.77E+00
67	5.00E-25	7,990,000	4.77E+00
68	2.50E-25	7,990,000	4.77E+00
69	1.00E-25	7,990,000	4.77E+00
70	5.00E-26	7,990,000	4.77E+00
71	2.50E-26	7,990,000	4.77E+00
72	1.00E-26	7,990,000	4.77E+00
73	5.00E-27	7,990,000	4.77E+00
74	2.50E-27	7,990,000	4.77E+00
75	1.00E-27	7,990,000	4.77E+00
76	5.00E-28	7,990,000	4.77E+00
77	2.50E-28	7,990,000	4.77E+00
78	1.00E-28	7,990,000	4.77E+00
79	5.00E-29	7,990,000	4.77E+00
80	2.50E-29	7,990,000	4.77E+00
81	1.00E-29	7,990,000	4.77E+00
82	5.00E-30	7,990,000	4.77E+00
83	2.50E-30	7,990,000	4.77E+00
84	1.00E-30	7,990,000	4.77E+00
85	5.00E-31	7,990,000	4.77E+00
86	2.50E-31	7,990,000	4.77E+00
87	1.00E-31	7,990,000	4.77E+00
88	5.00E-32	7,990,000	4.77E+00
89	2.50E-32	7,990,000	4.77E+00
90	1.00E-32	7,990,000	4.77E+00
91	5.00E-33	7,990,000	4.77E+00
92	2.50E-33	7,990,000	4.77E+00
93	1.00E-33	7,990,000	4.77E+00
94	5.00E-34	7,990,000	4.77E+00
95	2.50E-34	7,990,000	4.77E+00
96	1.00E-34	7,990,000	4.77E+00
97	5.00E-35	7,990,000	4.77E+00
98	2.50E-35	7,990,000	4.77E+00
99	1.00E-35	7,990,000	4.77E+00
100	5.00E-36	7,990,000	4.77E+00
101	2.50E-36	7,990,000	4.77E+00
102	1.00E-36	7,990,000	4.77E+00





Summary for CANCER  
with a Unit Risk of 1.00E+00

Level	Risk Level	Population	Exposure*Unit Risk
1	4.96E-03		0.00E+00
4	5.00E-04	2	1.22E-03
5	2.50E-04	2	1.22E-03
6	1.00E-04	871	1.65E-01
7	5.00E-05	7,840	6.43E-01
8	2.50E-05	21,900	1.12E+00
9	1.00E-05	82,100	2.00E+00
10	5.00E-06	178,000	2.65E+00
11	2.50E-06	374,000	3.32E+00
12	1.00E-06	830,000	4.00E+00
13	5.00E-07	1,300,000	4.34E+00
14	2.50E-07	1,780,000	4.52E+00
15	1.00E-07	2,490,000	4.62E+00
16	5.00E-08	3,540,000	4.70E+00
17	2.50E-08	4,730,000	4.74E+00
18	1.00E-08	6,140,000	4.76E+00
19	5.00E-09	6,780,000	4.77E+00
20	2.50E-09	6,850,000	4.77E+00
21	1.00E-09	6,850,000	4.77E+00
22	5.00E-10	6,850,000	4.77E+00
23	2.50E-10	6,850,000	4.77E+00
24	1.00E-10	6,860,000	4.77E+00
25	5.00E-11	6,890,000	4.77E+00
26	2.50E-11	6,990,000	4.77E+00
27	1.00E-11	7,380,000	4.77E+00
28	5.00E-12	7,990,000	4.77E+00
29	2.50E-12	7,990,000	4.77E+00
30	1.00E-12	7,990,000	4.77E+00
31	5.00E-13	7,990,000	4.77E+00
32	2.50E-13	7,990,000	4.77E+00
33	1.00E-13	7,990,000	4.77E+00
34	5.00E-14	7,990,000	4.77E+00
35	2.50E-14	7,990,000	4.77E+00
36	1.00E-14	7,990,000	4.77E+00
37	5.00E-15	7,990,000	4.77E+00
38	2.50E-15	7,990,000	4.77E+00
39	1.00E-15	7,990,000	4.77E+00
40	5.00E-16	7,990,000	4.77E+00
41	2.50E-16	7,990,000	4.77E+00
42	1.00E-16	7,990,000	4.77E+00
43	5.00E-17	7,990,000	4.77E+00
44	2.50E-17	7,990,000	4.77E+00
45	1.00E-17	7,990,000	4.77E+00
46	5.00E-18	7,990,000	4.77E+00
47	2.50E-18	7,990,000	4.77E+00
48	1.00E-18	7,990,000	4.77E+00

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Report Uses 2000 Population with Single Counting of People

49	5.00E-19	7,990,000	4.77E+00
50	2.50E-19	7,990,000	4.77E+00
51	1.00E-19	7,990,000	4.77E+00
52	5.00E-20	7,990,000	4.77E+00
53	2.50E-20	7,990,000	4.77E+00
54	1.00E-20	7,990,000	4.77E+00
55	5.00E-21	7,990,000	4.77E+00
56	2.50E-21	7,990,000	4.77E+00
57	1.00E-21	7,990,000	4.77E+00
58	5.00E-22	7,990,000	4.77E+00
59	2.50E-22	7,990,000	4.77E+00
60	1.00E-22	7,990,000	4.77E+00
61	5.00E-23	7,990,000	4.77E+00
62	2.50E-23	7,990,000	4.77E+00
63	1.00E-23	7,990,000	4.77E+00
64	5.00E-24	7,990,000	4.77E+00
65	2.50E-24	7,990,000	4.77E+00
66	1.00E-24	7,990,000	4.77E+00
67	5.00E-25	7,990,000	4.77E+00
68	2.50E-25	7,990,000	4.77E+00
69	1.00E-25	7,990,000	4.77E+00
70	5.00E-26	7,990,000	4.77E+00
71	2.50E-26	7,990,000	4.77E+00
72	1.00E-26	7,990,000	4.77E+00
73	5.00E-27	7,990,000	4.77E+00
74	2.50E-27	7,990,000	4.77E+00
75	1.00E-27	7,990,000	4.77E+00
76	5.00E-28	7,990,000	4.77E+00
77	2.50E-28	7,990,000	4.77E+00
78	1.00E-28	7,990,000	4.77E+00
79	5.00E-29	7,990,000	4.77E+00
80	2.50E-29	7,990,000	4.77E+00
81	1.00E-29	7,990,000	4.77E+00
82	5.00E-30	7,990,000	4.77E+00
83	2.50E-30	7,990,000	4.77E+00
84	1.00E-30	7,990,000	4.77E+00
85	5.00E-31	7,990,000	4.77E+00
86	2.50E-31	7,990,000	4.77E+00
87	1.00E-31	7,990,000	4.77E+00
88	5.00E-32	7,990,000	4.77E+00
89	2.50E-32	7,990,000	4.77E+00
90	1.00E-32	7,990,000	4.77E+00
91	5.00E-33	7,990,000	4.77E+00
92	2.50E-33	7,990,000	4.77E+00
93	1.00E-33	7,990,000	4.77E+00
94	5.00E-34	7,990,000	4.77E+00
95	2.50E-34	7,990,000	4.77E+00
96	1.00E-34	7,990,000	4.77E+00
97	5.00E-35	7,990,000	4.77E+00
98	2.50E-35	7,990,000	4.77E+00
99	1.00E-35	7,990,000	4.77E+00
100	5.00E-36	7,990,000	4.77E+00
101	2.50E-36	7,990,000	4.77E+00

102 1.00E-36 7,990,000 4.77E+00  
Tuesday 27 May 2003 - 16:15:00 Report Uses 2000 Population with Single Counting of People

103 5.00E-37 7,990,000 4.77E+00  
104 2.50E-37 7,990,000 4.77E+00  
105 1.00E-37 7,990,000 4.77E+00  
106 5.00E-38 7,990,000 4.77E+00  
107 2.50E-38 7,990,000 4.77E+00  
108 1.00E-38 9,840,000 4.77E+00

Maximum Risk Level to which any People are Actually Exposed  
7.04E-04 1 7.04E-04

Minimum Risk Level to which any People are Actually Exposed  
1.00E-38 9,840,000 4.77E+00

Level	Count Level	Population	Num Groups
1	3	1,430,000	15,077
2	2	1,450,000	15,501
3	1	9,840,000	121,921
4	0	14,900,000	198,118