Appendix C

CAP88-PC Files

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Version 1.00

Clean Air Act Assessment Package - 1988

S Y N O P S I S R E P O R T

Non-Radon Individual Assessment
Apr 20, 2001 8:28 am

Facility: Lawrence Berkeley National Laboratory (LBNL)
Address: EH&S Environmental Protection Group
One Cyclotron Road
City: Berkeley
State: CA Zip: 94720

Effective Dose Equivalent (mrem/year)
9.09E-02

At This Location: 100 Meters East

Source Category: Building 75 NTLF (New Roof Stack)
Source Type: Stack
Emission Year: 1998

Comments: Henry H. Tran, C.H.P.
Environmental Protection Health Physicist

Dataset Name: NTLF-NEWSTACK
Dataset Date: Feb 12, 2001 3:40 pm
Wind File: WNDFILES\LBL98.WND

MAXIMALLY EXPOSED INDIVIDUAL

Location Of The Individual: 100 Meters East
Lifetime Fatal Cancer Risk: 2.47E-06

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Dose Equivalent (mrem/y)
GONADS	8.70E-02
BREAST	8.70E-02
R MAR	8.65E-02
LUNGS	8.73E-02
THYROID	8.66E-02
ENDOST	6.87E-02
RMNDR	1.02E-01
EFFEC	9.09E-02

RADIONUCLIDE EMISSIONS DURING THE YEAR 1998

Nuclide	Class	Size	Source #1 Ci/y	TOTAL Ci/y
H-3	*	0.00	3.0E+01	3.0E+01

SITE INFORMATION

Temperature:	10 degrees C
Precipitation:	100 cm/y
Mixing Height:	700 m

SOURCE INFORMATION

Source Number:	1
Stack Height (m):	9.10
Diameter (m):	0.57
Plume Rise Momentum (m/s): (Exit Velocity)	1.19E+01

AGRICULTURAL DATA

	Vegetable	Milk	Meat
Fraction Home Produced:	0.076	0.000	0.008
Fraction From Assessment Area:	0.924	1.000	0.992
Fraction Imported:	0.000	0.000	0.000

Food Arrays were not generated for this run.
Default Values used.

DISTANCES USED FOR MAXIMUM INDIVIDUAL ASSESSMENT

50	60	80	100	120	150	200	300	400	500
750	1500	2500	3500	4500	7500	15000	35000	55000	80000

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W E A T H E R D A T A

Non-Radon Individual Assessment
Apr 20, 2001 8:28 am

Facility: Lawrence Berkeley National Laboratory (LBNL)
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Source Category: Building 75 NTLF (New Roof Stack)
Source Type: Stack
Emission Year: 1998

Comments: Henry H. Tran, C.H.P.
Environmental Protection Health Physicist

Dataset Name: NTLF-NEWSTACK
Dataset Date: Feb 12, 2001 3:40 pm
Wind File: WNDFILES\LBL98.WND

HARMONIC AVERAGE WIND SPEEDS (WIND TOWARDS)

	Pasquill Stability Class							
Dir	A	B	C	D	E	F	G	Wind Frequency
N	0.819	1.423	1.154	1.293	2.196	1.099	0.000	0.056
NNW	1.120	1.530	1.202	2.264	0.964	1.055	0.000	0.079
NW	0.888	1.289	1.967	3.174	1.320	0.966	0.000	0.134
WNW	1.055	1.007	1.226	1.711	1.103	0.838	0.000	0.084
W	1.393	2.460	2.774	1.375	1.044	0.905	0.000	0.041
WSW	1.232	1.625	3.466	2.771	1.341	0.908	0.000	0.019
SW	0.975	0.000	0.000	0.772	1.230	0.841	0.000	0.010
SSW	0.874	0.000	0.000	1.466	0.843	0.824	0.000	0.011
S	0.898	1.052	1.638	3.040	1.590	0.923	0.000	0.027
SSE	1.055	1.187	1.968	2.008	1.716	0.888	0.000	0.069
SE	0.988	1.875	1.465	1.267	1.022	0.839	0.000	0.065
ESE	0.868	1.059	1.310	1.900	1.401	0.961	0.000	0.112
E	0.860	1.389	1.654	2.412	2.180	1.111	0.000	0.131
ENE	0.932	1.612	1.359	0.000	1.749	1.336	0.000	0.073
NE	1.061	1.301	0.901	0.000	0.000	0.981	0.000	0.046
NNE	0.976	1.406	1.385	1.594	4.373	1.033	0.000	0.040

ARITHMETIC AVERAGE WIND SPEEDS (WIND TOWARDS)

	Pasquill Stability Class						
Dir	A	B	C	D	E	F	G
N	0.920	2.070	1.752	2.448	3.181	1.552	0.000
NNW	1.572	2.173	2.233	4.012	1.585	1.466	0.000
NW	1.108	1.924	3.226	4.456	1.867	1.290	0.000
WNW	1.463	1.372	1.969	2.692	1.545	0.975	0.000
W	1.919	2.998	4.118	3.141	1.523	1.162	0.000
WSW	1.732	2.863	3.700	3.792	2.178	1.158	0.000
SW	1.309	0.000	0.000	0.772	2.092	0.982	0.000
SSW	1.074	0.000	0.000	1.990	0.989	0.936	0.000
S	1.133	1.937	2.132	3.553	2.266	1.193	0.000
SSE	1.463	1.672	2.437	2.775	2.435	1.108	0.000
SE	1.334	2.415	2.229	1.951	1.402	0.977	0.000
ESE	1.058	1.487	1.987	2.793	1.927	1.279	0.000
E	1.035	2.042	2.452	3.213	2.462	1.572	0.000
ENE	1.215	2.164	1.908	0.000	2.209	1.858	0.000
NE	1.473	1.873	1.181	0.000	0.000	1.321	0.000
NNE	1.311	2.067	1.911	3.027	4.373	1.446	0.000

FREQUENCIES OF STABILITY CLASSES (WIND TOWARDS)

	Pasquill Stability Class						
Dir	A	B	C	D	E	F	G
N	0.0991	0.2969	0.1536	0.0283	0.0120	0.4101	0.0000
NNW	0.0650	0.2735	0.0985	0.0275	0.0289	0.5066	0.0000
NW	0.0136	0.0214	0.1470	0.3760	0.1419	0.3000	0.0000
WNW	0.0355	0.0082	0.0246	0.4665	0.1747	0.2905	0.0000
W	0.0608	0.0358	0.0746	0.3343	0.1520	0.3425	0.0000
WSW	0.1809	0.0359	0.0480	0.1445	0.0844	0.5063	0.0000
SW	0.1086	0.0000	0.0000	0.0105	0.0429	0.8381	0.0000
SSW	0.1201	0.0000	0.0000	0.0298	0.0798	0.7704	0.0000
S	0.0832	0.0124	0.0164	0.2282	0.1453	0.5145	0.0000
SSE	0.0427	0.0164	0.0230	0.3398	0.3236	0.2545	0.0000
SE	0.0562	0.0405	0.1196	0.2548	0.2056	0.3233	0.0000
ESE	0.0448	0.0843	0.4787	0.0579	0.1362	0.1982	0.0000
E	0.0712	0.2241	0.4500	0.0391	0.0434	0.1720	0.0000
ENE	0.1013	0.3987	0.1901	0.0000	0.0155	0.2943	0.0000
NE	0.1926	0.3349	0.0875	0.0000	0.0000	0.3850	0.0000
NNE	0.1420	0.3751	0.0853	0.0226	0.0027	0.3721	0.0000
TOT	0.0692	0.1467	0.1863	0.1691	0.1079	0.3207	0.0000

ADDITIONAL WEATHER INFORMATION

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Average Air Temperature:   10.0 degrees C
                           283.2 K
          Precipitation:  100.0 cm/y
             Lid Height:    700 meters
Surface Roughness Length:  0.010 meters
Height Of Wind Measurements:   10.0 meters
     Average Wind Speed:  2.000 m/s

Vertical Temperature Gradients:
   STABILITY E     0.073 k/m
   STABILITY F     0.109 k/m
   STABILITY G     0.146 k/m
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D O S E A N D R I S K C O N V E R S I O N F A C T O R S

Non-Radon Individual Assessment
Apr 20, 2001 8:28 am

Facility: Lawrence Berkeley National Laboratory (LBNL)
Address: EH&S Environmental Protection Group
One Cyclotron Road
City: Berkeley
State: CA Zip: 94720

Source Category: Building 75 NTLF (New Roof Stack)
Source Type: Stack
Emission Year: 1998

Comments: Henry H. Tran, C.H.P.
Environmental Protection Health Physicist

Dataset Name: NTLF-NEWSTACK
Dataset Date: Feb 12, 2001 3:40 pm
Wind File: WNDFILES\LBL98.WND

DOSE AND RISK FACTOR UNITS

The units for each type of dose rate conversion factor are shown below, by pathway:

Pathway	Units
Ingestion	millirem/picoCurie
Inhalation	millirem/picoCurie
Immersion	millirem-cubic centimeter/microCurie-year
Surface	millirem-square centimeter/microCurie-year

Risks for internal exposures (inhalation and ingestion) are the lifetime risk of premature death in a birth cohort of 100,000 people for a 1 picoCurie/year intake rate, where the average lifetime is 70.7565 years. This is simplified to lifetime risk per 100,000 picoCuries.

The units for each type of risk conversion factor are shown below, by pathway:

Pathway	Units
Ingestion	lifetime risk/100,000 picoCuries
Inhalation	lifetime risk/100,000 picoCuries
Immersion	lifetime risk-cubic centimeter/100,000 picoCurie-years
Surface	lifetime risk-square centimeter/100,000 picoCurie-years

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*   NUCLIDE  H-3       *
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DOSE RATE CONVERSION FACTORS

Organ	Ingestion	Inhalation	Air Immersion	Ground Surface
GONADS	8.300E-08	1.250E-07	0.000E+00	0.000E+00
BREAST	8.300E-08	1.250E-07	0.000E+00	0.000E+00
R MAR	8.260E-08	1.240E-07	0.000E+00	0.000E+00
LUNGS	8.360E-08	1.250E-07	0.000E+00	0.000E+00
THYROID	8.280E-08	1.240E-07	0.000E+00	0.000E+00
ENDOST	6.560E-08	9.850E-08	0.000E+00	0.000E+00
RMNDR	1.078E-07	1.326E-07	0.000E+00	0.000E+00
EFFEC	8.993E-08	1.263E-07	0.000E+00	0.000E+00

GENETIC EFFECT DOSE RATE CONVERSION FACTORS

TESTES	2.490E-06	3.750E-06	0.000E+00	0.000E+00
OVARIES	2.487E-06	3.720E-06	0.000E+00	0.000E+00
AVERAGE	2.488E-06	3.735E-06	0.000E+00	0.000E+00

RISK CONVERSION FACTORS

Cancer	Ingestion	Inhalation	Air Immersion	Ground Surface
LEUKEMIA	2.616E-08	3.927E-08	0.000E+00	0.000E+00
BONE	1.161E-09	1.743E-09	0.000E+00	0.000E+00
THYROID	3.766E-09	5.640E-09	0.000E+00	0.000E+00
BREAST	3.251E-08	4.896E-08	0.000E+00	0.000E+00
LUNG	4.145E-08	6.197E-08	0.000E+00	0.000E+00
STOMACH	3.511E-08	4.064E-08	0.000E+00	0.000E+00
BOWEL	1.927E-08	2.175E-08	0.000E+00	0.000E+00
LIVER	2.903E-08	4.347E-08	0.000E+00	0.000E+00
PANCREAS	1.972E-08	2.960E-08	0.000E+00	0.000E+00
URINARY	1.074E-08	1.619E-08	0.000E+00	0.000E+00
OTHER	2.411E-08	3.620E-08	0.000E+00	0.000E+00

GENETIC EFFECT RISK CONVERSION FACTORS

AVERAGE	6.469E-13	9.711E-13	0.000E+00	0.000E+00

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C O N C E N T R A T I O N T A B L E S

Non-Radon Individual Assessment
Apr 20, 2001 8:28 am

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Environmental Protection Health Physicist

Dataset Name: NTLF-NEWSTACK
Dataset Date: Feb 12, 2001 3:40 pm
Wind File: WNDFILES\LBL98.WND

ESTIMATED RADIONUCLIDE CONCENTRATIONS
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Concentration (pCi/m3)	Dry Deposition Rate (pCi/m2/s)	Wet Deposition Rate (pCi/m2/s)	Ground Deposition Rate (pCi/m2/s)
N	50	H-3	8.4E+00	0.0E+00	0.0E+00	0.0E+00
N	60	H-3	1.3E+01	0.0E+00	0.0E+00	0.0E+00
N	80	H-3	1.7E+01	0.0E+00	0.0E+00	0.0E+00
N	100	H-3	1.7E+01	0.0E+00	0.0E+00	0.0E+00
N	120	H-3	1.5E+01	0.0E+00	0.0E+00	0.0E+00
N	150	H-3	1.3E+01	0.0E+00	0.0E+00	0.0E+00
N	200	H-3	8.8E+00	0.0E+00	0.0E+00	0.0E+00
N	300	H-3	4.8E+00	0.0E+00	0.0E+00	0.0E+00
N	400	H-3	3.3E+00	0.0E+00	0.0E+00	0.0E+00
N	500	H-3	2.8E+00	0.0E+00	0.0E+00	0.0E+00
N	750	H-3	2.5E+00	0.0E+00	0.0E+00	0.0E+00
N	1500	H-3	1.3E+00	0.0E+00	0.0E+00	0.0E+00
N	2500	H-3	6.5E-01	0.0E+00	0.0E+00	0.0E+00
N	3500	H-3	4.1E-01	0.0E+00	0.0E+00	0.0E+00
N	4500	H-3	3.0E-01	0.0E+00	0.0E+00	0.0E+00
N	7500	H-3	1.5E-01	0.0E+00	0.0E+00	0.0E+00
N	15000	H-3	6.7E-02	0.0E+00	0.0E+00	0.0E+00
N	35000	H-3	2.7E-02	0.0E+00	0.0E+00	0.0E+00
N	55000	H-3	1.6E-02	0.0E+00	0.0E+00	0.0E+00
N	80000	H-3	1.1E-02	0.0E+00	0.0E+00	0.0E+00
NNW	50	H-3	1.2E+01	0.0E+00	0.0E+00	0.0E+00
NNW	60	H-3	1.6E+01	0.0E+00	0.0E+00	0.0E+00
NNW	80	H-3	2.0E+01	0.0E+00	0.0E+00	0.0E+00
NNW	100	H-3	1.9E+01	0.0E+00	0.0E+00	0.0E+00
NNW	120	H-3	1.7E+01	0.0E+00	0.0E+00	0.0E+00
NNW	150	H-3	1.3E+01	0.0E+00	0.0E+00	0.0E+00
NNW	200	H-3	9.1E+00	0.0E+00	0.0E+00	0.0E+00
NNW	300	H-3	5.0E+00	0.0E+00	0.0E+00	0.0E+00
NNW	400	H-3	3.7E+00	0.0E+00	0.0E+00	0.0E+00
NNW	500	H-3	3.6E+00	0.0E+00	0.0E+00	0.0E+00
NNW	750	H-3	3.7E+00	0.0E+00	0.0E+00	0.0E+00
NNW	1500	H-3	2.1E+00	0.0E+00	0.0E+00	0.0E+00
NNW	2500	H-3	1.1E+00	0.0E+00	0.0E+00	0.0E+00
NNW	3500	H-3	7.1E-01	0.0E+00	0.0E+00	0.0E+00
NNW	4500	H-3	5.1E-01	0.0E+00	0.0E+00	0.0E+00
NNW	7500	H-3	2.7E-01	0.0E+00	0.0E+00	0.0E+00
NNW	15000	H-3	1.2E-01	0.0E+00	0.0E+00	0.0E+00
NNW	35000	H-3	4.6E-02	0.0E+00	0.0E+00	0.0E+00
NNW	55000	H-3	2.8E-02	0.0E+00	0.0E+00	0.0E+00
NNW	80000	H-3	1.9E-02	0.0E+00	0.0E+00	0.0E+00
NW	50	H-3	3.7E+00	0.0E+00	0.0E+00	0.0E+00
NW	60	H-3	7.1E+00	0.0E+00	0.0E+00	0.0E+00
NW	80	H-3	1.3E+01	0.0E+00	0.0E+00	0.0E+00
NW	100	H-3	1.7E+01	0.0E+00	0.0E+00	0.0E+00
NW	120	H-3	1.8E+01	0.0E+00	0.0E+00	0.0E+00
NW	150	H-3	1.7E+01	0.0E+00	0.0E+00	0.0E+00
NW	200	H-3	1.5E+01	0.0E+00	0.0E+00	0.0E+00

ESTIMATED RADIONUCLIDE CONCENTRATIONS
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Concentration (pCi/m3)	Dry Deposition Rate (pCi/m2/s)	Wet Deposition Rate (pCi/m2/s)	Ground Deposition Rate (pCi/m2/s)
NW	300	H-3	1.1E+01	0.0E+00	0.0E+00	0.0E+00
NW	400	H-3	8.4E+00	0.0E+00	0.0E+00	0.0E+00
NW	500	H-3	7.1E+00	0.0E+00	0.0E+00	0.0E+00
NW	750	H-3	5.8E+00	0.0E+00	0.0E+00	0.0E+00
NW	1500	H-3	3.0E+00	0.0E+00	0.0E+00	0.0E+00
NW	2500	H-3	1.5E+00	0.0E+00	0.0E+00	0.0E+00
NW	3500	H-3	9.7E-01	0.0E+00	0.0E+00	0.0E+00
NW	4500	H-3	7.0E-01	0.0E+00	0.0E+00	0.0E+00
NW	7500	H-3	3.6E-01	0.0E+00	0.0E+00	0.0E+00
NW	15000	H-3	1.5E-01	0.0E+00	0.0E+00	0.0E+00
NW	35000	H-3	5.9E-02	0.0E+00	0.0E+00	0.0E+00
NW	55000	H-3	3.6E-02	0.0E+00	0.0E+00	0.0E+00
NW	80000	H-3	2.4E-02	0.0E+00	0.0E+00	0.0E+00
WNW	50	H-3	3.1E+00	0.0E+00	0.0E+00	0.0E+00
WNW	60	H-3	3.8E+00	0.0E+00	0.0E+00	0.0E+00
WNW	80	H-3	5.7E+00	0.0E+00	0.0E+00	0.0E+00
WNW	100	H-3	8.2E+00	0.0E+00	0.0E+00	0.0E+00
WNW	120	H-3	1.0E+01	0.0E+00	0.0E+00	0.0E+00
WNW	150	H-3	1.1E+01	0.0E+00	0.0E+00	0.0E+00
WNW	200	H-3	1.2E+01	0.0E+00	0.0E+00	0.0E+00
WNW	300	H-3	9.5E+00	0.0E+00	0.0E+00	0.0E+00
WNW	400	H-3	7.5E+00	0.0E+00	0.0E+00	0.0E+00
WNW	500	H-3	6.1E+00	0.0E+00	0.0E+00	0.0E+00
WNW	750	H-3	4.3E+00	0.0E+00	0.0E+00	0.0E+00
WNW	1500	H-3	2.2E+00	0.0E+00	0.0E+00	0.0E+00
WNW	2500	H-3	1.2E+00	0.0E+00	0.0E+00	0.0E+00
WNW	3500	H-3	7.5E-01	0.0E+00	0.0E+00	0.0E+00
WNW	4500	H-3	5.4E-01	0.0E+00	0.0E+00	0.0E+00
WNW	7500	H-3	2.8E-01	0.0E+00	0.0E+00	0.0E+00
WNW	15000	H-3	1.2E-01	0.0E+00	0.0E+00	0.0E+00
WNW	35000	H-3	4.5E-02	0.0E+00	0.0E+00	0.0E+00
WNW	55000	H-3	2.7E-02	0.0E+00	0.0E+00	0.0E+00
WNW	80000	H-3	1.7E-02	0.0E+00	0.0E+00	0.0E+00
W	50	H-3	3.1E+00	0.0E+00	0.0E+00	0.0E+00
W	60	H-3	3.6E+00	0.0E+00	0.0E+00	0.0E+00
W	80	H-3	4.7E+00	0.0E+00	0.0E+00	0.0E+00
W	100	H-3	5.6E+00	0.0E+00	0.0E+00	0.0E+00
W	120	H-3	6.1E+00	0.0E+00	0.0E+00	0.0E+00
W	150	H-3	6.3E+00	0.0E+00	0.0E+00	0.0E+00
W	200	H-3	5.8E+00	0.0E+00	0.0E+00	0.0E+00
W	300	H-3	4.5E+00	0.0E+00	0.0E+00	0.0E+00
W	400	H-3	3.5E+00	0.0E+00	0.0E+00	0.0E+00
W	500	H-3	3.0E+00	0.0E+00	0.0E+00	0.0E+00
W	750	H-3	2.3E+00	0.0E+00	0.0E+00	0.0E+00
W	1500	H-3	1.2E+00	0.0E+00	0.0E+00	0.0E+00
W	2500	H-3	6.1E-01	0.0E+00	0.0E+00	0.0E+00
W	3500	H-3	3.9E-01	0.0E+00	0.0E+00	0.0E+00

ESTIMATED RADIONUCLIDE CONCENTRATIONS
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Concentration (pCi/m3)	Dry Deposition Rate (pCi/m2/s)	Wet Deposition Rate (pCi/m2/s)	Ground Deposition Rate (pCi/m2/s)
W	4500	H-3	2.8E-01	0.0E+00	0.0E+00	0.0E+00
W	7500	H-3	1.4E-01	0.0E+00	0.0E+00	0.0E+00
W	15000	H-3	6.1E-02	0.0E+00	0.0E+00	0.0E+00
W	35000	H-3	2.3E-02	0.0E+00	0.0E+00	0.0E+00
W	55000	H-3	1.4E-02	0.0E+00	0.0E+00	0.0E+00
W	80000	H-3	9.1E-03	0.0E+00	0.0E+00	0.0E+00
WSW	50	H-3	3.8E+00	0.0E+00	0.0E+00	0.0E+00
WSW	60	H-3	3.9E+00	0.0E+00	0.0E+00	0.0E+00
WSW	80	H-3	3.5E+00	0.0E+00	0.0E+00	0.0E+00
WSW	100	H-3	3.0E+00	0.0E+00	0.0E+00	0.0E+00
WSW	120	H-3	2.5E+00	0.0E+00	0.0E+00	0.0E+00
WSW	150	H-3	2.0E+00	0.0E+00	0.0E+00	0.0E+00
WSW	200	H-3	1.5E+00	0.0E+00	0.0E+00	0.0E+00
WSW	300	H-3	1.0E+00	0.0E+00	0.0E+00	0.0E+00
WSW	400	H-3	7.7E-01	0.0E+00	0.0E+00	0.0E+00
WSW	500	H-3	7.3E-01	0.0E+00	0.0E+00	0.0E+00
WSW	750	H-3	8.1E-01	0.0E+00	0.0E+00	0.0E+00
WSW	1500	H-3	5.4E-01	0.0E+00	0.0E+00	0.0E+00
WSW	2500	H-3	3.0E-01	0.0E+00	0.0E+00	0.0E+00
WSW	3500	H-3	1.9E-01	0.0E+00	0.0E+00	0.0E+00
WSW	4500	H-3	1.4E-01	0.0E+00	0.0E+00	0.0E+00
WSW	7500	H-3	7.4E-02	0.0E+00	0.0E+00	0.0E+00
WSW	15000	H-3	3.3E-02	0.0E+00	0.0E+00	0.0E+00
WSW	35000	H-3	1.3E-02	0.0E+00	0.0E+00	0.0E+00
WSW	55000	H-3	7.9E-03	0.0E+00	0.0E+00	0.0E+00
WSW	80000	H-3	5.2E-03	0.0E+00	0.0E+00	0.0E+00
SW	50	H-3	1.1E+00	0.0E+00	0.0E+00	0.0E+00
SW	60	H-3	1.1E+00	0.0E+00	0.0E+00	0.0E+00
SW	80	H-3	1.0E+00	0.0E+00	0.0E+00	0.0E+00
SW	100	H-3	7.8E-01	0.0E+00	0.0E+00	0.0E+00
SW	120	H-3	6.1E-01	0.0E+00	0.0E+00	0.0E+00
SW	150	H-3	4.4E-01	0.0E+00	0.0E+00	0.0E+00
SW	200	H-3	3.1E-01	0.0E+00	0.0E+00	0.0E+00
SW	300	H-3	2.1E-01	0.0E+00	0.0E+00	0.0E+00
SW	400	H-3	1.8E-01	0.0E+00	0.0E+00	0.0E+00
SW	500	H-3	2.3E-01	0.0E+00	0.0E+00	0.0E+00
SW	750	H-3	4.6E-01	0.0E+00	0.0E+00	0.0E+00
SW	1500	H-3	4.3E-01	0.0E+00	0.0E+00	0.0E+00
SW	2500	H-3	2.5E-01	0.0E+00	0.0E+00	0.0E+00
SW	3500	H-3	1.7E-01	0.0E+00	0.0E+00	0.0E+00
SW	4500	H-3	1.2E-01	0.0E+00	0.0E+00	0.0E+00
SW	7500	H-3	6.6E-02	0.0E+00	0.0E+00	0.0E+00
SW	15000	H-3	3.0E-02	0.0E+00	0.0E+00	0.0E+00
SW	35000	H-3	1.2E-02	0.0E+00	0.0E+00	0.0E+00
SW	55000	H-3	7.2E-03	0.0E+00	0.0E+00	0.0E+00
SW	80000	H-3	4.8E-03	0.0E+00	0.0E+00	0.0E+00
SSW	50	H-3	1.1E+00	0.0E+00	0.0E+00	0.0E+00

ESTIMATED RADIONUCLIDE CONCENTRATIONS
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Concentration (pCi/m3)	Dry Deposition Rate (pCi/m2/s)	Wet Deposition Rate (pCi/m2/s)	Ground Deposition Rate (pCi/m2/s)
SSW	60	H-3	1.2E+00	0.0E+00	0.0E+00	0.0E+00
SSW	80	H-3	1.2E+00	0.0E+00	0.0E+00	0.0E+00
SSW	100	H-3	1.0E+00	0.0E+00	0.0E+00	0.0E+00
SSW	120	H-3	8.2E-01	0.0E+00	0.0E+00	0.0E+00
SSW	150	H-3	6.2E-01	0.0E+00	0.0E+00	0.0E+00
SSW	200	H-3	4.2E-01	0.0E+00	0.0E+00	0.0E+00
SSW	300	H-3	2.9E-01	0.0E+00	0.0E+00	0.0E+00
SSW	400	H-3	2.6E-01	0.0E+00	0.0E+00	0.0E+00
SSW	500	H-3	2.9E-01	0.0E+00	0.0E+00	0.0E+00
SSW	750	H-3	4.9E-01	0.0E+00	0.0E+00	0.0E+00
SSW	1500	H-3	4.4E-01	0.0E+00	0.0E+00	0.0E+00
SSW	2500	H-3	2.6E-01	0.0E+00	0.0E+00	0.0E+00
SSW	3500	H-3	1.8E-01	0.0E+00	0.0E+00	0.0E+00
SSW	4500	H-3	1.3E-01	0.0E+00	0.0E+00	0.0E+00
SSW	7500	H-3	7.0E-02	0.0E+00	0.0E+00	0.0E+00
SSW	15000	H-3	3.1E-02	0.0E+00	0.0E+00	0.0E+00
SSW	35000	H-3	1.2E-02	0.0E+00	0.0E+00	0.0E+00
SSW	55000	H-3	7.5E-03	0.0E+00	0.0E+00	0.0E+00
SSW	80000	H-3	5.0E-03	0.0E+00	0.0E+00	0.0E+00
S	50	H-3	2.0E+00	0.0E+00	0.0E+00	0.0E+00
S	60	H-3	2.5E+00	0.0E+00	0.0E+00	0.0E+00
S	80	H-3	2.7E+00	0.0E+00	0.0E+00	0.0E+00
S	100	H-3	2.7E+00	0.0E+00	0.0E+00	0.0E+00
S	120	H-3	2.6E+00	0.0E+00	0.0E+00	0.0E+00
S	150	H-3	2.3E+00	0.0E+00	0.0E+00	0.0E+00
S	200	H-3	2.1E+00	0.0E+00	0.0E+00	0.0E+00
S	300	H-3	1.6E+00	0.0E+00	0.0E+00	0.0E+00
S	400	H-3	1.3E+00	0.0E+00	0.0E+00	0.0E+00
S	500	H-3	1.2E+00	0.0E+00	0.0E+00	0.0E+00
S	750	H-3	1.3E+00	0.0E+00	0.0E+00	0.0E+00
S	1500	H-3	8.3E-01	0.0E+00	0.0E+00	0.0E+00
S	2500	H-3	4.5E-01	0.0E+00	0.0E+00	0.0E+00
S	3500	H-3	2.9E-01	0.0E+00	0.0E+00	0.0E+00
S	4500	H-3	2.1E-01	0.0E+00	0.0E+00	0.0E+00
S	7500	H-3	1.1E-01	0.0E+00	0.0E+00	0.0E+00
S	15000	H-3	4.9E-02	0.0E+00	0.0E+00	0.0E+00
S	35000	H-3	1.9E-02	0.0E+00	0.0E+00	0.0E+00
S	55000	H-3	1.2E-02	0.0E+00	0.0E+00	0.0E+00
S	80000	H-3	7.7E-03	0.0E+00	0.0E+00	0.0E+00
SSE	50	H-3	3.3E+00	0.0E+00	0.0E+00	0.0E+00
SSE	60	H-3	3.8E+00	0.0E+00	0.0E+00	0.0E+00
SSE	80	H-3	4.8E+00	0.0E+00	0.0E+00	0.0E+00
SSE	100	H-3	5.9E+00	0.0E+00	0.0E+00	0.0E+00
SSE	120	H-3	6.7E+00	0.0E+00	0.0E+00	0.0E+00
SSE	150	H-3	7.5E+00	0.0E+00	0.0E+00	0.0E+00
SSE	200	H-3	8.1E+00	0.0E+00	0.0E+00	0.0E+00
SSE	300	H-3	7.2E+00	0.0E+00	0.0E+00	0.0E+00

ESTIMATED RADIONUCLIDE CONCENTRATIONS
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Concentration (pCi/m3)	Dry Deposition Rate (pCi/m2/s)	Wet Deposition Rate (pCi/m2/s)	Ground Deposition Rate (pCi/m2/s)
SSE	400	H-3	5.7E+00	0.0E+00	0.0E+00	0.0E+00
SSE	500	H-3	4.7E+00	0.0E+00	0.0E+00	0.0E+00
SSE	750	H-3	3.4E+00	0.0E+00	0.0E+00	0.0E+00
SSE	1500	H-3	1.7E+00	0.0E+00	0.0E+00	0.0E+00
SSE	2500	H-3	8.5E-01	0.0E+00	0.0E+00	0.0E+00
SSE	3500	H-3	5.4E-01	0.0E+00	0.0E+00	0.0E+00
SSE	4500	H-3	3.9E-01	0.0E+00	0.0E+00	0.0E+00
SSE	7500	H-3	2.0E-01	0.0E+00	0.0E+00	0.0E+00
SSE	15000	H-3	8.5E-02	0.0E+00	0.0E+00	0.0E+00
SSE	35000	H-3	3.2E-02	0.0E+00	0.0E+00	0.0E+00
SSE	55000	H-3	2.0E-02	0.0E+00	0.0E+00	0.0E+00
SSE	80000	H-3	1.3E-02	0.0E+00	0.0E+00	0.0E+00
SE	50	H-3	4.4E+00	0.0E+00	0.0E+00	0.0E+00
SE	60	H-3	5.6E+00	0.0E+00	0.0E+00	0.0E+00
SE	80	H-3	7.2E+00	0.0E+00	0.0E+00	0.0E+00
SE	100	H-3	8.2E+00	0.0E+00	0.0E+00	0.0E+00
SE	120	H-3	8.7E+00	0.0E+00	0.0E+00	0.0E+00
SE	150	H-3	8.8E+00	0.0E+00	0.0E+00	0.0E+00
SE	200	H-3	8.3E+00	0.0E+00	0.0E+00	0.0E+00
SE	300	H-3	7.0E+00	0.0E+00	0.0E+00	0.0E+00
SE	400	H-3	5.7E+00	0.0E+00	0.0E+00	0.0E+00
SE	500	H-3	4.7E+00	0.0E+00	0.0E+00	0.0E+00
SE	750	H-3	3.5E+00	0.0E+00	0.0E+00	0.0E+00
SE	1500	H-3	1.9E+00	0.0E+00	0.0E+00	0.0E+00
SE	2500	H-3	9.8E-01	0.0E+00	0.0E+00	0.0E+00
SE	3500	H-3	6.3E-01	0.0E+00	0.0E+00	0.0E+00
SE	4500	H-3	4.5E-01	0.0E+00	0.0E+00	0.0E+00
SE	7500	H-3	2.3E-01	0.0E+00	0.0E+00	0.0E+00
SE	15000	H-3	1.0E-01	0.0E+00	0.0E+00	0.0E+00
SE	35000	H-3	3.9E-02	0.0E+00	0.0E+00	0.0E+00
SE	55000	H-3	2.3E-02	0.0E+00	0.0E+00	0.0E+00
SE	80000	H-3	1.5E-02	0.0E+00	0.0E+00	0.0E+00
ESE	50	H-3	6.6E+00	0.0E+00	0.0E+00	0.0E+00
ESE	60	H-3	1.2E+01	0.0E+00	0.0E+00	0.0E+00
ESE	80	H-3	2.4E+01	0.0E+00	0.0E+00	0.0E+00
ESE	100	H-3	3.1E+01	0.0E+00	0.0E+00	0.0E+00
ESE	120	H-3	3.2E+01	0.0E+00	0.0E+00	0.0E+00
ESE	150	H-3	3.0E+01	0.0E+00	0.0E+00	0.0E+00
ESE	200	H-3	2.3E+01	0.0E+00	0.0E+00	0.0E+00
ESE	300	H-3	1.4E+01	0.0E+00	0.0E+00	0.0E+00
ESE	400	H-3	1.0E+01	0.0E+00	0.0E+00	0.0E+00
ESE	500	H-3	7.6E+00	0.0E+00	0.0E+00	0.0E+00
ESE	750	H-3	4.9E+00	0.0E+00	0.0E+00	0.0E+00
ESE	1500	H-3	2.1E+00	0.0E+00	0.0E+00	0.0E+00
ESE	2500	H-3	1.0E+00	0.0E+00	0.0E+00	0.0E+00
ESE	3500	H-3	6.4E-01	0.0E+00	0.0E+00	0.0E+00
ESE	4500	H-3	4.6E-01	0.0E+00	0.0E+00	0.0E+00

ESTIMATED RADIONUCLIDE CONCENTRATIONS
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Concentration (pCi/m3)	Dry Deposition Rate (pCi/m2/s)	Wet Deposition Rate (pCi/m2/s)	Ground Deposition Rate (pCi/m2/s)
ESE	7500	H-3	2.3E-01	0.0E+00	0.0E+00	0.0E+00
ESE	15000	H-3	9.7E-02	0.0E+00	0.0E+00	0.0E+00
ESE	35000	H-3	3.8E-02	0.0E+00	0.0E+00	0.0E+00
ESE	55000	H-3	2.3E-02	0.0E+00	0.0E+00	0.0E+00
ESE	80000	H-3	1.6E-02	0.0E+00	0.0E+00	0.0E+00
E	50	H-3	1.7E+01	0.0E+00	0.0E+00	0.0E+00
E	60	H-3	2.9E+01	0.0E+00	0.0E+00	0.0E+00
E	80	H-3	4.3E+01	0.0E+00	0.0E+00	0.0E+00
E	100	H-3	4.6E+01	0.0E+00	0.0E+00	0.0E+00
E	120	H-3	4.4E+01	0.0E+00	0.0E+00	0.0E+00
E	150	H-3	3.7E+01	0.0E+00	0.0E+00	0.0E+00
E	200	H-3	2.6E+01	0.0E+00	0.0E+00	0.0E+00
E	300	H-3	1.4E+01	0.0E+00	0.0E+00	0.0E+00
E	400	H-3	9.2E+00	0.0E+00	0.0E+00	0.0E+00
E	500	H-3	6.8E+00	0.0E+00	0.0E+00	0.0E+00
E	750	H-3	4.3E+00	0.0E+00	0.0E+00	0.0E+00
E	1500	H-3	1.8E+00	0.0E+00	0.0E+00	0.0E+00
E	2500	H-3	8.5E-01	0.0E+00	0.0E+00	0.0E+00
E	3500	H-3	5.2E-01	0.0E+00	0.0E+00	0.0E+00
E	4500	H-3	3.7E-01	0.0E+00	0.0E+00	0.0E+00
E	7500	H-3	1.8E-01	0.0E+00	0.0E+00	0.0E+00
E	15000	H-3	7.9E-02	0.0E+00	0.0E+00	0.0E+00
E	35000	H-3	3.1E-02	0.0E+00	0.0E+00	0.0E+00
E	55000	H-3	1.9E-02	0.0E+00	0.0E+00	0.0E+00
E	80000	H-3	1.3E-02	0.0E+00	0.0E+00	0.0E+00
ENE	50	H-3	1.5E+01	0.0E+00	0.0E+00	0.0E+00
ENE	60	H-3	2.1E+01	0.0E+00	0.0E+00	0.0E+00
ENE	80	H-3	2.6E+01	0.0E+00	0.0E+00	0.0E+00
ENE	100	H-3	2.5E+01	0.0E+00	0.0E+00	0.0E+00
ENE	120	H-3	2.2E+01	0.0E+00	0.0E+00	0.0E+00
ENE	150	H-3	1.8E+01	0.0E+00	0.0E+00	0.0E+00
ENE	200	H-3	1.2E+01	0.0E+00	0.0E+00	0.0E+00
ENE	300	H-3	6.4E+00	0.0E+00	0.0E+00	0.0E+00
ENE	400	H-3	4.3E+00	0.0E+00	0.0E+00	0.0E+00
ENE	500	H-3	3.5E+00	0.0E+00	0.0E+00	0.0E+00
ENE	750	H-3	2.6E+00	0.0E+00	0.0E+00	0.0E+00
ENE	1500	H-3	1.2E+00	0.0E+00	0.0E+00	0.0E+00
ENE	2500	H-3	5.6E-01	0.0E+00	0.0E+00	0.0E+00
ENE	3500	H-3	3.5E-01	0.0E+00	0.0E+00	0.0E+00
ENE	4500	H-3	2.5E-01	0.0E+00	0.0E+00	0.0E+00
ENE	7500	H-3	1.3E-01	0.0E+00	0.0E+00	0.0E+00
ENE	15000	H-3	5.6E-02	0.0E+00	0.0E+00	0.0E+00
ENE	35000	H-3	2.2E-02	0.0E+00	0.0E+00	0.0E+00
ENE	55000	H-3	1.4E-02	0.0E+00	0.0E+00	0.0E+00
ENE	80000	H-3	9.1E-03	0.0E+00	0.0E+00	0.0E+00
NE	50	H-3	1.3E+01	0.0E+00	0.0E+00	0.0E+00
NE	60	H-3	1.6E+01	0.0E+00	0.0E+00	0.0E+00

ESTIMATED RADIONUCLIDE CONCENTRATIONS
AT VARIOUS LOCATIONS IN THE ENVIRONMENT

Wind Toward	Distance (meters)	Nuclide	Air Concentration (pCi/m3)	Dry Deposition Rate (pCi/m2/s)	Wet Deposition Rate (pCi/m2/s)	Ground Deposition Rate (pCi/m2/s)
NE	80	H-3	1.7E+01	0.0E+00	0.0E+00	0.0E+00
NE	100	H-3	1.6E+01	0.0E+00	0.0E+00	0.0E+00
NE	120	H-3	1.4E+01	0.0E+00	0.0E+00	0.0E+00
NE	150	H-3	1.1E+01	0.0E+00	0.0E+00	0.0E+00
NE	200	H-3	7.2E+00	0.0E+00	0.0E+00	0.0E+00
NE	300	H-3	3.7E+00	0.0E+00	0.0E+00	0.0E+00
NE	400	H-3	2.4E+00	0.0E+00	0.0E+00	0.0E+00
NE	500	H-3	2.0E+00	0.0E+00	0.0E+00	0.0E+00
NE	750	H-3	1.8E+00	0.0E+00	0.0E+00	0.0E+00
NE	1500	H-3	1.0E+00	0.0E+00	0.0E+00	0.0E+00
NE	2500	H-3	5.2E-01	0.0E+00	0.0E+00	0.0E+00
NE	3500	H-3	3.3E-01	0.0E+00	0.0E+00	0.0E+00
NE	4500	H-3	2.4E-01	0.0E+00	0.0E+00	0.0E+00
NE	7500	H-3	1.3E-01	0.0E+00	0.0E+00	0.0E+00
NE	15000	H-3	5.6E-02	0.0E+00	0.0E+00	0.0E+00
NE	35000	H-3	2.2E-02	0.0E+00	0.0E+00	0.0E+00
NE	55000	H-3	1.4E-02	0.0E+00	0.0E+00	0.0E+00
NE	80000	H-3	9.1E-03	0.0E+00	0.0E+00	0.0E+00
NNE	50	H-3	9.8E+00	0.0E+00	0.0E+00	0.0E+00
NNE	60	H-3	1.3E+01	0.0E+00	0.0E+00	0.0E+00
NNE	80	H-3	1.5E+01	0.0E+00	0.0E+00	0.0E+00
NNE	100	H-3	1.4E+01	0.0E+00	0.0E+00	0.0E+00
NNE	120	H-3	1.2E+01	0.0E+00	0.0E+00	0.0E+00
NNE	150	H-3	9.2E+00	0.0E+00	0.0E+00	0.0E+00
NNE	200	H-3	6.1E+00	0.0E+00	0.0E+00	0.0E+00
NNE	300	H-3	3.1E+00	0.0E+00	0.0E+00	0.0E+00
NNE	400	H-3	2.1E+00	0.0E+00	0.0E+00	0.0E+00
NNE	500	H-3	1.7E+00	0.0E+00	0.0E+00	0.0E+00
NNE	750	H-3	1.5E+00	0.0E+00	0.0E+00	0.0E+00
NNE	1500	H-3	8.4E-01	0.0E+00	0.0E+00	0.0E+00
NNE	2500	H-3	4.3E-01	0.0E+00	0.0E+00	0.0E+00
NNE	3500	H-3	2.7E-01	0.0E+00	0.0E+00	0.0E+00
NNE	4500	H-3	2.0E-01	0.0E+00	0.0E+00	0.0E+00
NNE	7500	H-3	1.0E-01	0.0E+00	0.0E+00	0.0E+00
NNE	15000	H-3	4.6E-02	0.0E+00	0.0E+00	0.0E+00
NNE	35000	H-3	1.8E-02	0.0E+00	0.0E+00	0.0E+00
NNE	55000	H-3	1.1E-02	0.0E+00	0.0E+00	0.0E+00
NNE	80000	H-3	7.4E-03	0.0E+00	0.0E+00	0.0E+00

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Clean Air Act Assessment Package - 1988

C H I / Q T A B L E S

Non-Radon Individual Assessment
Apr 20, 2001 8:28 am

Facility: Lawrence Berkeley National Laboratory (LBNL)
Address: EH&S Environmental Protection Group
One Cyclotron Road
City: Berkeley
State: CA Zip: 94720

Source Category: Building 75 NTLF (New Roof Stack)
Source Type: Stack
Emission Year: 1998

Comments: Henry H. Tran, C.H.P.
Environmental Protection Health Physicist

Dataset Name: NTLF-NEWSTACK
Dataset Date: Feb 12, 2001 3:40 pm
Wind File: WNDFILES\LBL98.WND

GROUND-LEVEL CHI/Q VALUES FOR H-3
CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

	Distance (meters)						
Dir	50	60	80	100	120	150	200
N	8.778E-06	1.337E-05	1.765E-05	1.772E-05	1.618E-05	1.327E-05	9.299E-06
NNW	1.242E-05	1.695E-05	2.058E-05	1.979E-05	1.752E-05	1.393E-05	9.542E-06
NW	3.911E-06	7.413E-06	1.405E-05	1.768E-05	1.873E-05	1.802E-05	1.554E-05
WNW	3.304E-06	3.987E-06	6.033E-06	8.618E-06	1.062E-05	1.205E-05	1.209E-05
W	3.291E-06	3.833E-06	4.888E-06	5.870E-06	6.459E-06	6.641E-06	6.132E-06
WSW	3.986E-06	4.123E-06	3.673E-06	3.102E-06	2.625E-06	2.102E-06	1.579E-06
SW	1.122E-06	1.208E-06	1.050E-06	8.232E-07	6.413E-07	4.644E-07	3.243E-07
SSW	1.109E-06	1.311E-06	1.260E-06	1.050E-06	8.595E-07	6.494E-07	4.465E-07
S	2.127E-06	2.594E-06	2.862E-06	2.819E-06	2.683E-06	2.458E-06	2.157E-06
SSE	3.435E-06	4.044E-06	5.085E-06	6.164E-06	7.037E-06	7.908E-06	8.479E-06
SE	4.672E-06	5.914E-06	7.567E-06	8.604E-06	9.152E-06	9.290E-06	8.771E-06
ESE	6.920E-06	1.294E-05	2.555E-05	3.244E-05	3.378E-05	3.103E-05	2.436E-05
E	1.836E-05	3.002E-05	4.512E-05	4.852E-05	4.576E-05	3.838E-05	2.732E-05
ENE	1.566E-05	2.199E-05	2.710E-05	2.625E-05	2.334E-05	1.860E-05	1.263E-05
NE	1.333E-05	1.659E-05	1.805E-05	1.648E-05	1.425E-05	1.117E-05	7.522E-06
NNE	1.031E-05	1.374E-05	1.578E-05	1.457E-05	1.255E-05	9.717E-06	6.430E-06

	Distance (meters)						
Dir	300	400	500	750	1500	2500	3500
N	5.051E-06	3.471E-06	2.994E-06	2.595E-06	1.352E-06	6.864E-07	4.343E-07
NNW	5.286E-06	3.926E-06	3.784E-06	3.884E-06	2.239E-06	1.169E-06	7.475E-07
NW	1.140E-05	8.816E-06	7.516E-06	6.056E-06	3.130E-06	1.608E-06	1.020E-06
WNW	1.001E-05	7.863E-06	6.363E-06	4.569E-06	2.343E-06	1.227E-06	7.845E-07
W	4.769E-06	3.730E-06	3.118E-06	2.409E-06	1.239E-06	6.399E-07	4.071E-07
WSW	1.047E-06	8.050E-07	7.634E-07	8.522E-07	5.705E-07	3.135E-07	2.044E-07
SW	2.220E-07	1.916E-07	2.435E-07	4.813E-07	4.469E-07	2.654E-07	1.773E-07
SSW	3.029E-07	2.715E-07	3.100E-07	5.159E-07	4.676E-07	2.786E-07	1.863E-07
S	1.666E-06	1.359E-06	1.295E-06	1.373E-06	8.749E-07	4.748E-07	3.080E-07
SSE	7.549E-06	6.027E-06	4.935E-06	3.556E-06	1.742E-06	8.917E-07	5.658E-07
SE	7.336E-06	5.946E-06	4.939E-06	3.700E-06	1.954E-06	1.030E-06	6.596E-07
ESE	1.523E-05	1.046E-05	7.948E-06	5.161E-06	2.247E-06	1.094E-06	6.763E-07
E	1.500E-05	9.660E-06	7.183E-06	4.571E-06	1.894E-06	8.972E-07	5.490E-07
ENE	6.683E-06	4.498E-06	3.657E-06	2.703E-06	1.215E-06	5.877E-07	3.647E-07
NE	3.890E-06	2.510E-06	2.070E-06	1.848E-06	1.048E-06	5.477E-07	3.505E-07
NNE	3.289E-06	2.167E-06	1.835E-06	1.627E-06	8.825E-07	4.539E-07	2.889E-07

GROUND-LEVEL CHI/Q VALUES FOR H-3
CHI/Q TOWARD INDICATED DIRECTION (SEC/CUBIC METER)

	Distance (meters)					
Dir	4500	7500	15000	35000	55000	80000
N	3.125E-07	1.611E-07	7.069E-08	2.801E-08	1.709E-08	1.135E-08
NNW	5.409E-07	2.800E-07	1.232E-07	4.880E-08	2.976E-08	1.974E-08
NW	7.354E-07	3.746E-07	1.611E-07	6.223E-08	3.756E-08	2.473E-08
WNW	5.672E-07	2.900E-07	1.236E-07	4.683E-08	2.803E-08	1.835E-08
W	2.938E-07	1.498E-07	6.400E-08	2.438E-08	1.462E-08	9.589E-09
WSW	1.496E-07	7.816E-08	3.448E-08	1.359E-08	8.268E-09	5.477E-09
SW	1.311E-07	6.958E-08	3.104E-08	1.233E-08	7.528E-09	4.997E-09
SSW	1.379E-07	7.326E-08	3.270E-08	1.299E-08	7.931E-09	5.265E-09
S	2.248E-07	1.169E-07	5.129E-08	2.013E-08	1.222E-08	8.086E-09
SSE	4.081E-07	2.081E-07	8.919E-08	3.416E-08	2.054E-08	1.349E-08
SE	4.775E-07	2.449E-07	1.054E-07	4.058E-08	2.446E-08	1.610E-08
ESE	4.786E-07	2.381E-07	1.017E-07	4.028E-08	2.459E-08	1.634E-08
E	3.860E-07	1.928E-07	8.287E-08	3.305E-08	2.026E-08	1.350E-08
ENE	2.594E-07	1.329E-07	5.840E-08	2.332E-08	1.429E-08	9.520E-09
NE	2.537E-07	1.325E-07	5.885E-08	2.348E-08	1.437E-08	9.565E-09
NNE	2.085E-07	1.086E-07	4.810E-08	1.911E-08	1.168E-08	7.761E-09

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Clean Air Act Assessment Package - 1988

G E N E R A L D A T A

Non-Radon Individual Assessment
Apr 20, 2001 8:28 am

Facility: Lawrence Berkeley National Laboratory (LBNL)
Address: EH&S Environmental Protection Group
One Cyclotron Road
City: Berkeley
State: CA Zip: 94720

Source Category: Building 75 NTLF (New Roof Stack)
Source Type: Stack
Emission Year: 1998

Comments: Henry H. Tran, C.H.P.
Environmental Protection Health Physicist

Dataset Name: NTLF-NEWSTACK
Dataset Date: Feb 12, 2001 3:40 pm
Wind File: WNDFILES\LBL98.WND

VALUES FOR RADIONUCLIDE-DEPENDENT PARAMETERS

Nuclide	Clearance Class	Particle Size (microns)	Scavenging Coefficient (per second)	Dry Deposition Velocity (m/s)
H-3	*	0.0	0.00E+00	0.00E+00

VALUES FOR RADIONUCLIDE-DEPENDENT PARAMETERS

	DECAY CONSTANT (PER DAY)			TRANSFER COEFFICIENT	
Nuclide	Radio-active (1)	Surface	Water	Milk (2)	Meat (3)
H-3	0.00E+00	5.48E-05	0.00E+00	0.00E+00	0.00E+00

FOOTNOTES: (1) Effective radioactive decay constant in plume; set to zero if less than 1.0E-2

(2) Fraction of animal's daily intake of nuclide which appears in each L of milk (days/L)

(3) Fraction of animal's daily intake of nuclide which appears in each kg of meat (days/kg)

VALUES FOR RADIONUCLIDE-DEPENDENT PARAMETERS

	CONCENTRATION UPTAKE FACTOR		GI UPTAKE FRACTION	
Nuclide	Forage (1)	Edible (2)	Inhalation	Ingestion
H-3	0.00E+00	0.00E+00	9.50E-01	9.50E-01

FOOTNOTES: (1) Concentration factor for uptake of nuclide from soil for pasture and forage (in pCi/kg dry weight per pCi/kg dry soil)

(2) Concentration factor for uptake of nuclide from soil by edible parts of crops (in pCi/kg wet weight per pCi/kg dry soil)

H-3 DOSE CONVERSION FACTOR FOR WATER INGESTION (rem-cc/pCi-y): 5.70E-02

VALUES FOR RADIONUCLIDE-INDEPENDENT PARAMETERS

HUMAN INHALATION RATE	
Cubic centimeters/hr	9.17E+05
SOIL PARAMETERS	
Effective surface density (kg/sq m, dry weight)	
(Assumes 15 cm plow layer)	2.15E+02
BUILDUP TIMES	
For activity in soil (years)	1.00E+02
For radionuclides deposited on ground/water (days)	3.65E+04
DELAY TIMES	
Ingestion of pasture grass by animals (hr)	0.00E+00
Ingestion of stored feed by animals (hr)	2.16E+03
Ingestion of leafy vegetables by man (hr)	3.36E+02
Ingestion of produce by man (hr)	3.36E+02
Transport time from animal feed-milk-man (day)	2.00E+00
Time from slaughter to consumption (day)	2.00E+01
WEATHERING	
Removal rate constant for physical loss (per hr)	2.90E-03
CROP EXPOSURE DURATION	
Pasture grass (hr)	7.20E+02
Crops/leafy vegetables (hr)	1.44E+03
AGRICULTURAL PRODUCTIVITY	
Grass-cow-milk-man pathway (kg/sq m)	2.80E-01
Produce/leafy veg for human consumption (kg/sq m)	7.16E-01
FALLOUT INTERCEPTION FRACTIONS	
Vegetables	2.00E-01
Pasture	5.70E-01
GRAZING PARAMETERS	
Fraction of year animals graze on pasture	4.00E-01
Fraction of daily feed that is pasture grass	
when animal grazes on pasture	4.30E-01

VALUES FOR RADIONUCLIDE-INDEPENDENT PARAMETERS

ANIMAL FEED CONSUMPTION FACTORS	
Contaminated feed/forage (kg/day, dry weight)	1.56E+01
DAIRY PRODUCTIVITY	
Milk production of cow (L/day)	1.10E+01
MEAT ANIMAL SLAUGHTER PARAMETERS	
Muscle mass of animal at slaughter (kg)	2.00E+02
Fraction of herd slaughtered (per day)	3.81E-03
DECONTAMINATION	
Fraction of radioactivity retained after washing for leafy vegetables and produce	5.00E-01
FRACTIONS GROWN IN GARDEN OF INTEREST	
Produce ingested	1.00E+00
Leafy vegetables ingested	1.00E+00
INGESTION RATIOS:	
IMMEDIATE SURROUNDING AREA/TOTAL WITHIN AREA	
Vegetables	7.60E-02
Meat	8.00E-03
Milk	0.00E+00
MINIMUM INGESTION FRACTIONS FROM OUTSIDE AREA (Minimum fractions of food types from outside area listed below are actual fixed values.)	
Vegetables	0.00E+00
Meat	0.00E+00
Milk	0.00E+00
HUMAN FOOD UTILIZATION FACTORS	
Produce ingestion (kg/y)	1.76E+02
Milk ingestion (L/y)	1.12E+02
Meat ingestion (kg/y)	8.50E+01
Leafy vegetable ingestion (kg/y)	1.80E+01
SWIMMING PARAMETERS	
Fraction of time spent swimming	0.00E+00
Dilution factor for water (cm)	1.00E+00