STATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY GRAY DAVIS, Governor

DEPARTMENT OF HEALTH SERVICES
RADIOLOGIC HEALTH BRANCH
2151 BERKELEY WAY, ANNEX 2
BERKELEY, CA 94704-1011
(510) 540-2014

(510) 540-2360 May 6, 1999

Lawrence Livermore National Laboratory
P.O. Box 808, L-629
Livermore, CA 94551
Fax (925) 422-8684

SUBJECT: STATE POSTING TLD RESULTS 1997-1998

Per your request, please find attached the results of our State co-located TLD posting around Lawrence Livermore National Laboratory during 1997-1998.

The results from 1997 and 1998 are presented in raw data form. Please note the following:

- The results (mR) are normalized to a 91-day posting period.
- The results are the net exposures. Transit exposures have already been accounted for. (The location exposures already have had the transit exposures subtracted from them.)
- Two sigma errors and percent error are listed.
- Also listed is a calculated equivalent microR per hour value for each location if the quarterly results were based on a constant exposure throughout the quarter.
- Measured meter readings with a calibrated instrument were recorded at posting and at retrieval of the TLD.
- An ERR value indicates that the TLD was missing at retrieval.
- The location number is based upon your numbering for your locations.

Please call me if you have any question or if I may be of further assistance.

Sincerely,

Jeffrey W. Wong
Health Physicist
Radiologic Health Branch

LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE, CA

(mR/91	ERROR 2 SIGMA	% ERRO	LOCATION #	EQUIVA UR/HR	POSTIN UR/HR	RETREI UR/HR
5.8	0.6	11.0	TRANSIT	2.6	N/A	N/A
16.5	1.4	8.7	LLNL15	7.5	5.0	5.0
16.1	1.3	8.3	LLNL19	7.4	5.0	5.0
18.3	1.6	8.7	LLNL28	8.4	7.0	7.5
14.3	1.3	8.9	LLNL75	6.6	4.0	4.0
17.5	1.5	8.5	LLNL78	8.0	6.0	6.0
21.0	2.3	10.9	LLNL91	9.6	7.5	8.0
25.6	2.2	8.6	LLNL94	11.7	10.0	12.0
22.6	2.1	9.3	LLNL96	10.4	11.0	10.5
18.8	1.6	8.3	LLNL99	8.6	7.0	8.0

RADIOLOGIC HEALTH BRANCH TLD POSTING

DATE POSTED - ********** 1/14/97
DATE REMOVED********** 4/14/97
POSTING PERIOD(DAYS) - 90

LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE, CA

(mR/91	ERROR 2 SIGMA	% ERRO	LOCATION #	EQUIVA UR/HR	POSTIN UR/HR	RETREI UR/HR
6.2	0.7	10.9	TRANSIT	2.9	N/A	N/A
16.7	1.5	8.7	LLNL15	7.6	5.0	6.5
16.0	2.0	12.4	LLNL19	7.3	5.0	5.5
ERR	ERR	ERR	LLNL28	ERR	7.5	7.0
13.2	1.4	10.5	LLNL75	6.0	4.0	5.0
17.4	1.5	8.8	LLNL78	7.9	6.0	8.0
20.7	1.8	8.7	LLNL91	9.5	8.0	10.5
27.6	2.4	8.7	LLNL94	12.6	12.0	13.0
23.6	2.1	8.9	LLNL96	10.8	10.5	12.5
19.7	2.4	12.2	LLNL99	9.0	8.0	9.0

RADIOLOGIC HEALTH BRANCH TLD POSTING

DATE POSTED - ********* 4/14/97
DATE REMOVED ********* 7/29/97
POSTING PERIOD(DAYS) - 106

LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE, CA

(mR/91	ERROR 2 SIGMA	% ERRO	LOCATION #	EQUIVA UR/HR	POSTIN UR/HR	RETREI UR/HR
5.3	0.6	11.5	TRANSIT	2.4	N/A	N/A
14.4	1.4	9.7	LLNL15	6.6	6.5	
14.6	1.4	9.3	LLNL19	6.7	5.5	
16.5	1.7	10.1	LLNL28	7.5	7.0	
12.6	1.6	12.4	LLNL75	5.8	5.0	
16.9	1.6	9.4	LLNL78	7.7	8.0	
20.2	1.9	9.6	LLNL91	9.3	10.5	
28.6	2.6	9.1	LLNL94	13.1	13.0	
23.2	2.1	9.2	LLNL96	10.6	12.5	
18.5	1.7	9.4	LLNL99	8.5	9.0	

RADIOLOGIC HEALTH BRANCH TLD POSTING

DATE POSTED - ********* 7/29/97
DATE REMOVED********* 10/14/97
POSTING PERIOD(DAYS) - 77

LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE, CA

(mR/91	ERROR 2 SIGMA	% ERRO	LOCATION #	EQUIVA UR/HR	POSTIN UR/HR	RETREI UR/HR
6.3	1.3	20.0	TRANSIT	2.9	N/A	N/A
16.9	1.7	9.9	LLNL15	7.8		7.0
16.9	1.6	9.6	LLNL19	7.7		6.0
ERR	ERR	ERR	LLNL28	ERR		8.0
14.6	1.6	11.1	LLNL75	6.7		5.0
18.5	1.8	9.7	LLNL78	8.5		6.0
21.9	2.0	9.2	LLNL91	10.0		9.5
27.3	2.4	8.7	LLNL94	12.5		12.5
23.3	2.1	8.9	LLNL96	10.7		12.5
19.4	1.8	9.3	LLNL99	8.9		9.0

RADIOLOGIC HEALTH BRANCH TLD POSTING

DATE POSTED - ********** 10/14/97
DATE REMOVED ********** 1/21/98
POSTING PERIOD(DAYS) - 99

RADIOLOGIC HEALTH BRANCH TLD POSTING

LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE, CA

(mR/91 DA2	ERROR SIGMA	% ERROR	LOCATION #	EQUIVAL UR/HR	POSTING UR/HR	RETREIV UR/HR
5.8	0.8	14.6	TRANSIT	2.6	N/A	N/A
15.5	1.3	8.2	LLNL15	7.1	7.0	5.5
15.1	1.3	8.4	LLNL19	6.9	6.0	5.0
18.5	1.5	7.9	LLNL28	8.5	8.0	8.0
13.3	1.1	8.6	LLNL75	6.1	5.0	4.5
16.8	1.5	8.7	LLNL78	7.7	6.0	5.0
19.2	1.6	8.1	LLNL91	8.8	9.5	8.5
24.5	2.0	8.2	LLNL94	11.2	12.5	12.5
20.6	2.0	9.8	LLNL96	9.4	12.5	10.5
18.5	1.5	7.9	LLNL99	8.5	9.0	7.5

DATE POSTED - 01/21/98
DATE REMOVED - 04/17/98
POSTING PERIOD(DAYS) - 86

RADIOLOGIC HEALTH BRANCH TLD POSTING

LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE, CA

(mR/91 DA2	ERROR SIGMA	% ERROR	LOCATION #	EQUIVAL UR/HR	POSTING UR/HR	RETREIV UR/HR
5.9	1.4	23.1	TRANSIT	2.7	N/A	N/A
15.5	3.4	22.0	LLNL15	7.1	5.5	6.0
14.1	3.2	22.7	LLNL19	6.4	5.0	5.5
19.3	4.2	21.7	LLNL28	8.8	8.0	10.0
12.0	2.9	24.6	LLNL75	5.5	4.5	4.5
15.9	3.6	22.6	LLNL78	7.3	5.0	5.5
18.2	4.2	22.9	LLNL91	8.3	8.5	9.5
24.3	5.9	24.4	LLNL94	11.1	12.5	13.0
20.8	4.6	22.4	LLNL96	9.5	10.5	11.0
17.6	3.8	21.8	LLNL99	8.1	7.5	8.0

DATE POSTED - 04/17/98
DATE REMOVED - 07/30/98
POSTING PERIOD(DAYS) - 104

RADIOLOGIC HEALTH BRANCH TLD POSTING

LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE, CA

(mR/91 DA2	ERROR SIGMA	% ERROR	LOCATION #	EQUIVAL UR/HR	POSTING UR/HR	RETREIV UR/HR
5.7	1.0	17.1	TRANSIT	2.6	N/A	N/A
15.1	2.0	12.9	LLNL15	6.9	6.0	6.0
15.2	2.9	19.3	LLNL19	6.9	5.5	6.0
18.3	2.1	11.5	LLNL28	8.4	10.0	10.5
11.1	1.4	12.9	LLNL75	5.1	4.5	5.0
14.7	1.8	12.4	LLNL78	6.7	5.5	7.0
18.3	2.5	13.7	LLNL91	8.4	9.5	8.0
23.7	2.7	11.2	LLNL94	10.8	13.0	13.0
22.0	2.6	11.6	LLNL96	10.1	11.0	12.0
18.2	2.1	11.5	LLNL99	8.3	8.0	8.5
14.0	1.7	12.1	LLNL47	6.4	5.5	6.0

DATE POSTED - 07/30/98
DATE REMOVED - 10/13/98
POSTING PERIOD(DAYS) - 75

RADIOLOGIC HEALTH BRANCH TLD POSTING

LAWRENCE LIVERMORE NATIONAL LABORATORY
LIVERMORE, CA

(mR/91	ERROR DA2	SIGMA	% ERROR	LOCATION #	EQUIVAL UR/HR	POSTING UR/HR	RETREIV UR/HR
6.0	1.9		32.0	TRANSIT	2.8	N/A	N/A
15.2	2.3		15.0	LLNL15	6.9	6.0	7.0
14.9	2.0		13.6	LLNL19	6.8	6.0	6.5
20.1	2.9		14.6	LLNL28	9.2	10.5	10.0
12.5	2.0		15.7	LLNL75	5.7	5.0	5.0
16.3	2.4		14.8	LLNL78	7.5	7.0	13.5
19.3	4.2		21.8	LLNL91	8.8	8.0	9.5
ERR	ERR		ERR	LLNL94	ERR	13.0	13.0
22.7	2.8		12.4	LLNL96	10.4	12.0	12.0
17.4	2.3		13.0	LLNL99	8.0	8.5	9.0
14.5	2.2		14.8	LLNL47	6.7	6.0	7.0

DATE POSTED - 10/13/98
DATE REMOVED - 01/21/99
POSTING PERIOD(DAYS) - 100