DECOMMISSIONING SURVEY FOR THE L-77 RESEARCH REACTOR

BRIGHAM YOUNG UNIVERSITY

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4. PROPOSED FINAL RADIATION SURVEY PLAN

After dismantling has been completed, and all other equipment has been removed from the facility, termination radiation survey locations shall be selected and identified. A one meter grid shall be established on the floor, walls and ceiling inside the reactor room (see figure 2). The entire surface area of the reactor room shall then be surveyed for alpha, beta and gamma radiation using the instrumentation described below. In the remaining part of the facility the survey shall be accomplished by establishing a virtual 3-m-square grid on the floor, walls, and ceiling. From each 3-m-square (approximately 100 ft^2), a single 1-m square shall be selected that, as judged by the RSO, is most likely to represent the highest amount of residual radioactivity within the 3-m square. The selected square meter is surveyed for alpha, beta, gamma, and removable surface contamination. This method results in 11% of the remaining surface area within the facility being uniformly sampled. This sampling shall be increased on the floor, as necessary, to assure that at least 30 locations on the floor are tested.

In addition, each drain and floor penetration shall be surveyed.

The survey measurements to be performed consist of determination of the average alpha surface radioactivity, average beta surface radioactivity, removable surface radioactivity, and the ambient (gamma) radiation exposure rate at 1 m from the surface. If measurements of the average alpha and/or beta surface radioactivity indicate the presence of residual "hot-spots", a measurement of the radioactivity in a 100 cm^2 area at the hot-spot location shall be made.

Measurements of the average alpha and beta surface radioactivity in a 1-m square are made by using portable scalers (Eberline ESP-1 and 2) with audible output, connected to an Eberline model 260 thin window GM probe for beta activity, and an Eberline alpha scintillator for alpha activity. These probes are uniformly scanned over the surface (in close proximity) and the counts recorded for 5 minutes. Correction for detector efficiency, (estimated via Th-230 source for alpha and a Tc-99 source for beta) local background, detector area, and count time results in a measure of the residual radioactivity averaged over $1m^2$. Measurement of the maximum surface radioactivity averaged over 100 cm^2 within that 1 m^2 is done, if warranted, by similarly scanning an area of 100 cm^2 for a period of one minute and performing the necessary corrections as described.

Removable surface radioactivity is estimated for each 1-m square by smearing a 100 cm^2 area, using a polystyrene swipe, dissolving the swipe in liquid scintillation fluid and counting the same in a Packard model 1500 liquid scintillation counter. This counter provides counting efficiencies of about 95% for betas with average energy of 49 kev, approximately 100% for betas between 50 and 1000

kev and an efficiency of approximately 100% for alpha radiation. In addition, gamma emitters are detected due to the presence of internal conversion electrons, auger electrons (efficiencies of about 50% at 6 kev) and Compton scattering. Total efficiencies for gamma embitters vary by the nuclide involved but generally range from 10% to 70%. A minimum of 500 swipe tests shall be made. Under the assumption that removable surface contamination is described by a Poisson distribution, there is a 99% probability of detecting contamination even when it is present at levels as low as one contaminated square per one hundred squares.

Gamma radiation is measured by means of an ESP-2 portable scaler with audible output connected to an Eberline PG-2 low energy gamma probe (Sodium Iodide scintillator). The probe is situated in the center of the square meter being surveyed and an exposure is integrated over a five minute period.

Floor drains and similar features (utility boxes or trays, etc.) that do not permit such a methodical approach shall be inspected by use of portable survey instruments for alpha, beta, and gamma activity, and by smears for removable activity.

Calibration shall be performed by the instrument vendor (Eberline) within three months of the termination of the survey.

The data shall be analyzed by use of a computer program that takes the fundamental instrument reading and performs the necessary calculations to produce the derived result, either dpm/100 cm^2 or uR/h, thus minimizing transcription and arithmetic errors. The frequency distribution shall be plotted and compared, via goodness of fit test, to the normal distribution with the mean equal to the average background count and the standard deviation equal to the square root of the background count divided by 5. The sample distribution shall also be compared to a background sample distribution, obtained from other locations on campus.

Instrument quality control charts with two sigma intervals are prepared for each instrument. The channel check and background are plotted daily whenever the instrument is in use. These, and the fundamental data sheets, are reviewed and compared with the analytical results to confirm the survey quality.

A summary report of the survey results is prepared for submission to the NRC to support a request for termination of the license.

All survey documents are retained until after concurrence by the NRC that the facility is acceptable for release for unrestricted use.

Refer to Docket No. 50-262

March 9, 1992

Alexander Adams, Jr.
Project Manager Non-Power Reactors,
Decommissioning and Environmental
  Project Directorate
Division of Advanced Reactors
  and Special Projects
Office of Nuclear Reactor Regulation

Dear Sir:

In response to the questions received from your office dated January 9, 1991, we have prepared the following information:

1. A table of contents is enclosed.

2. A copy of Figure 1 is enclosed.

3. Statistical analysis reports will be prepared and maintained for NRC review.

4. Core samples will be obtained by drilling a one quarter inch hole in the respective material and placing a one gram sample of the material removed by the drill into LSC counting fluid for alpha and beta analysis using LSC counting techniques (it is assumed that gamma contamination will be picked up with standard surface survey instruments).

5. A "Training Program Outline", is enclosed.

6. We will be using RAMP Industries Incorporated with offices in Denver, Colorado as our radioactive waste broker. The Brigham Young University Radiation Safety Officer is charged with assuring compliance with all shipping and waste disposal regulations as well as monitoring the activities of our broker.

7. One milliliter of shielding water and one milliliter of tap water (the shielding tank was filled with culinary water in 1967) were placed in Liquid Scintillation Counting Cocktail and counted for one minute ten times. The resulting means for the counts were respectively, 169.9 for the tap water and 169.6 for the shielding

water. Calculated standard errors for the means were 2.57 and 4.09. Assuming that the true mean for the tap water in this area is 169.9 there is a 95 % probability that the true mean for the shielding water is less than 8 cpm above the background. Since efficiency for ^{14}C is approximately 90% using this methodology and the more radiotoxic materials in general have an efficiency approaching 100% there is a 95% probability that the true contamination of the shielding water is less than 9 dpm per milliliter of water. This translates to a possible contamination level of 4.09×10^{-6} microcuries per milliliter. In addition NRC Region IV pulled a sample of shielding water for analysis and we have requested the results from their analysis. Prior to discharging the water we will repeat the analysis using 2 milliliters of water and a 20 minute count.

8. The Pu/Be source was leak tested at the time of removal and the tests results were less than 0.0001 microcuries of removable surface contamination. In addition the exposure rate (gamma) survey taken at the time of removal was 0.2 mrem/hour at one meter from the surface of the source and the neutron flux was 5 neutrons per second per square centimeter at one meter from the surface of the material with the thermal neutron shield in place.

Application has been made to transfer this source to License UT 2500091 which currently has a license limit of 83.5 grams of plutonium-239.

9. No material will be released for unrestricted use unless it can be demonstrated to be less than the following criteria at a 95% confidence level.

a. 5000 dpm/100 cm^2 for fixed beta/gamma contamination.
b. 1000 dpm/100 cm^2 for removable beta/gamma contamination.
c. 100 dpm/100 cm^2 for fixed alpha contamination.
d. 20 dpm/100 cm^2 for removable alpha contamination.

While we will accumulate the data on the above material we will not release any material as non-radioactive from the reactor facility until the data including statistical analysis has been reviewed by the NRC.

10. We shall not release facilities to unrestricted use unless we can, demonstrate with at least a 95% probability, that exposure rates associated with those facilities are not more than 5 uR/hour above background at one meter from the surface of those facilities.

11. Survey instruments shall be calibrated within four weeks of the start of decommissioning activities. Since the time schedule submitted involves five weeks for completion of the project the instrument calibration will be performed within three months of the completion of the project. This is in keeping with new guidelines proposed by the Division of Radiation Control which allow survey instrument calibration at 3 month intervals. In addition the instruments will be checked with an appropriate calibrated source

CUSTOMER SERVICE AS FOUND DATA

CUSTOMER NAME Brigham Young University

JOB NUMBER 222729 INSTRUMENT MOD. ESP-1 S/N 2876

HP-260 S/N 715-023

S/N

☐ OPERATIONAL FAILURE

ITEMS REPLACED:

RANGE	CALIBRATION POINT	READING	
	20,400 cpm	4.28+04	61%
	7,380 cpm	4.63+03	64%

☐ OUT OF TOLERANCE

☑ WITHIN TOLERANCE

DATE 4-15-93

SIGNATURE Peter Tapia

CUSTOMER SERVICE AS FOUND DATA

CUSTOMER NAME Brigham Young University

JOB NUMBER 222729 INSTRUMENT MOD. ESP-2 S/N 1064

☐ OPERATIONAL FAILURE SPA-3 S/N 210616

S/N

ITEMS REPLACED:

H.V. = 870 VDC, I.S. = 10 MV ΔT. = 1.03-05,

C.S. = 1.00+00

RANGE	CALIBRATION POINT	READING
	1 MR / HR	1.50+06 CPM

☐ OUT OF TOLERANCE

✓ WITHIN TOLERANCE

DATE 4-15-93

SIGNATURE Peter Tapsis

EBERLINE INSTRUMENT CORPORATION SANTA FE, N.M.
A Subsidiary of
Thermo Instrument Systems Inc.

CERTIFICATION OF CALIBRATION

Instrument: ESP-2 Serial Number: 1064

Detector: SPA-3 Serial Number: 710616

Sources*: Cs-137 S/N EI-120

Units: cnt/min

Calib. Constant**: 1.00E+00

Dead Time (Sec)**: 1.39E-05

High Voltage (Volts): 9.50E+02

OverRange***: The ESP-2 Overranged and Read 4.65E+006 cnt/min
When Placed in a Calibrated Field Between 4.19E+006 and 6.70E+006 cnt/min.

CALIBRATION CHECK

FIELD STRENGTH***	ESP-2 READING
8.86E+005 cnt/min	8.10E+005 cnt/min
1.72E+006 cnt/min	1.60E+006 cnt/min

CALIBRATED BY: Pete Tapia DATE: 4/ 8/93

PROGRAM: ESP-2 Calibration Program V 1.13

* Calibration Sources Used Have Calibration
Traceable to the National Institute of Standards and Technology.

*** Fields Given are not Calibrated in cpm. Values Shown
Were Determined by Applying Sensitivity = 1.67E+006 cpm/mR/h
To a Calibrated mR/h Field.

EBERLINE INSTRUMENT CORPORATION SANTA FE, N.M.
A Subsidiary of
Therro Instrument Systems Inc.

CERTIFICATION OF CALIBRATION

Instrument: ESP-2 Serial Number: 1064

Detector: AC-3-7 Serial Number: 716343

Sources*: Pu-239 S/N P1820,P478,2014,P614,1837

Units: cnt/min

Calib. Constant**: 1.00E+00

Dead Time (Sec)**: 6.62E-06

High Voltage (Volts): 1.00E+03

EFFICIENCY CHECK

2PI EMISSION RATE	ESP-2 READING	EFFICIENCY (2Pi)
3.69E+003 cnt/min	1.37E+003 cnt/min	37%
3.90E+004 cnt/min	1.47E+004 cnt/min	38%
3.68E+005 cnt/min	1.41E+005 cnt/min	38%

CALIBRATED BY: Peter Tapia DATE: 4/ 8/93

PROGRAM: ESP-2 Calibration Program V 1.13

* Calibration Sources Used Have Calibration
Traceable to the National Institute of Standards and Technology.

CUSTOMER SERVICE AS FOUND DATA

CUSTOMER NAME Brigham young university

JOB NUMBER 222729 INSTRUMENT MOD. ESP-2 S/N 1064

☐ OPERATIONAL FAILURE AC-3-7 S/N 216343

S/N

ITEMS REPLACED:

H.V. = 1000 VAC I.S. = 10 MV D.T. = 1.20-05

C.C = 1.00+00

RANGE	CALIBRATION POINT	READING
	39.000 CPM	150 +04 CPM 38%

☐ OUT OF TOLERANCE

✓ WITHIN TOLERANCE

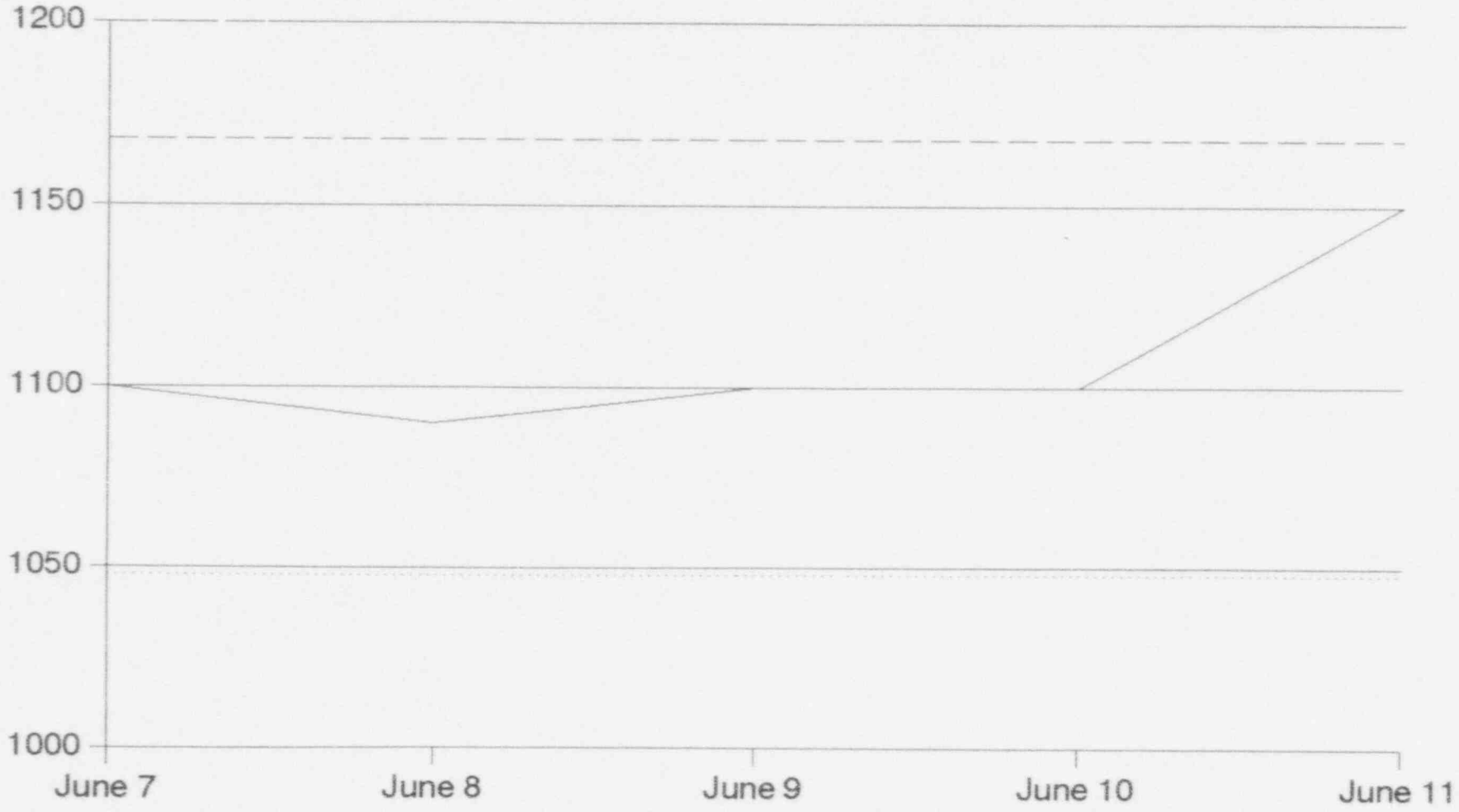
DATE 4-15-93

SIGNATURE Vicki Tapia

Detector: AC-3-7
Serial Number: 716343

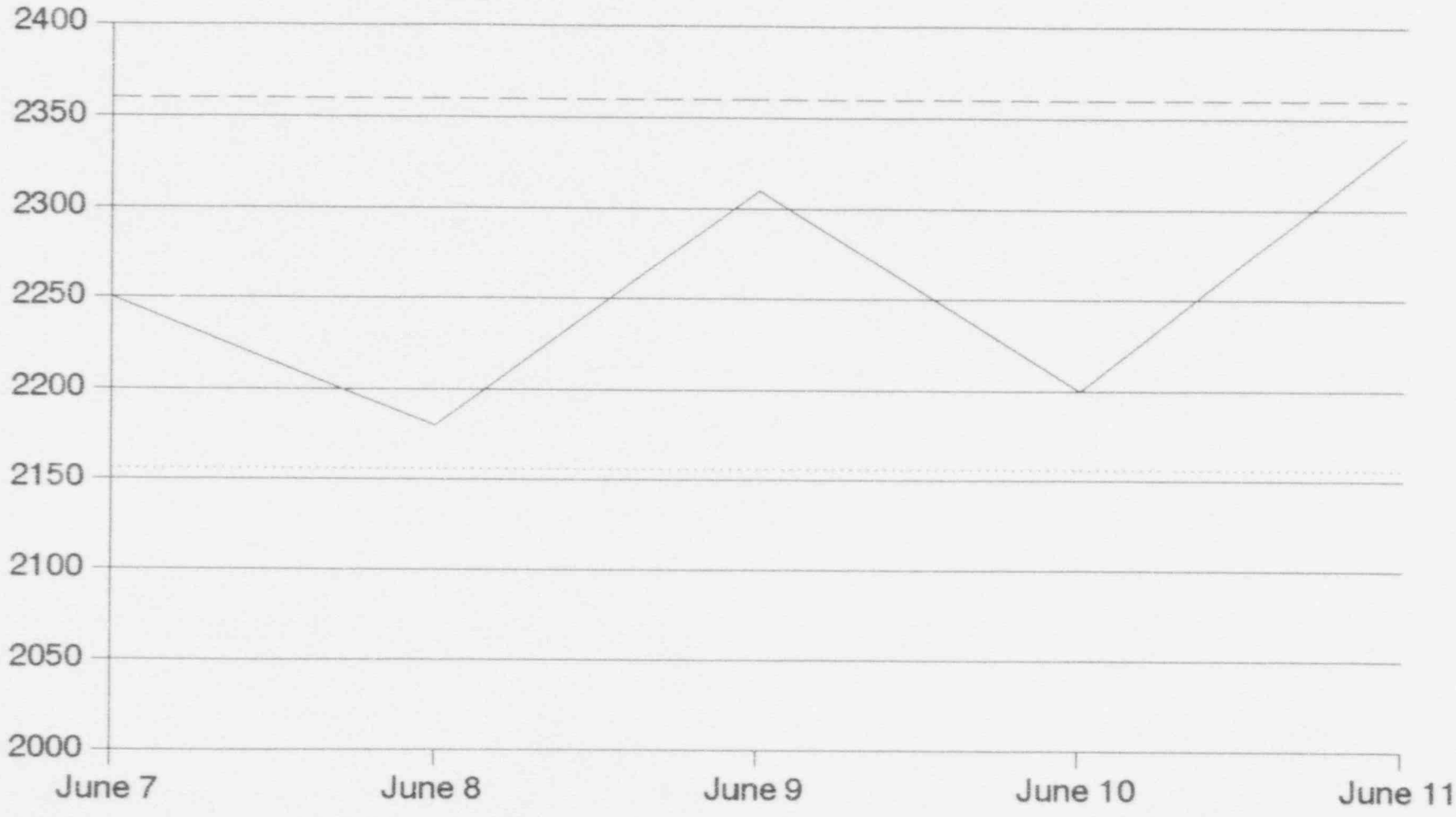
HIGH VOLTAGE (V)	COUNT RATE (cpm)	
6.50E+002	5.51E+003	
7.00E+002	6.66E+004	
7.50E+002	9.09E+004	Knee
8.00E+002	1.18E+005	
8.50E+002	1.31E+005	
9.00E+002	1.38E+005	
9.50E+002	1.38E+005	
1.00E+003	1.39E+005	Optimum
1.05E+003	1.39E+005	
1.10E+003	1.43E+005	
1.15E+003	1.53E+005	
1.20E+003	1.83E+005	UpSwing
1.25E+003	3.25E+005	
1.30E+003	5.50E+005	
1.35E+003	8.11E+005	
1.40E+003	1.32E+006	
1.45E+003	1.93E+006	
1.50E+003	2.42E+006	
1.55E+003	2.80E+006	

BETA QC CHART



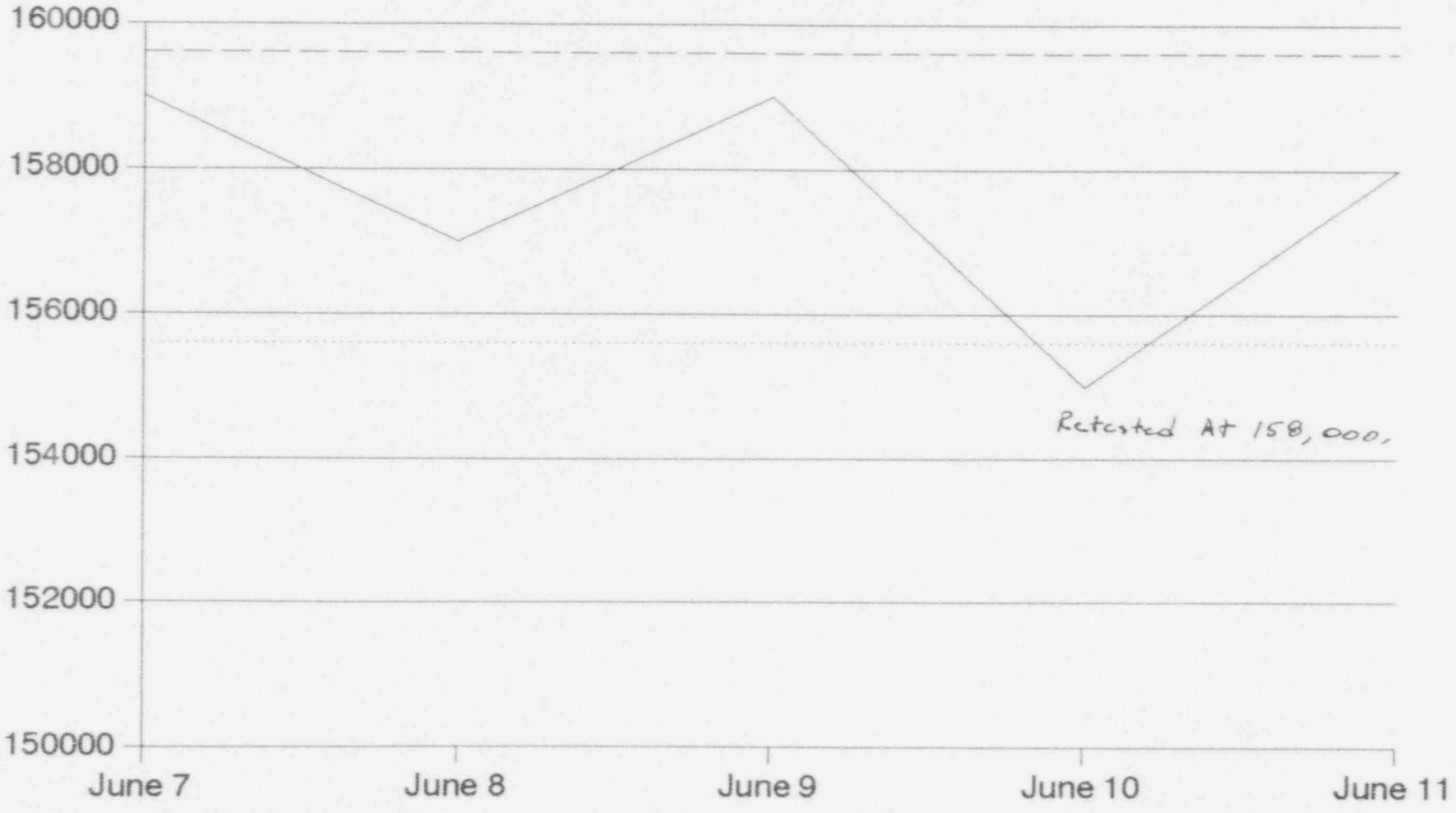
Beta Probe	1100	1090	1100	1100	1150
QC Pos	1168	1168	1168	1168	1168
QC Neg	1048	1048	1048	1048	1048

Alpha QC Chart



Alpha Probe	2250	2180	2310	2200	2340
QC Pos	2360	2360	2360	2360	2360
QC Neg	2156	2156	2156	2156	2156

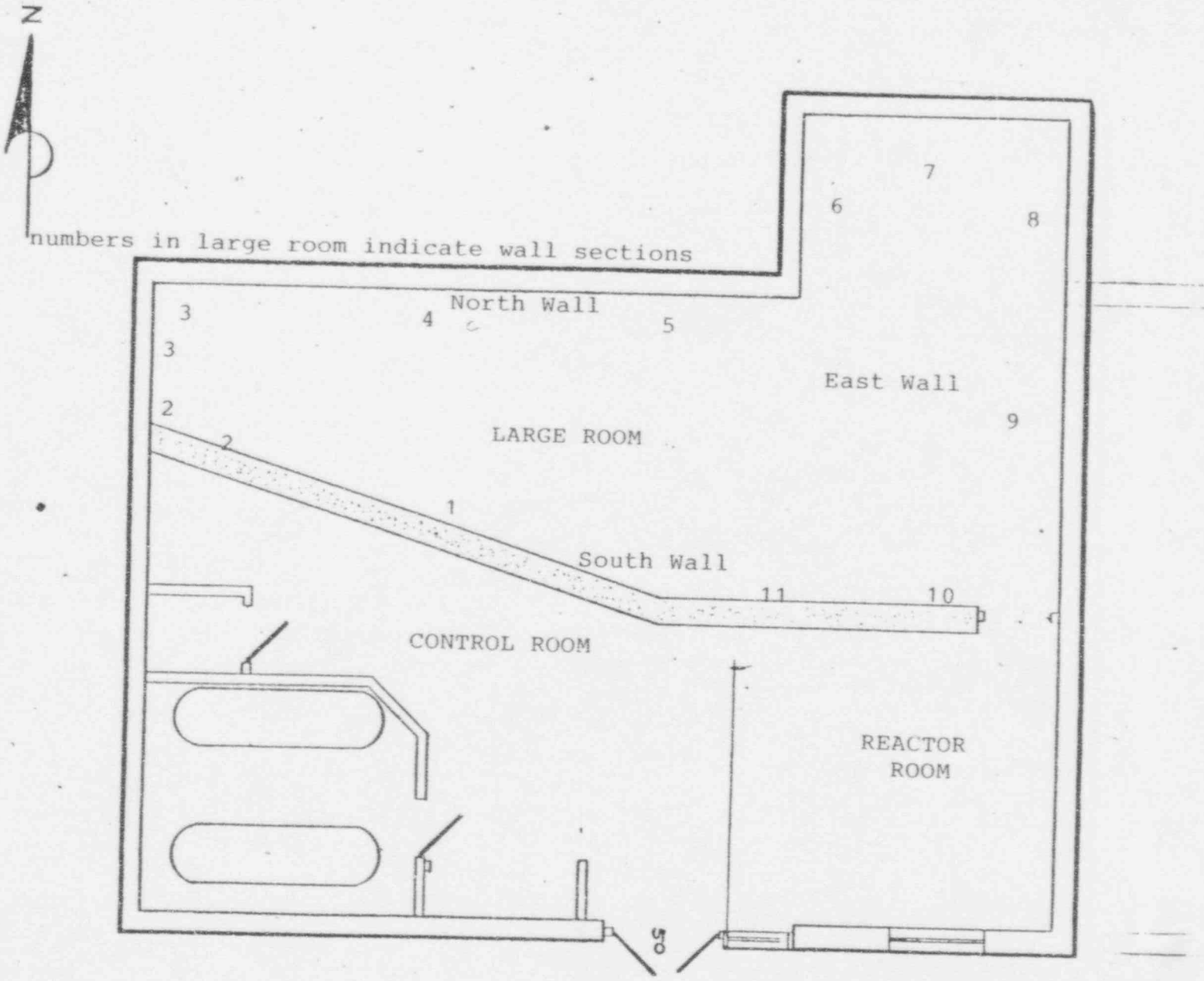
Gamma QC Chart



Gamma Prob	159000	157000	159000	155000	158000
QC Pos	159600	159600	159600	159600	159600
QC Neg	155600	155600	155600	155600	155600

Survey Codes Used

AFD(S)	Dust from HEPA filters used in decommissioning counted on LSC counter
BF(S)	Diphenyl shielding material LSC count.
CREW	Control room east wall
CRF	Control room floor
CRF(S)	Additional swipe taken from Control Room Floor
CRC	Control room ceiling
CRNW	Control room North Wall
ID	Interior wall and door from control room
IWB	Interior wall from control room
LDP	Lead diphenyl
LDP(S)	LSC count of lead and diphenyl
LRC	Large room ceiling
LRF	Large room floor
LRF(S)	Extra swipes taken from large room floor
LRTW	Top wall section large room
LRW	Bottom wall section large room
LS	Lead shot
LS(S)	LSC count of lead shot
MP	Metal pieces from the reactor
PAR	Paraffin from reactor shielding
RRC	Reactor room ceiling
RREW	Reactor room east wall
RRF	Reactor room floor
RRF(S)	Additional swipes taken from reactor room floor
RRNW	Reactor room north wall
RRSW	Reactor room south wall
RRWW	Reactor room west wall
SD(S)	LSC counts of steel dust recovered after decommissioning



APPROVALS

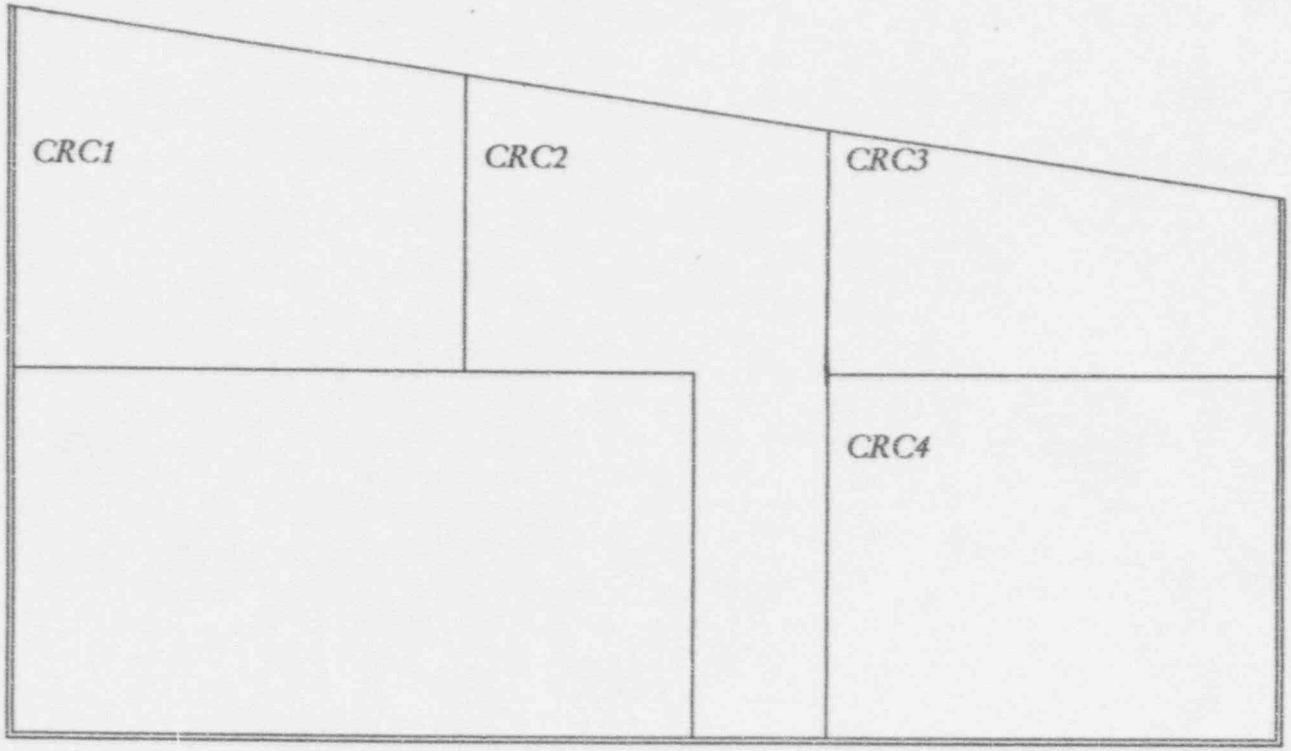
BRIGHAM YOUNG UNIVERSITY
PHYSICAL PLANT DEPARTMENT

NUCLEAR LABORATORY

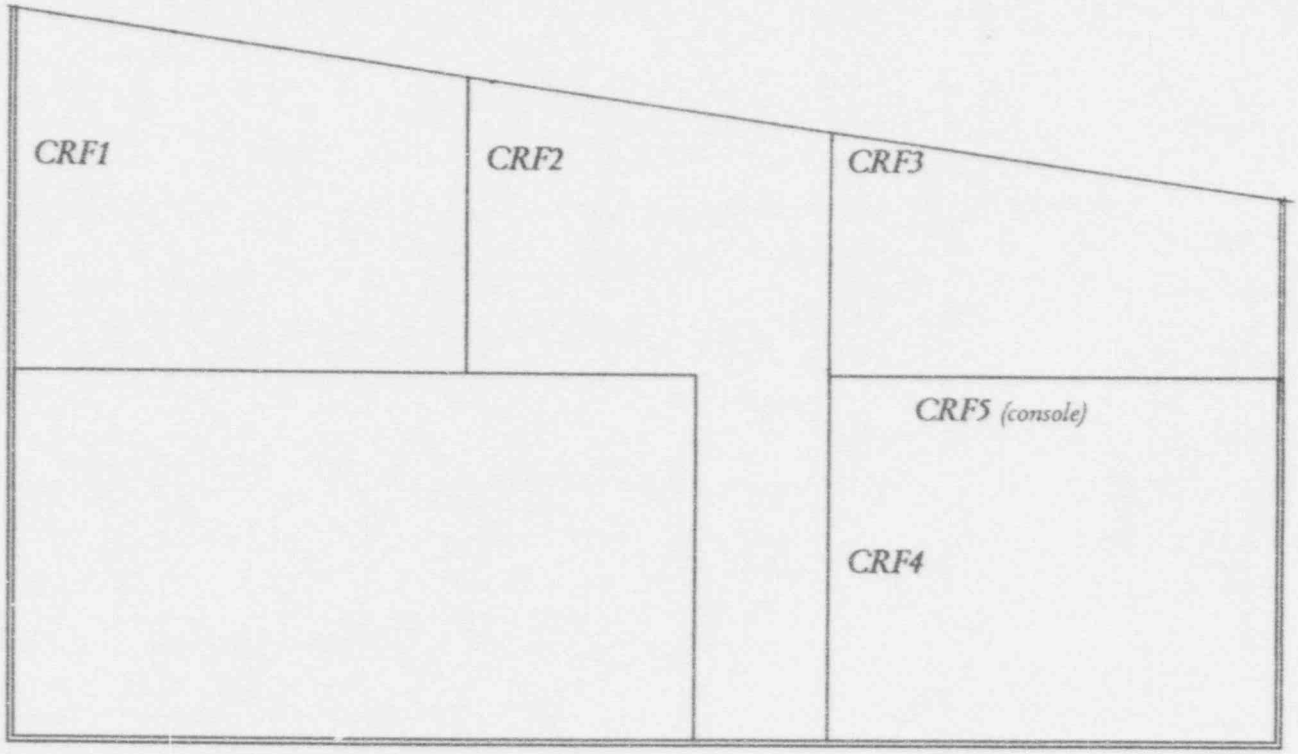
DWN. BY	DATE	SCALE	FILE NO.
RWL	9-1-66	1/8" = 1'-0"	

SHEET OF

CONTROL ROOM CEILING



CONTROL ROOM FLOOR



CONTROL ROOM NORTH WALL

CRNW4	*CRMW3*	*CRNW2*	*OPEN*	*CRNW1*

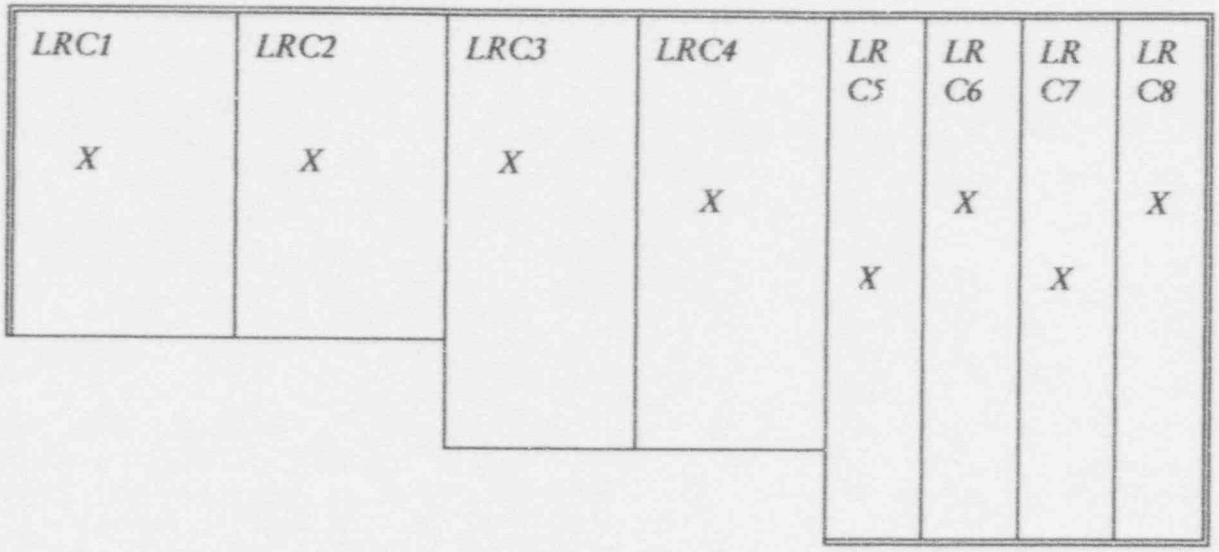
CONTROL ROOM EAST WALL

CREW1	*CREW2*

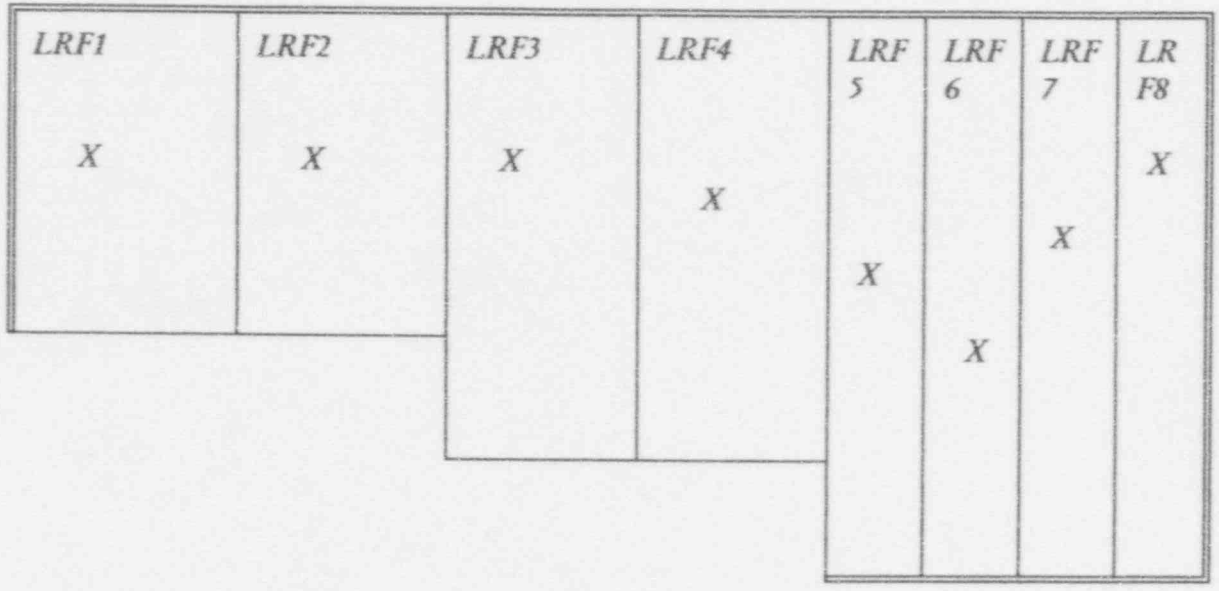
CONTROL ROOM WEST, SOUTH AND DOORS

IWB5	*IWB6*	*IWB7*	*IWB8*	*ID1*	*ID2*	*ID3*

LARGE ROOM CEILING



LARGE ROOM FLOOR



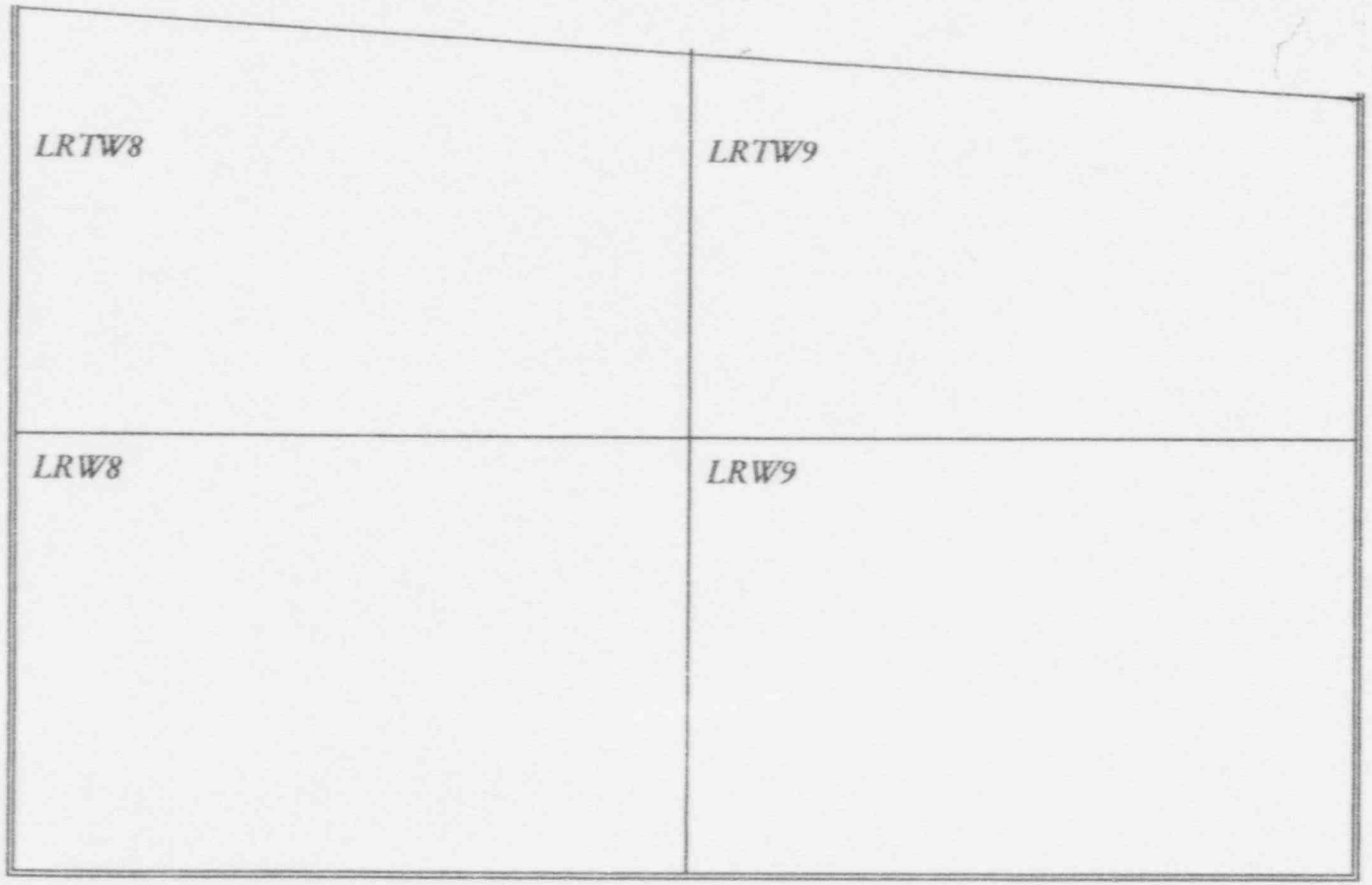
LARGE ROOM NORTH WALL

LRTW3	*LRTW4*	*LRTW5*	*LRTW6*	*LRTW7*
LRW3	*LRW4*	*LRW5*	*LRW6*	*LRW7*

LARGE ROOM SOUTH WALL

LRW10	*LRW11*	*OPEN (DOOR)*	*LRW1*	*LRW2*

LARGE ROOM EAST WALL



REACTOR ROOM CEILING

RRC1	*RRC2*	*RRC3*	*RRC4*	*RRC5*
RRC10	*RRC9*	*RRC8*	*RRC7*	*RRC6*
RRC11	*RRC12*	*RRC13*	*RRC14*	*RRC15*
RRC20	*RRC19*	*RRC18*	*RRC17*	*RRC16*
RRC21	*RRC22*	*RRC23*	*RRC24*	*RRC25*

REACTOR ROOM FLOOR

RRF1	*RRF2*	*RRF3*	*RRF4*	*RRF5*
RRF10	*RRF9*	*RRF8*	*RRF7*	*RRF6*
RRF11	*RRF12*	*RRF13*	*RRF14*	*RRF15*
RRF20	*RRF19*	*RRF18*	*RRF17*	*RRF16*
RRF21		*RRF22*		*RRF23*

REACTOR ROOM NORTH WALL

RRNW1	*RRNW2*	*RRNW3*	*RRNW4*	*RRNW5*
RRNW6	*RRNW7*	*RRNW8*	*RRNW9*	*RRNW10*

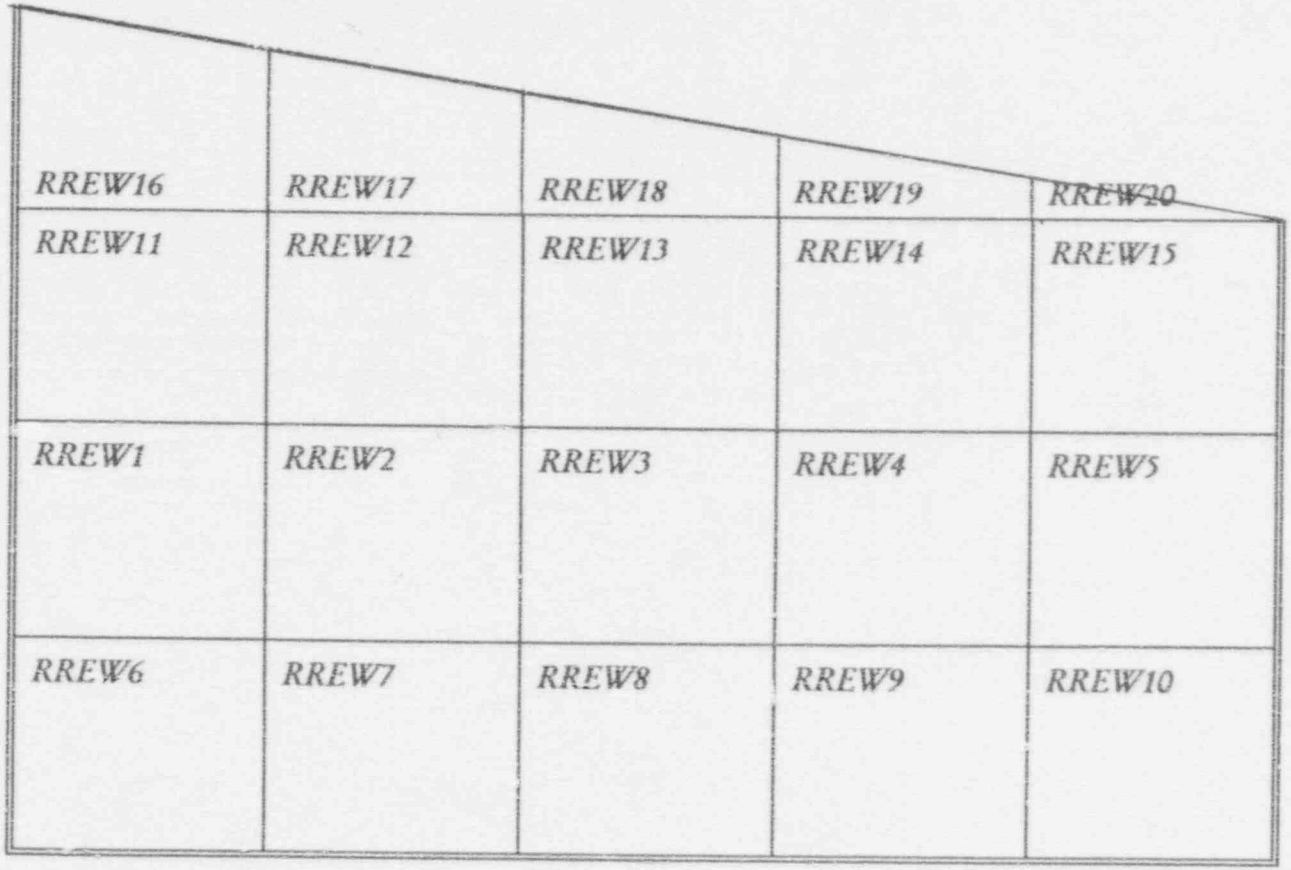
REACTOR ROOM SOUTH WALL

RRSW13	*RRSW10*	*RRSW7*	*RRSW4*	*RRSW1*
RRSW14	*RRSW11*	*RRSW8*	*RRSW5*	*RRSW2*
RRSW1›	*RRSW12*	*RRSW9*	*RRSW6*	*RRSW3*

REACTOR ROOM WEST WALL

RRWW4	*RRWW3*	*RRWW2*	*RRWW1*	*OPEN*
RRWW5	*RRWW6*	*RRWW7*	*RRWW8*	

REACTOR ROOM EAST WALL



RAW SURVEY DATA

Data for Removable Surface Contamination

Each swipe was taken from 100 square centimeters and counted using LSC.
SWIPE results are counted with window settings at 1 kev and open upper window.
SALPHA results are counted with window settings at 150 kev lower setting and open upper setting.

N = the total number of swipes counted in a particular group (total 542)

Mean = Arithmetic mean for all group samples

Std Dev = Standard Deviation for the samples counted

Minimum = Minimum value for the counted group

Maximum = the Maximum value for the counted group

STATISTICAL SUMMARY OF SWIPE DATA

(all data given in counts per minute/100cm_2)

Variable	N	Mean	Std Dev	Minimum	Maximum
SWIPE	542	44.1815498	3.4395910	32.2000000	69.8000000
SALPHA	542	12.7529520	1.7108495	7.6000000	19.4000000

Alpha counts were made using an Eberline AC-3-7 alpha probe with 59 cm^2 sampling area.
Beta counts were made using an Eberline HP-260 thin window beta probe with 15 cm^2 window area.
Gamma counts were made using an Eberline SPA-3 high sensitivity gamma probe with 2 inch diameter by 2 inch long NaI crystal. The SPA-3 was used in place of the PG-2 because the crystal is slightly larger and sensitivity is higher for the SPA-3 probe.

All counts were integrated for five minutes and scanned as outlined in the survey summary. Data was entered into a database and calculations made using the Statistical Analysis System.

Counts in this report have been divided by 5 to yield the counts per minute recorded.

ALPHA1 = Number of counts per minute recorded with the alpha probe.

BETA1 = Number of counts per minute recorded with the beta probe.

GAMMA1 = Number of counts per minute recorded with the gamma probe.

SUMMARY OF ALPHA BETA AND GAMMA SURVEYS

(all counts given in counts per minute)

Variable	N	Mean	Std Dev	Minimum	Maximum
ALPHA1	286	10.5320979	4.1118291	2.0000000	22.0000000
BETA1	286	45.3741259	9.9406393	21.0000000	84.8000000
GAMMA1	286	7063.50	1361.43	3200.00	13740.00

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
1	AFD(S)	01	.	.	.	38.4	9.4
2	AFD(S)	02	.	.	.	34.4	9.4
3	AFD(S)	03	.	.	.	33.0	7.6
4	AFD(S)	04	.	.	.	37.0	9.0
5	BF(S)	15	.	.	.	43.4	10.2
6	CREW	01	16.0	39.8	7120	49.0	11.4
7	CREW	02	15.8	40.6	6920	42.0	11.4
8	CREW(S)	01	.	.	.	50.2	16.2
9	CREW(S)	02	.	.	.	47.4	13.0
10	CRF	01	9.2	40.0	7500	44.2	11.8
11	CRF	02	8.0	44.8	7420	44.2	11.8
12	CRF	03	11.2	42.2	11300	44.8	11.6
13	CRF	04	5.6	39.2	8440	43.2	12.4
14	CRF	05	10.0	48.2	6820	39.0	11.6
15	CRC	06	6.0	50.6	6940	48.6	14.6
16	CRC	07	8.8	56.6	7200	47.4	15.4
17	CRC	08	12.4	46.0	6420	42.6	11.4
18	CRC	09	15.4	39.0	7000	45.6	14.4
19	CRF(S)	01	.	.	.	42.4	13.0
20	CRF(S)	01A	.	.	.	45.8	11.8
21	CRF(S)	01B	.	.	.	48.4	17.2
22	CRF(S)	01C	.	.	.	43.2	12.4
23	CRF(S)	01D	.	.	.	44.0	11.8
24	CRF(S)	01E	.	.	.	43.4	17.2
25	CRF(S)	01F	.	.	.	48.4	13.4
26	CRF(S)	02	.	.	.	43.4	13.6
27	CRF(S)	02A	.	.	.	38.8	12.4
28	CRF(S)	02B	.	.	.	44.2	11.4
29	CRF(S)	02C	.	.	.	45.2	13.2
30	CRF(S)	02D	.	.	.	51.6	12.8
31	CRF(S)	02E	.	.	.	46.8	16.0
32	CRF(S)	02F	.	.	.	46.0	13.6
33	CRF(S)	03	.	.	.	43.8	12.6
34	CRF(S)	03A	.	.	.	43.4	12.4
35	CRF(S)	03B	.	.	.	43.6	11.2
36	CRF(S)	03C	.	.	.	45.4	12.8
37	CRF(S)	03D	.	.	.	43.2	11.6
38	CRF(S)	03E	.	.	.	43.2	12.8
39	CRF(S)	03F	.	.	.	48.8	14.4
40	CRF(S)	04	.	.	.	49.6	15.6
41	CRF(S)	04A	.	.	.	46.4	12.6
42	CRF(S)	04B	.	.	.	40.2	12.2
43	CRF(S)	04C	.	.	.	42.8	12.8
44	CRF(S)	04D	.	.	.	48.8	13.4
45	CRF(S)	04E	.	.	.	42.2	11.4
46	CRF(S)	04F	.	.	.	44.2	11.8
47	CRF(S)	05	.	.	.	44.4	12.8
48	CRF(S)	05A	.	.	.	42.4	11.4
49	CRF(S)	05B	.	.	.	44.0	13.6
50	CRF(S)	05C	.	.	.	44.0	11.2
51	CRF(S)	05D	.	.	.	44.4	12.2
52	CRF(S)	05E	.	.	.	43.0	12.4
53	CRF(S)	05F	.	.	.	46.0	14.2
54	CRF(S)	06	.	.	.	40.4	12.4
55	CRF(S)	06A	.	.	.	47.8	13.8
56	CRF(S)	06B	.	.	.	40.4	10.8

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
57	CRF(S)	06C	.	.	.	46.6	12.6
58	CRF(S)	06D	.	.	.	44.2	13.8
59	CRF(S)	06E	.	.	.	39.6	10.6
60	CRF(S)	06F	.	.	.	44.6	12.8
61	CRF(S)	07	.	.	.	46.0	12.4
62	CRF(S)	07A	.	.	.	41.4	12.6
63	CRF(S)	07B	.	.	.	42.4	12.8
64	CRF(S)	07B	.	.	.	49.0	16.2
65	CRF(S)	07C	.	.	.	44.6	11.6
66	CRF(S)	07D	.	.	.	45.6	11.4
67	CRF(S)	07E	.	.	.	46.4	13.4
68	CRF(S)	07F	.	.	.	36.0	9.6
69	CRF(S)	08	.	.	.	47.8	15.2
70	CRF(S)	08A	.	.	.	47.4	10.0
71	CRF(S)	08B	.	.	.	44.0	13.2
72	CRF(S)	08B	.	.	.	49.0	11.8
73	CRF(S)	08C	.	.	.	42.2	11.6
74	CRF(S)	08D	.	.	.	42.0	9.0
75	CRF(S)	08E	.	.	.	37.8	12.4
76	CRF(S)	08F	.	.	.	32.6	12.8
77	CRF(S)	09	.	.	.	48.2	13.0
78	CRF(S)	09A	.	.	.	50.0	16.2
79	CRNW	01	17.0	52.6	9620	42.0	11.8
80	CRNW	02	18.6	50.0	8900	40.8	12.8
81	CRNW	03	17.2	59.0	13740	50.0	15.0
82	CRNW	04	10.0	39.6	7880	50.2	14.4
83	CRNW(S)	01	.	.	.	45.6	13.6
84	CRNW(S)	02	.	.	.	45.0	13.4
85	CRNW(S)	03	.	.	.	45.4	13.4
86	CRNW(S)	04	.	.	.	44.0	12.4
87	ID	01	9.0	42.4	6220	43.2	12.2
88	ID	02	8.8	57.4	6220	38.2	11.8
89	ID	03	11.2	52.4	9520	46.0	13.0
90	IWB	05	12.2	43.8	7780	50.2	14.8
91	IWB	06	15.0	41.4	7680	40.4	18.6
92	IWB	07	13.6	38.2	7220	45.0	15.2
93	IWB	08	13.8	39.0	6860	47.6	14.4
94	LDP	01	17.0	33.4	6120	44.2	12.4
95	LDP	02	8.4	39.6	5900	41.2	10.2
96	LDP	03	6.0	35.2	5560	45.2	13.0
97	LDP(S)	04	.	.	.	42.2	12.8
98	LDP(S)	05	.	.	.	43.0	13.2
99	LDP(S)	06	.	.	.	36.0	10.0
100	LRC	01	15.6	59.2	7040	44.2	12.6
101	LRC	02	14.0	52.4	7080	42.6	11.8
102	LRC	03	5.4	54.4	7200	41.4	14.0
103	LRC	04	7.0	45.0	6800	39.6	10.4
104	LRC	05	12.0	44.0	7000	40.4	10.6
105	LRC	06	10.0	55.0	7220	46.6	15.2
106	LRC	07	10.8	52.0	7700	42.2	10.4
107	LRC	08	13.0	46.0	7460	51.4	14.0
108	LRF	01	5.8	56.4	8460	46.6	12.8
109	LRF	02	11.8	55.6	8240	42.4	14.0
110	LRF	03	5.4	63.2	7720	45.4	13.4
111	LRF	04	11.4	61.2	8400	36.8	12.2
112	LRF	05	13.4	55.4	8780	43.8	14.6

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
113	LRF	06	13.0	59.2	7540	45.8	11.8
114	LRF	07	15.6	61.4	7120	41.4	9.8
115	LRF	08	9.0	47.2	9580	43.2	12.4
116	LRF(S)	01	.	.	.	42.6	12.4
117	LRF(S)	01A	.	.	.	40.2	12.2
118	LRF(S)	01B	.	.	.	39.6	11.4
119	LRF(S)	01C	.	.	.	44.0	12.0
120	LRF(S)	01D	.	.	.	43.2	11.4
121	LRF(S)	01E	.	.	.	45.8	14.0
122	LRF(S)	01F	.	.	.	46.4	11.8
123	LRF(S)	02	.	.	.	43.0	10.8
124	LRF(S)	02A	.	.	.	44.2	15.0
125	LRF(S)	02B	.	.	.	44.2	14.2
126	LRF(S)	02C	.	.	.	41.6	11.8
127	LRF(S)	02D	.	.	.	43.6	13.4
128	LRF(S)	02E	.	.	.	42.2	12.4
129	LRF(S)	02F	.	.	.	47.2	13.8
130	LRF(S)	03	.	.	.	43.8	11.6
131	LRF(S)	03A	.	.	.	48.8	12.0
132	LRF(S)	03B	.	.	.	41.8	18.8
133	LRF(S)	03C	.	.	.	48.2	13.8
134	LRF(S)	03D	.	.	.	46.0	13.6
135	LRF(S)	03E	.	.	.	45.0	12.8
136	LRF(S)	03F	.	.	.	46.0	13.0
137	LRF(S)	04	.	.	.	42.6	12.8
138	LRF(S)	04A	.	.	.	41.8	12.2
139	LRF(S)	04B	.	.	.	47.8	15.4
140	LRF(S)	04C	.	.	.	45.4	15.4
141	LRF(S)	04D	.	.	.	47.2	13.2
142	LRF(S)	04E	.	.	.	46.0	12.6
143	LRF(S)	04F	.	.	.	45.4	12.0
144	LRF(S)	05	.	.	.	48.0	11.2
145	LRF(S)	05A	.	.	.	45.2	11.8
146	LRF(S)	05B	.	.	.	48.0	13.6
147	LRF(S)	05C	.	.	.	46.2	14.4
148	LRF(S)	05D	.	.	.	43.2	12.2
149	LRF(S)	05E	.	.	.	48.2	14.4
150	LRF(S)	05F	.	.	.	43.4	13.6
151	LRF(S)	06	.	.	.	45.4	12.8
152	LRF(S)	06A	.	.	.	44.4	13.6
153	LRF(S)	06B	.	.	.	44.4	12.0
154	LRF(S)	06C	.	.	.	46.8	14.6
155	LRF(S)	06D	.	.	.	37.8	13.0
156	LRF(S)	06E	.	.	.	48.8	13.8
157	LRF(S)	06F	.	.	.	47.4	11.2
158	LRF(S)	07	.	.	.	45.2	14.0
159	LRF(S)	07A	.	.	.	47.0	12.4
160	LRF(S)	07B	.	.	.	45.6	12.0
161	LRF(S)	07C	.	.	.	40.4	19.4
162	LRF(S)	07D	.	.	.	43.2	10.8
163	LRF(S)	07E	.	.	.	39.0	11.2
164	LRF(S)	07F	.	.	.	46.2	15.0
165	LRF(S)	08	.	.	.	43.0	13.2
166	LRF(S)	08A	.	.	.	46.8	16.4
167	LRF(S)	08B	.	.	.	42.6	10.8
168	LRF(S)	08C	.	.	.	40.2	13.0

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
169	LRF(S)	08D	.	.	.	52.0	14.8
170	LRF(S)	08E	.	.	.	48.6	11.8
171	LRF(S)	08F	.	.	.	45.2	12.0
172	LRTW	03	7.6	45.8	7280	51.2	14.4
173	LRTW	04	8.8	45.0	7360	40.0	11.2
174	LRTW	05	14.0	45.0	7180	42.0	11.8
175	LRTW	06	10.0	51.0	7220	41.6	11.4
176	LRTW	07	4.0	54.0	6900	40.4	13.2
177	LRTW	08	6.0	36.0	7200	41.6	11.6
178	LRTW	09	8.0	74.0	10700	46.6	17.4
179	LRTW(S)	03	.	.	.	43.0	11.8
180	LRTW(S)	04	.	.	.	40.6	13.0
181	LRTW(S)	05	.	.	.	48.2	10.0
182	LRTW(S)	06	.	.	.	45.8	12.6
183	LRTW(S)	07	.	.	.	46.4	14.4
184	LRTW(S)	08	.	.	.	43.0	11.8
185	LRTW(S)	09	.	.	.	43.4	13.0
186	LRW	01	12.6	72.0	9900	39.6	10.6
187	LRW	02	14.4	57.8	9780	45.8	14.4
188	LRW	03	11.6	41.2	7540	43.6	15.0
189	LRW	04	18.0	63.8	8020	41.2	13.6
190	LRW	05	22.0	46.0	6640	45.2	13.0
191	LRW	06	11.4	36.0	7280	49.2	13.4
192	LRW	07	13.6	52.0	7180	42.2	10.6
193	LRW	08	13.6	52.0	7180	47.8	16.4
194	LRW	09	16.4	59.0	10260	39.2	12.6
195	LRW	10	12.0	57.0	10440	45.6	15.0
196	LRW	11	11.4	65.0	10320	39.8	11.8
197	LRW(S)	01	.	.	.	44.8	12.8
198	LRW(S)	02	.	.	.	39.8	11.4
199	LRW(S)	03	.	.	.	41.2	12.4
200	LRW(S)	04	.	.	.	50.8	14.2
201	LRW(S)	05	.	.	.	37.8	10.6
202	LRW(S)	06	.	.	.	45.6	13.0
203	LRW(S)	07	.	.	.	42.6	11.2
204	LRW(S)	08	.	.	.	50.0	17.4
205	LRW(S)	09	.	.	.	43.6	11.0
206	LRW(S)	10	.	.	.	37.0	14.4
207	LRW(S)	11	.	.	.	42.0	12.0
208	LS	01	9.4	34.8	6320	49.2	15.4
209	LS	02	16.0	36.8	6080	41.6	12.2
210	LS	03	11.4	42.0	6200	45.6	15.0
211	LS(S)	04	.	.	.	45.0	13.0
212	LS(S)	05	.	.	.	49.0	14.2
213	LS(S)	06	.	.	.	48.8	12.2
214	LS(S)	07	.	.	.	46.0	13.0
215	MP	01a	5.0	84.0	6220	43.6	12.6
216	MP	01b	7.0	47.0	6820	45.4	13.6
217	MP	02a	4.0	55.0	6640	38.6	13.8
218	MP	02b	12.0	42.0	7020	41.8	12.4
219	MP	03a	10.0	46.0	6820	41.8	9.8
220	MP	04a	3.6	40.0	6220	42.6	11.0
221	MP	04b	19.0	39.0	6620	43.6	12.8
222	MP	05a	14.0	37.0	5640	46.2	14.6
223	MP	05b	6.0	50.0	6220	40.2	11.4
224	MP	06a	5.0	32.0	5560	41.0	13.2

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
225	MP	06b	7	43	6140	49.2	13.8
226	MP	07a	8	32	6700	45.0	14.0
227	MP	07b	3	40	6700	43.6	10.8
228	MP	08a	18	54	5500	44.8	12.4
229	MP	08b	9	26	6020	47.2	14.8
230	MP	09	8	45	6500	45.0	11.0
231	MP	10	8	75	6800	42.6	11.0
232	MP	11	8	46	7000	39.6	10.8
233	MP	12	9	65	7040	46.2	14.4
234	MP	13	9	56	6960	34.8	8.4
235	MP	14	6	46	7080	36.8	12.8
236	MP	15a	8	43	6300	41.6	10.6
237	MP	15b	11	45	6040	37.8	13.0
238	MP	16a	7	51	5580	44.8	17.4
239	MP	16b	12	35	5960	43.2	12.2
240	MP	17a	4	31	5780	42.6	13.8
241	MP	17b	10	46	6120	47.2	13.2
242	MP	18a	6	42	5440	48.0	11.2
243	MP	18b	7	41	6820	46.0	13.6
244	MP	19a	8	36	5600	41.8	12.8
245	MP	19b	7	48	5720	42.0	15.8
246	MP	20a	12	36	5540	44.6	11.2
247	MP	20b	2	46	6160	43.6	13.4
248	MP	21a	8	38	5660	40.8	12.2
249	MP	21b	9	34	6220	44.0	11.4
250	MP	22a	11	48	6040	48.0	14.4
251	MP	22b	15	42	6460	40.6	9.8
252	MP	23a	6	43	6000	46.6	16.0
253	MP	23b	9	48	6080	44.2	14.8
254	MP	24a	9	36	5840	45.4	11.6
255	MP	24b	11	44	5760	43.8	11.8
256	MP	25a	7	47	5760	40.6	11.2
257	MP	25b	12	48	6040	48.0	16.2
258	MP	26a	6	41	5640	43.0	12.0
259	MP	26b	4	44	6220	43.2	11.4
260	MP	27a	7	42	6040	44.0	15.8
261	MP	27b	8	42	5720	41.8	8.8
262	MP	28	9	52	6020	45.8	14.4
263	MP	29a	2	30	6180	42.0	13.2
264	MP	29b	10	43	6000	44.2	14.2
265	MP	30a	10	43	6240	48.0	13.2
266	MP	30b	13	41	6140	39.6	11.4
267	MP	31a	10	51	5940	48.8	14.8
268	MP	32	12	42	3200	41.4	12.4
269	MP	33a	8	32	6840	48.6	15.2
270	MP	33b	11	43	6300	46.8	16.4
271	MP	34a	7	32	5520	43.8	11.8
272	MP	34b	4	45	5720	47.0	12.4
273	MP	35a	10	31	5680	44.4	13.6
274	MP	35b	6	49	5900	45.2	11.8
275	MP	36a	6	42	5020	41.8	12.2
276	MP	36b	11	44	5500	48.8	12.0
277	MP	37a	12	38	5220	42.8	10.2
278	MP	37b	4	43	5740	40.2	12.2
279	MP	38a	14	40	5440	41.2	12.0
280	MP	38b	14	44	5800	48.0	13.2

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
281	MP	39a	13	52.0	5580	42.8	13.2
282	MP	39b	10	36.0	6020	39.6	10.6
283	MP	40a	12	28.0	5760	42.6	10.8
284	MP	40b	12	52.0	6040	43.0	12.4
285	MP	41a	8	29.0	5920	46.0	15.8
286	MP	41b	11	41.0	6220	42.2	11.4
287	MP	42a	6	32.0	6160	48.4	13.2
288	MP	42b	9	42.0	5720	46.8	16.0
289	MP	43a	10	36.0	5660	43.4	14.0
290	MP	43b	4	42.0	5900	42.0	9.0
291	MP	44a	7	44.0	5680	44.0	11.0
292	MP	44b	6	34.0	5740	45.6	11.4
293	MP	45a	9	43.0	5720	44.0	14.2
294	MP	45b	12	47.0	5520	44.4	12.4
295	MP	46	4	45.0	6080	43.6	11.4
296	MP	47	11	47.0	6440	41.0	12.2
297	MP	48	9	34.0	5200	49.6	13.4
298	MP	49	10	37.0	5740	47.0	13.4
299	MP	50	2	40.0	5020	44.0	13.2
300	MP	51	7	44.0	6760	41.2	11.4
301	MP	52	8	48.0	7020	48.0	13.2
302	MP	53	14	43.0	7220	41.6	11.8
303	MP	54a	15	36.0	7260	45.6	11.6
304	MP	54b	13	44.0	6560	39.0	12.8
305	MP	55	7	43.0	7260	44.8	14.0
306	MP	56	16	52.0	7160	41.0	11.8
307	MP	57a	14	40.0	7400	43.4	12.6
308	MP	57b	10	41.0	7000	47.2	13.0
309	MP	58	11	36.0	5100	45.0	15.8
310	MP	59	12	57.0	5400	42.0	12.2
311	MP	60	16	57.0	6840	45.4	12.8
312	MP	61a	12	25.0	4720	36.4	9.4
313	MP	61b	6	36.0	6760	42.6	11.6
314	MP	62a	15	31.0	4460	45.0	14.2
315	MP	62b	5	36.0	7220	42.8	12.6
316	MP	63a	3	28.0	4400	44.8	13.6
317	MP	63b	11	47.0	5520	45.0	14.2
318	MP	64a	6	36.0	6500	39.6	11.0
319	MP	65a	10	33.0	4780	44.0	13.2
320	MP	65b	3	36.0	5780	44.2	11.4
321	MP	66a	9	27.0	5080	42.4	13.0
322	MP	66b	8	35.0	5340	49.0	16.2
323	MP	67	6	37.0	4720	41.4	12.8
324	MP	68	20	51.0	6560	41.6	13.8
325	MP	69	19	32.0	6900	42.2	12.2
326	MP	70	6	43.0	4980	41.4	9.4
327	MP	71	7	27.0	6100	42.6	15.0
328	MP	72	5	37.0	6680	47.4	13.6
329	MP	73	13	28.0	6260	43.4	13.6
330	MP	74	17	37.0	6520	42.6	11.2
331	MP	75	7	40.0	7020	41.8	14.0
332	MP	76	7	34.0	6920	48.4	15.0
333	MP	77	11	44.0	7100	46.0	10.4
334	MP	78	15	44.0	7240	49.0	12.6
335	PAR	01	11	39.4	6500	50.6	16.0
336	PAR	02	9	37.4	6960	52.6	14.8

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
337	PAR	03	12.80	41.0	6660	69.8	16.2
338	RRC	01	4.64	54.8	7400	46.6	11.6
339	RRC	02	13.60	47.0	7440	44.4	12.0
340	RRC	03	10.00	58.0	7660	43.4	11.8
341	RRC	04	15.00	49.0	7940	47.4	12.4
342	RRC	05	16.40	60.2	8260	49.6	15.8
343	RRC	06	11.00	54.4	7620	42.0	14.0
344	RRC	07	11.60	50.4	7700	39.4	10.9
345	RRC	08	12.00	49.0	7240	44.2	12.0
346	RRC	09	19.00	50.2	7560	45.0	11.2
347	RRC	10	15.80	56.0	7420	44.8	12.4
348	RRC	11	11.60	48.2	7260	48.6	15.2
349	RRC	12	12.80	57.6	7280	38.6	12.4
350	RRC	13	16.00	84.8	7320	42.6	11.8
351	RRC	14	17.00	48.2	7160	47.0	12.2
352	RRC	15	15.00	50.0	7620	44.8	12.4
353	RRC	16	15.60	52.2	7100	48.6	15.2
354	RRC	17	12.80	49.2	7080	38.6	12.4
355	RRC	18	2.14	61.2	7160	45.4	11.6
356	RRC	19	13.20	48.8	7260	41.8	9.8
357	RRC	20	13.00	45.2	6380	48.4	13.2
358	RRC	21	13.00	57.2	7040	41.6	10.8
359	RRC	22	14.60	52.6	6900	44.6	15.0
360	RRC	23	16.60	51.0	6920	43.4	12.2
361	RRC	24	15.00	51.2	7040	41.6	10.8
362	RRC	25	14.80	53.6	7300	44.6	15.0
363	RREW	01	16.60	58.6	10420	43.4	12.8
364	RREW	02	10.40	51.2	8960	42.6	13.6
365	RREW	03	11.00	53.6	7100	43.2	11.8
366	RREW	04	13.60	51.2	7360	42.8	13.4
367	RREW	05	14.40	54.0	6900	46.0	13.6
368	RREW	06	16.40	54.0	10300	47.0	14.6
369	RREW	07	9.20	44.2	9780	44.2	13.8
370	RREW	08	10.60	50.6	7020	45.4	13.8
371	RREW	09	12.40	55.2	6960	42.4	13.6
372	RREW	10	16.40	44.0	6720	47.0	14.0
373	RREW	11	10.00	57.4	10600	47.6	13.0
374	RREW	12	13.20	44.8	9820	43.6	13.0
375	RREW	13	10.40	51.2	7260	45.4	12.8
376	RREW	14	10.40	51.2	6560	42.2	12.2
377	RREW	15	15.60	54.0	6500	45.0	13.6
378	RREW	16	12.40	80.0	9960	44.2	13.2
379	RREW	17	11.00	74.0	9360	39.2	11.8
380	RREW	18	12.00	46.6	7160	43.4	12.8
381	RREW	19	18.00	51.2	7120	42.6	13.6
382	RREW	20	14.40	52.0	6300	47.2	12.8
383	RREW(S)	01	.	.	.	43.0	11.8
384	RREW(S)	01	.	.	.	49.2	13.6
385	RREW(S)	02	.	.	.	43.4	12.8
386	RREW(S)	04	.	.	.	45.6	16.6
387	RREW(S)	05	.	.	.	45.6	12.6
388	RREW(S)	06	.	.	.	45.2	14.4
389	RREW(S)	07	.	.	.	48.8	13.2
390	RREW(S)	08	.	.	.	44.4	11.8
391	RREW(S)	09	.	.	.	47.4	13.4
392	RREW(S)	10	.	.	.	43.4	13.2

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
393	RREW(S)	11	.	.	.	51.4	12.8
394	RREW(S)	12	.	.	.	45.4	12.6
395	RREW(S)	13	.	.	.	44.0	9.2
396	RREW(S)	14	.	.	.	44.0	12.8
397	RREW(S)	15	.	.	.	44.6	12.6
398	RREW(S)	16	.	.	.	46.0	13.2
399	RREW(S)	17	.	.	.	42.6	13.0
400	RREW(S)	18	.	.	.	42.0	12.4
401	RREW(S)	19	.	.	.	44.0	12.6
402	RREW(S)	20	.	.	.	45.6	16.0
403	RRF	01	7.6	39.8	8560	43.6	11.8
404	RRF	02	17.6	45.0	8720	42.0	11.6
405	RRF	03	10.2	39.8	8800	46.4	12.2
406	RRF	04	7.2	42.8	9020	46.4	12.2
407	RRF	05	18.8	37.2	8940	44.4	11.8
408	RRF	06	4.0	44.6	8160	45.0	11.0
409	RRF	07	4.0	38.8	8100	42.6	14.0
410	RRF	08	6.8	39.4	8020	48.6	15.4
411	RRF	09	7.6	34.6	8260	44.4	12.0
412	RRF	10	6.2	41.0	7100	48.2	12.3
413	RRF	11	8.4	39.2	7480	45.4	13.4
414	RRF	12	6.2	39.0	7180	39.4	10.8
415	RRF	13	7.2	40.4	7700	44.2	14.4
416	RRF	14	9.0	39.6	7520	40.6	11.2
417	RRF	15	5.6	39.6	7300	46.5	11.5
418	RRF	16	7.6	37.4	7060	45.2	11.4
419	RRF	17	4.0	32.8	6800	40.8	11.4
420	RRF	18	5.2	37.6	7500	46.6	13.8
421	RRF	19	5.2	36.4	7520	38.4	12.4
422	RRF	20	5.8	34.0	7880	44.8	12.2
423	RRF	21	7.4	37.4	7200	45.0	12.6
424	RRF	22	4.8	36.4	7160	38.0	9.8
425	RRF	23	6.8	38.0	6920	44.1	10.7
426	RRF(S)	01	.	.	.	43.8	12.6
427	RRF(S)	01A	.	.	.	43.8	11.8
428	RRF(S)	02	.	.	.	43.4	12.0
429	RRF(S)	02A	.	.	.	44.2	14.8
430	RRF(S)	03	.	.	.	38.8	10.6
431	RRF(S)	03A	.	.	.	40.6	9.8
432	RRF(S)	04	.	.	.	32.2	11.2
433	RRF(S)	04A	.	.	.	44.0	11.4
434	RRF(S)	05	.	.	.	42.2	11.6
435	RRF(S)	05A	.	.	.	42.4	11.0
436	RRF(S)	06	.	.	.	36.6	7.8
437	RRF(S)	06A	.	.	.	51.4	15.0
438	RRF(S)	07	.	.	.	45.2	13.0
439	RRF(S)	07A	.	.	.	47.4	12.4
440	RRF(S)	08	.	.	.	44.6	11.4
441	RRF(S)	08A	.	.	.	44.6	15.4
442	RRF(S)	09	.	.	.	49.6	13.8
443	RRF(S)	09A	.	.	.	40.0	10.2
444	RRF(S)	10	.	.	.	47.4	11.6
445	RRF(S)	10A	.	.	.	43.0	10.0
446	RRF(S)	11	.	.	.	43.8	12.0
447	RRF(S)	11A	.	.	.	45.8	12.0
448	RRF(S)	12	.	.	.	44.0	17.0

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
449	RRF(S)	12A	.	.	.	49.8	15.6
450	RRF(S)	13	.	.	.	48.6	13.6
451	RRF(S)	13A	.	.	.	50.4	13.2
452	RRF(S)	14	.	.	.	39.0	11.0
453	RRF(S)	14A	.	.	.	42.6	12.8
454	RRF(S)	15	.	.	.	44.2	11.2
455	RRF(S)	15A	.	.	.	44.0	10.8
456	RRF(S)	16	.	.	.	43.8	13.2
457	RRF(S)	16A	.	.	.	50.0	11.6
458	RRF(S)	17	.	.	.	45.0	13.6
459	RRF(S)	17A	.	.	.	47.0	11.0
460	RRF(S)	18	.	.	.	48.6	12.6
461	RRF(S)	18A	.	.	.	46.0	13.6
462	RRF(S)	19	.	.	.	43.4	12.6
463	RRF(S)	19A	.	.	.	45.2	11.6
464	RRF(S)	20	.	.	.	50.4	12.8
465	RRF(S)	20A	.	.	.	45.0	10.0
466	RRF(S)	21	.	.	.	45.4	12.0
467	RRF(S)	21A	.	.	.	41.6	10.8
468	RRF(S)	22	.	.	.	42.4	12.8
469	RRF(S)	22A	.	.	.	42.8	11.0
470	RRF(S)	23	.	.	.	44.6	13.4
471	RRF(S)	23A	.	.	.	42.8	12.0
472	RRNW	01	10.8	69.8	9540	47.4	12.4
473	RRNW	02	8.6	58.8	9840	40.4	12.6
474	RRNW	03	9.2	61.6	10040	48.8	14.0
475	RRNW	04	9.0	60.8	10240	46.8	12.0
476	RRNW	05	14.4	56.6	9820	41.4	15.2
477	RRNW	06	13.2	61.4	10020	41.6	12.0
478	RRNW	07	4.8	55.4	10100	44.2	13.8
479	RRNW	08	7.4	54.0	10220	39.0	12.2
480	RRNW	09	20.2	39.8	9580	39.5	10.8
481	RRNW	10	18.4	21.0	9420	44.2	15.0
482	RRNW(S)	01	.	.	.	44.4	14.4
483	RRNW(S)	02	.	.	.	45.0	16.0
484	RRNW(S)	03	.	.	.	48.2	14.2
485	RRNW(S)	04	.	.	.	39.6	9.0
486	RRNW(S)	05	.	.	.	42.8	12.2
487	RRNW(S)	06	.	.	.	50.0	15.0
488	RRNW(S)	07	.	.	.	48.0	12.4
489	RRNW(S)	08	.	.	.	40.2	10.0
490	RRNW(S)	09	.	.	.	41.0	11.4
491	RRNW(S)	10	.	.	.	44.8	11.0
492	RRSW	01	11.0	38.8	6980	42.0	13.0
493	RRSW	02	8.0	38.0	7100	44.2	13.0
494	RRSW	03	8.0	32.4	7220	37.6	10.2
495	RRSW	04	15.0	42.2	7100	45.0	12.8
496	RRSW	05	13.0	39.4	7260	44.8	14.6
497	RRSW	06	11.2	42.4	7340	44.8	15.4
498	RRSW	07	15.0	60.4	7140	45.2	13.0
499	RRSW	08	19.0	43.0	7120	42.6	12.4
500	RRSW	09	19.4	45.4	7140	40.4	12.4
501	RRSW	10	16.0	36.4	7300	44.4	12.8
502	RRSW	11	16.6	44.4	6840	43.4	13.6
503	RRSW	12	13.6	45.2	6220	42.4	13.0
504	RRSW	13	11.2	43.0	7780	45.4	12.8

OBS	LOC	SLOC	ALPHA1	BETA1	GAMMA1	SWIPE	SALPHA
505	RRSW	14	9.0	39.0	8000	41.4	13.6
506	RRSW	15	13.6	42.4	7760	43.0	11.8
507	RRSW(S)	01	.	.	.	42.4	12.8
508	RRSW(S)	02	.	.	.	41.4	13.6
509	RRSW(S)	03	.	.	.	44.2	13.6
510	RRSW(S)	04	.	.	.	45.4	12.8
511	RRSW(S)	05	.	.	.	42.8	12.0
512	RRSW(S)	06	.	.	.	43.0	12.4
513	RRSW(S)	07	.	.	.	46.2	14.0
514	RRSW(S)	08	.	.	.	44.4	13.0
515	RRSW(S)	09	.	.	.	47.2	14.6
516	RRSW(S)	10	.	.	.	39.8	9.8
517	RRSW(S)	11	.	.	.	50.0	14.2
518	RRSW(S)	12	.	.	.	39.6	12.0
519	RRSW(S)	13	.	.	.	45.6	11.2
520	RRSW(S)	14	.	.	.	44.0	11.0
521	RRSW(S)	15	.	.	.	39.4	10.0
522	RRWW	01	14.6	39.4	6920	42.4	10.0
523	RRWW	02	11.6	41.4	7380	41.2	12.2
524	RRWW	03	12.8	42.2	7440	49.2	17.0
525	RRWW	04	9.4	42.6	7320	36.6	7.8
526	RRWW	05	9.4	41.6	7320	50.2	12.8
527	RRWW	06	6.2	42.4	7340	46.5	13.7
528	RRWW	07	8.0	37.4	7300	47.2	12.3
529	RRWW	08	9.8	38.0	7340	41.4	12.7
530	RRWW(S)	01	.	.	.	46.0	14.6
531	RRWW(S)	02	.	.	.	45.0	10.6
532	RRWW(S)	03	.	.	.	40.8	12.8
533	RRWW(S)	04	.	.	.	44.2	13.8
534	RRWW(S)	05	.	.	.	43.8	12.2
535	RRWW(S)	06	.	.	.	49.6	14.8
536	RRWW(S)	07	.	.	.	48.2	13.2
537	RRWW(S)	08	.	.	.	49.8	13.8
538	SD(S)	01	.	.	.	43.6	12.8
539	SD(S)	02	.	.	.	42.4	11.4
540	SD(S)	03	.	.	.	41.4	11.2
541	SD(S)	04	.	.	.	41.4	13.0
542	SD(S)	05	.	.	.	42.0	15.8

DIFFERENCE DATA

The following data is obtained by multiplying each raw count by a correction factor. The correction factor is: instrument efficiency times the geometry factor times the area factor. The resultant data has units dpm/100cm^2. Before converting to dpm two standard errors* are added to each count which yields the upper limit expected of the true mean count with over 95% confidence. Finally the background count is subtracted from the count. The background count is obtained from the average of three separate 'clean' locations on campus in buildings of similar construction materials to the reactor facility.

The standard deviation of the count is assumed to be the square root of the count. This assumes that the counts follow a poisson distribution. In this case the basic experimental unit is the count per minute, thus we have replicated the BEU five times for each count and the standard error of the mean is the standard deviation divided by five.

LOC = Location of the measurement

SLOC = Sublocation or section measured

ALPHAD = Highest deviation from background at 95% confidence for alpha measurements.

BETAD = Highest deviation form background at 95% confidence for beta measurements.

GAMMAD = Highest deviation from background at 95% confidence for gamma measurements.

SWIPED = Highest deviation form background at 95% confidence for removable surface contamination including alpha, beta, and gamma emissions.

SALPHA = Highest deviation form background at 95% confidence for removable alpha surface contamination counted specifically for alpha emissions.

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
1	AFD(S)	01	.	.	.	1.8787	-2.37362
2	AFD(S)	02	.	.	.	-2.2539	-2.37362
3	AFD(S)	03	.	.	.	-3.7022	-4.29728
4	AFD(S)	04	.	.	.	0.4331	-2.80000
5	BF(S)	15	.	.	.	7.0351	-1.52250
6	CREW	01	54.8287	-81.365	-53954.89	12.8000	-0.24944
7	CREW	02	52.9803	-67.928	-55690.69	5.5923	-0.24944
8	CREW(S)	01	.	.	.	14.0341	4.80997
9	CREW(S)	02	.	.	.	11.1539	1.44222
10	CRF	01	-8.1555	-78.005	-50598.93	7.8593	0.17405
11	CRF	02	-19.3115	2.597	-51301.23	7.8593	0.17405
12	CRF	03	10.4044	-41.058	-17242.26	8.4773	-0.03765
13	CRF	04	-41.6869	-91.443	-42347.07	6.8291	0.80855
14	CRF	05	-0.7271	59.671	-56568.60	2.4980	-0.03765
15	CRC	01	-37.9503	99.949	-55515.11	12.3885	3.12840
16	CRC	02	-11.8723	200.619	-53232.58	11.1539	3.96971
17	CRC	03	21.5242	22.742	-60080.29	6.2107	-0.24944
18	CRC	04	49.2829	-94.802	-54988.37	9.3011	2.91789
19	CRF(S)	01	.	.	.	6.0046	1.44222
20	CRF(S)	01A	.	.	.	9.5070	0.17405
21	CRF(S)	01B	.	.	.	12.1828	5.85892
22	CRF(S)	01C	.	.	.	6.8291	0.80855
23	CRF(S)	01D	.	.	.	7.6533	0.17405
24	CRF(S)	01E	.	.	.	7.0351	5.85892
25	CRF(S)	01F	.	.	.	12.1828	1.86424
26	CRF(S)	02	.	.	.	7.0351	2.07513
27	CRF(S)	02A	.	.	.	2.2916	0.80855
28	CRF(S)	02B	.	.	.	7.8593	-0.24944
29	CRF(S)	02C	.	.	.	8.8892	1.65327
30	CRF(S)	02D	.	.	.	15.4733	1.23108
31	CRF(S)	02E	.	.	.	10.5364	4.60000
32	CRF(S)	02F	.	.	.	9.7129	2.07513
33	CRF(S)	03	.	.	.	7.4473	1.01986
34	CRF(S)	03A	.	.	.	7.0351	0.80855
35	CRF(S)	03B	.	.	.	7.2412	-0.46134
36	CRF(S)	03C	.	.	.	9.0952	1.23108
37	CRF(S)	03D	.	.	.	6.8291	-0.03765
38	CRF(S)	03E	.	.	.	6.8291	1.23108
39	CRF(S)	03F	.	.	.	12.5943	2.91789
40	CRF(S)	04	.	.	.	13.4171	4.17987
41	CRF(S)	04A	.	.	.	10.1247	1.01986
42	CRF(S)	04B	.	.	.	3.7361	0.59714
43	CRF(S)	04C	.	.	.	6.4169	1.23108
44	CRF(S)	04D	.	.	.	12.5943	1.86424
45	CRF(S)	04E	.	.	.	5.7985	-0.24944
46	CRF(S)	04F	.	.	.	7.8593	0.17405
47	CRF(S)	05	.	.	.	8.0653	1.23108
48	CRF(S)	05A	.	.	.	6.0046	-0.24944
49	CRF(S)	05B	.	.	.	7.6533	2.07513
50	CRF(S)	05C	.	.	.	7.6533	-0.46134
51	CRF(S)	05D	.	.	.	8.0653	0.59714
52	CRF(S)	05E	.	.	.	6.6230	0.80855
53	CRF(S)	05F	.	.	.	9.7129	2.70732
54	CRF(S)	06	.	.	.	3.9424	0.80855
55	CRF(S)	06A	.	.	.	11.5655	2.28593
56	CRF(S)	06B	.	.	.	3.9424	-0.88547

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
57	CRF(S)	06C	.	.	.	10.3306	1.01986
58	CRF(S)	06D	.	.	.	7.8593	2.28593
59	CRF(S)	06E	.	.	.	3.1171	-1.09769
60	CRF(S)	06F	.	.	.	8.2713	1.23108
61	CRF(S)	07	.	.	.	9.7129	0.80855
62	CRF(S)	07A	.	.	.	4.9737	1.01986
63	CRF(S)	07B	.	.	.	6.0046	1.23108
64	CRF(S)	07B	.	.	.	12.8000	4.80997
65	CRF(S)	07C	.	.	.	8.2713	-0.03765
66	CRF(S)	07D	.	.	.	9.3011	-0.24944
67	CRF(S)	07E	.	.	.	10.1247	1.86424
68	CRF(S)	07F	.	.	.	-0.6000	-2.16065
69	CRF(S)	08	.	.	.	11.5655	3.75949
70	CRF(S)	08A	.	.	.	11.1539	-1.73509
71	CRF(S)	08B	.	.	.	7.6533	1.65327
72	CRF(S)	08B	.	.	.	12.8000	0.17405
73	CRF(S)	08C	.	.	.	5.7985	-0.03765
74	CRF(S)	08D	.	.	.	5.5923	-2.80000
75	CRF(S)	08E	.	.	.	1.2593	0.80855
76	CRF(S)	08F	.	.	.	-4.1161	1.23108
77	CRF(S)	09	.	.	.	11.9770	1.44222
78	CRF(S)	09A	.	.	.	13.8284	4.80997
79	CRNW	01	64.0681	133.510	-31988.84	5.5923	0.17405
80	CRNW	02	78.8423	89.880	-38309.06	4.3550	1.23108
81	CRNW	03	65.9155	240.877	4174.18	13.8284	3.54919
82	CRNW	04	-0.7271	-84.724	-47263.03	14.0341	2.91789
83	CRNW(S)	01	.	.	.	9.3011	2.07513
84	CRNW(S)	02	.	.	.	8.6833	1.86424
85	CRNW(S)	03	.	.	.	9.0952	1.86424
86	CRNW(S)	04	.	.	.	7.6533	0.80855
87	ID	01	-10.0137	-37.700	-61836.16	6.8291	0.59714
88	ID	02	-11.8723	214.039	-61836.16	1.6722	0.17405
89	ID	03	10.4044	130.154	-32866.64	9.7129	1.44222
90	IWB	05	19.6716	-14.193	-48140.89	14.0341	3.33883
91	IWB	06	45.5846	-54.493	-49018.76	3.9424	7.32511
92	IWB	07	32.6340	-108.240	-53057.00	8.6833	3.75949
93	IWB	08	34.4848	-94.802	-56217.44	11.3597	2.91789
94	LDP	01	64.0681	-188.896	-62714.11	7.8593	0.80855
95	LDP	02	-15.5909	-84.724	-64645.62	4.7675	-1.52250
96	LDP	03	-37.9503	-158.645	-67630.73	8.8892	1.44222
97	LDP(S)	04	.	.	.	5.7985	1.23108
98	LDP(S)	05	.	.	.	6.6230	1.65327
99	LDP(S)	06	.	.	.	-0.6000	-1.73509
100	LRC	01	51.1317	244.231	-54637.21	7.8593	1.01986
101	LRC	02	36.3353	130.154	-54286.05	6.2107	0.17405
102	LRC	03	-43.5565	163.711	-53232.58	4.9737	2.49666
103	LRC	04	-28.6227	5.954	-56744.18	3.1171	-1.31004
104	LRC	05	17.8188	-10.835	-54988.37	3.9424	-1.09769
105	LRC	06	-0.7271	173.777	-53057.00	10.3306	3.75949
106	LRC	07	6.6953	123.442	-48843.18	5.7985	-1.31004
107	LRC	08	27.0803	22.742	-50950.08	15.2678	2.49666
108	LRF	01	-39.8182	197.264	-42171.51	10.3306	1.23108
109	LRF	02	15.9656	183.843	-44102.76	6.0046	2.49666
110	LRF	03	-43.5565	311.315	-48667.61	9.0952	1.86424
111	LRF	04	12.2584	277.775	-42698.21	0.2265	0.59714
112	LRF	05	30.7830	180.488	-39362.45	7.4473	3.12840

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
113	LRF	06	27.0803	244.231	-50247.78	9.5070	0.17405
114	LRF	07	51.1317	281.129	-53934.89	4.9737	-1.94780
115	LRF	08	-10.0137	42.886	-32339.96	6.8291	0.80855
116	LRF(S)	01	.	.	.	6.2107	0.80855
117	LRF(S)	01A	.	.	.	3.7361	0.59714
118	LRF(S)	01B	.	.	.	3.1171	-0.24944
119	LRF(S)	01C	.	.	.	7.6533	0.38564
120	LRF(S)	01D	.	.	.	6.8291	-0.24944
121	LRF(S)	01E	.	.	.	9.5070	2.49666
122	LRF(S)	01F	.	.	.	10.1247	0.17405
123	LRF(S)	02	.	.	.	6.6230	-0.88547
124	LRF(S)	02A	.	.	.	7.8593	3.54919
125	LRF(S)	02B	.	.	.	7.8593	2.70732
126	LRF(S)	02C	.	.	.	5.1799	0.17405
127	LRF(S)	02D	.	.	.	7.2412	1.86424
128	LRF(S)	02E	.	.	.	5.7985	0.80855
129	LRF(S)	02F	.	.	.	10.9481	2.28593
130	LRF(S)	03	.	.	.	7.4473	-0.03765
131	LRF(S)	03A	.	.	.	12.5943	0.38564
132	LRF(S)	03B	.	.	.	5.3861	7.53436
133	LRF(S)	03C	.	.	.	11.9770	2.28593
134	LRF(S)	03D	.	.	.	9.7129	2.07513
135	LRF(S)	03E	.	.	.	8.6833	1.23108
136	LRF(S)	03F	.	.	.	9.7129	1.44222
137	LRF(S)	04	.	.	.	6.2107	1.23108
138	LRF(S)	04A	.	.	.	5.3861	0.59714
139	LRF(S)	04B	.	.	.	11.5655	3.96971
140	LRF(S)	04C	.	.	.	9.0952	3.96971
141	LRF(S)	04D	.	.	.	10.9481	1.65327
142	LRF(S)	04E	.	.	.	9.7129	1.01986
143	LRF(S)	04F	.	.	.	9.0952	0.38564
144	LRF(S)	05	.	.	.	11.7713	-0.46134
145	LRF(S)	05A	.	.	.	8.8892	0.17405
146	LRF(S)	05B	.	.	.	11.7713	2.07513
147	LRF(S)	05C	.	.	.	9.9188	2.91789
148	LRF(S)	05D	.	.	.	6.8291	0.59714
149	LRF(S)	05E	.	.	.	11.9770	2.91789
150	LRF(S)	05F	.	.	.	7.0351	2.07513
151	LRF(S)	06	.	.	.	9.0952	1.23108
152	LRF(S)	06A	.	.	.	8.0653	2.07513
153	LRF(S)	06B	.	.	.	8.0653	0.38564
154	LRF(S)	06C	.	.	.	10.5364	3.12840
155	LRF(S)	06D	.	.	.	1.2593	1.44222
156	LRF(S)	06E	.	.	.	12.5943	2.28593
157	LRF(S)	06F	.	.	.	11.1539	-0.46134
158	LRF(S)	07	.	.	.	8.8892	2.49666
159	LRF(S)	07A	.	.	.	10.7423	0.80855
160	LRF(S)	07B	.	.	.	9.3011	0.38564
161	LRF(S)	07C	.	.	.	3.9424	8.16182
162	LRF(S)	07D	.	.	.	6.8291	-0.88547
163	LRF(S)	07E	.	.	.	2.4980	-0.46134
164	LRF(S)	07F	.	.	.	9.9188	3.54919
165	LRF(S)	08	.	.	.	11.7713	1.65327
166	LRF(S)	08A	.	.	.	10.5364	5.01988
167	LRF(S)	08B	.	.	.	6.2107	-0.88547
168	LRF(S)	08C	.	.	.	3.7361	1.44222

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
169	LRF(S)	08D	.	.	.	15.8844	3.33883
170	LRF(S)	08E	.	.	.	12.3885	0.17405
171	LRF(S)	08F	.	.	.	8.8892	0.38564
172	LRTW	03	-23.034	19.385	-52530.27	15.0622	2.91789
173	LRTW	04	-11.872	5.954	-51827.96	3.5298	-0.46134
174	LRTW	05	36.335	5.954	-53408.16	5.5923	0.17405
175	LRTW	06	-0.727	106.662	-53057.00	5.1799	-0.24944
176	LRTW	07	-56.674	157.000	-55866.28	3.9424	1.65327
177	LRTW	08	-37.950	-145.202	-53232.58	5.1799	-0.03765
178	LRTW	09	-19.312	492.381	-22508.80	10.3306	6.06853
179	LRTW(S)	03	.	.	.	6.6230	0.17405
180	LRTW(S)	04	.	.	.	4.1487	1.44222
181	LRTW(S)	05	.	.	.	11.9770	-1.73509
182	LRTW(S)	06	.	.	.	9.5070	1.01986
183	LRTW(S)	07	.	.	.	10.1247	2.91789
184	LRTW(S)	08	.	.	.	6.6230	0.17405
185	LRTW(S)	09	.	.	.	7.0351	1.44222
186	LRW	01	23.376	458.856	-29531.02	3.1171	-1.09769
187	LRW	02	40.036	220.748	-30584.37	9.5070	2.91789
188	LRW	03	14.112	-57.852	-50247.78	7.2412	3.54919
189	LRW	04	73.303	321.377	-46034.03	4.7675	2.07513
190	LRW	05	110.207	22.742	-58148.85	8.8892	1.44222
191	LRW	06	12.258	-145.202	-52530.27	13.0057	1.86424
192	LRW	07	32.634	123.442	-53408.16	5.7985	-1.09769
193	LRW	08	32.634	123.442	-53408.16	11.5655	5.01988
194	LRW	09	58.525	240.877	-26371.00	2.7044	1.01986
195	LRW	10	17.819	207.329	-24791.00	9.3011	3.54919
196	LRW	11	12.258	341.499	-25844.33	3.3235	0.17405
197	LRW(S)	01	.	.	.	8.4773	1.23108
198	LRW(S)	02	.	.	.	3.3235	-0.24944
199	LRW(S)	03	.	.	.	4.7675	0.80855
200	LRW(S)	04	.	.	.	14.6510	2.70732
201	LRW(S)	05	.	.	.	1.2593	-1.09769
202	LRW(S)	06	.	.	.	9.3011	1.44222
203	LRW(S)	07	.	.	.	6.2107	-0.46134
204	LRW(S)	08	.	.	.	13.8284	6.06853
205	LRW(S)	09	.	.	.	7.2412	-0.67335
206	LRW(S)	10	.	.	.	0.4331	2.91789
207	LRW(S)	11	.	.	.	5.5923	0.38564
208	LS	01	-6.298	-165.367	-60958.22	13.0057	3.96971
209	LS	02	54.829	-131.760	-63065.29	5.1799	0.59714
210	LS	03	12.258	-44.417	-62011.75	9.3011	3.54919
211	LS(S)	04	.	.	.	8.6833	1.44222
212	LS(S)	05	.	.	.	12.8000	2.70732
213	LS(S)	06	.	.	.	12.5943	0.59714
214	LS(S)	07	.	.	.	9.7129	1.44222
215	MP	01a	-47.299	659.967	-61836.16	7.2412	1.01986
216	MP	01b	-28.623	39.529	-56568.60	9.0952	2.07513
217	MP	02a	-56.674	173.777	-58148.85	2.0852	2.28593
218	MP	02b	17.819	-44.417	-54812.79	5.3861	0.80855
219	MP	03a	-0.727	22.742	-56568.60	5.3861	-1.94780
220	MP	04a	-60.434	-78.005	-61836.16	6.2107	-0.67335
221	MP	04b	82.534	-94.802	-58324.43	7.2412	1.23108
222	MP	05a	36.335	-128.400	-66928.35	9.9188	3.12840
223	MP	05b	-37.950	89.880	-61836.16	3.7361	-0.24944
224	MP	06a	-47.299	-212.429	-67630.73	4.5612	1.65327

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
225	MP	06b	-28.6227	-27.625	-62538.52	13.0057	2.28593
226	MP	07a	-19.3115	-212.429	-57622.10	8.6833	2.49666
227	MP	07b	-66.0883	-78.005	-57622.10	7.2412	-0.88547
228	MP	08a	73.3032	157.000	-68157.53	8.4773	0.80855
229	MP	08b	-10.0137	-313.340	-63592.06	10.9481	3.33883
230	MP	09	-19.3115	5.954	-59377.94	8.6833	-0.67335
231	MP	10	-19.3115	509.142	-56744.18	6.2107	-0.67335
232	MP	11	-19.3115	22.742	-54988.37	3.1171	-0.88547
233	MP	12	-10.0137	341.499	-54637.21	9.9188	2.91789
234	MP	13	-10.0137	190.554	-55339.53	-1.8403	-3.44069
235	MP	14	-37.9503	22.742	-54286.05	0.2265	1.23108
236	MP	15a	-19.3115	-27.625	-61133.81	5.1799	-1.09769
237	MP	15b	8.5500	5.954	-63416.47	1.2593	1.44222
238	MP	16a	-28.6227	106.662	-67455.14	8.4773	6.06853
239	MP	16b	17.8188	-162.006	-64118.84	6.8291	0.59714
240	MP	17a	-56.6743	-229.241	-65699.18	6.2107	2.28593
241	MP	17b	-0.7271	22.742	-62714.11	10.9481	1.65327
242	MP	18a	-37.9503	-44.417	-68684.32	11.7713	-0.46134
243	MP	18b	-28.6227	-61.210	-56568.60	9.7129	2.07513
244	MP	19a	-19.3115	-145.202	-67279.54	5.3861	1.23108
245	MP	19b	-28.6227	56.314	-66225.96	5.5923	4.38997
246	MP	20a	17.8188	-145.202	-67806.33	8.2713	-0.46134
247	MP	20b	-75.5626	22.742	-62362.93	7.2412	1.86424
248	MP	21a	-19.3115	-111.600	-66752.75	4.3550	0.59714
249	MP	21b	-10.0137	-178.811	-61836.16	7.6533	-0.24944
250	MP	22a	8.5500	56.314	-63416.47	11.7713	2.91789
251	MP	22b	45.5846	-44.417	-59729.11	4.1487	-1.94780
252	MP	23a	-37.9503	-27.625	-63767.65	10.3306	4.60000
253	MP	23b	-10.0137	56.314	-63065.29	7.8593	3.33883
254	MP	24a	-10.0137	-145.202	-65172.40	9.0952	-0.03765
255	MP	24b	8.5500	-10.835	-65874.77	7.4473	0.17405
256	MP	25a	-28.6227	39.529	-65874.77	4.1487	-0.46134
257	MP	25b	17.8188	56.314	-63416.47	11.7713	4.80997
258	MP	26a	-37.9503	-61.210	-66928.35	6.6230	0.38564
259	MP	26b	-56.6743	-10.835	-61836.16	6.8291	-0.24944
260	MP	27a	-28.6227	-44.417	-63416.47	7.6533	4.38997
261	MP	27b	-19.3115	-44.417	-66225.96	5.3861	-3.01341
262	MP	28	-10.0137	123.442	-63592.06	9.5070	2.91789
263	MP	29a	-75.5626	-246.056	-62187.34	5.5923	1.65327
264	MP	29b	-0.7271	-27.625	-63767.65	7.8593	2.70732
265	MP	30a	-0.7271	-27.625	-61660.57	11.7713	1.65327
266	MP	30b	27.0803	-61.210	-62538.52	3.1171	-0.24944
267	MP	31a	-0.7271	106.662	-64294.43	12.5943	3.33883
268	MP	32	17.8188	-44.417	-88353.81	4.9737	0.80855
269	MP	33a	-19.3115	-212.429	-56393.02	12.3885	3.75949
270	MP	33b	8.5500	-27.625	-61133.81	10.5364	5.01988
271	MP	34a	-28.6227	-212.429	-67981.93	7.4473	0.17405
272	MP	34b	-56.6743	5.954	-66225.96	10.7423	0.80855
273	MP	35a	-0.7271	-229.241	-66577.15	8.0653	2.07513
274	MP	35b	-37.9503	73.098	-64645.62	8.8892	0.17405
275	MP	36a	-37.9503	-44.417	-72371.97	5.3861	0.59714
276	MP	36b	8.5500	-10.835	-68157.53	12.5943	0.38564
277	MP	37a	17.8188	-111.600	-70615.93	6.4169	-1.52250
278	MP	37b	-56.6743	-27.625	-66050.37	3.7361	0.59714
279	MP	38a	36.3353	-78.005	-68684.32	4.7675	0.38564
280	MP	38b	36.3353	-10.835	-65523.58	11.7713	1.65327

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
281	MP	39a	27.0803	123.442	-67455.14	6.4169	1.65327
282	MP	39b	-0.7271	-145.202	-63592.06	3.1171	-1.09769
283	MP	40a	17.8188	-279.692	-65874.77	6.2107	-0.88547
284	MP	40b	17.8188	123.442	-63416.47	6.6230	0.80855
285	MP	41a	-19.3115	-262.873	-64470.02	9.7129	4.38997
286	MP	41b	8.5500	-61.210	-61836.16	5.7985	-0.24944
287	MP	42a	-37.9503	-212.429	-62362.93	12.1828	1.65327
288	MP	42b	-10.0137	-44.417	-66225.96	10.5364	4.60000
289	MP	43a	-0.7271	-145.202	-66752.75	7.0351	2.49666
290	MP	43b	-56.6743	-44.417	-64645.62	5.5923	-2.80000
291	MP	44a	-28.6227	-10.835	-66577.15	7.6533	-0.67335
292	MP	44b	-37.9503	-178.811	-66050.37	9.3011	-0.24944
293	MP	45a	-10.0137	-27.625	-66225.96	7.6533	2.70732
294	MP	45b	17.8188	39.529	-67981.93	8.0653	0.80855
295	MP	46	-56.6743	5.954	-63065.29	7.2412	-0.24944
296	MP	47	8.5500	39.529	-59904.70	4.5612	0.59714
297	MP	48	-10.0137	-178.811	-70791.54	13.4171	1.86424
298	MP	49	-0.7271	-128.400	-66050.37	10.7423	1.86424
299	MP	50	-75.5626	-78.005	-72371.97	7.6533	1.65327
300	MP	51	-28.6227	-10.835	-57095.35	4.7675	-0.24944
301	MP	52	-19.3115	56.314	-54812.79	11.7713	1.65327
302	MP	53	36.3353	-27.625	-53057.00	5.1799	0.17405
303	MP	54a	45.5846	-145.202	-52705.85	9.3011	-0.03765
304	MP	54b	27.0803	-10.835	-58851.19	2.4980	1.23108
305	MP	55	-28.6227	-27.625	-52705.85	8.4773	2.49666
306	MP	56	54.8287	123.442	-53583.74	4.5612	0.17405
307	MP	57a	36.3353	-78.005	-51476.81	7.0351	1.01986
308	MP	57b	-0.7271	-61.210	-54988.37	10.9481	1.44222
309	MP	58	8.5500	-145.202	-71669.55	8.6833	4.38997
310	MP	59	17.8188	207.329	-69035.52	5.5923	0.59714
311	MP	60	54.8287	207.329	-56393.02	9.0952	1.23108
312	MP	61a	17.8188	-330.168	-75006.10	-0.1867	-2.37362
313	MP	61b	-37.9503	-145.202	-57095.35	6.2107	-0.03765
314	MP	62a	45.5846	-229.241	-77289.08	8.6833	2.70732
315	MP	62b	-47.2987	-145.202	-53057.00	6.4169	1.01986
316	MP	63a	-66.0883	-279.692	-77815.92	8.4773	2.07513
317	MP	63b	8.5500	39.529	-67981.93	8.6833	2.70732
318	MP	64a	-37.9503	-145.202	-59377.94	3.1171	-0.67335
319	MP	65a	-0.7271	-195.619	-74479.27	7.6533	1.65327
320	MP	65b	-66.0883	-145.202	-65699.18	7.8593	-0.24944
321	MP	66a	-10.0137	-296.515	-71845.16	6.0046	1.44222
322	MP	66b	-19.3115	-162.006	-69562.32	12.8000	4.80997
323	MP	67	-37.9503	-128.400	-75006.10	4.9737	1.23108
324	MP	68	91.7618	106.662	-58851.19	5.1799	2.28593
325	MP	69	82.5343	-212.429	-55866.28	5.7985	0.59714
326	MP	70	-37.9503	-27.625	-72723.19	4.9737	-2.37362
327	MP	71	-28.6227	-296.515	-62889.70	6.2107	3.54919
328	MP	72	-47.2987	-128.400	-57797.68	11.1539	2.07513
329	MP	73	27.0803	-279.692	-61484.99	7.0351	2.07513
330	MP	74	64.0681	-128.400	-59202.36	6.2107	-0.46134
331	MP	75	-28.6227	-78.005	-54812.79	5.3861	2.49666
332	MP	76	-28.6227	-178.811	-55690.69	12.1828	3.54919
333	MP	77	8.5500	-10.835	-54110.47	9.7129	-1.31004
334	MP	78	45.5846	-10.835	-52881.42	12.8000	1.01986
335	PAR	01	8.5500	-88.083	-59377.94	14.4453	4.60000
336	PAR	02	-10.0137	-121.680	-55339.53	16.5010	3.33883

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
337	PAR	03	25.2285	-61.210	-57973.27	34.1419	4.80997
338	RRC	01	-50.6703	170.422	-51476.81	10.3306	-0.03765
339	RRC	02	32.6340	39.529	-51125.66	8.0653	0.38564
340	RRC	03	-0.7271	224.103	-49194.33	7.0351	0.17405
341	RRC	04	45.5846	73.098	-46736.31	11.1539	0.80855
342	RRC	05	58.5250	261.004	-43927.19	13.4171	4.38997
343	RRC	06	8.5500	163.711	-49545.48	5.5923	2.49666
344	RRC	07	14.1122	96.593	-48843.18	2.9108	-0.77939
345	RRC	08	17.8188	73.098	-52881.42	7.8593	0.38564
346	RRC	09	82.5343	93.237	-50072.20	8.6833	-0.46134
347	RRC	10	52.9803	190.554	-51301.23	8.4773	0.80855
348	RRC	11	14.1122	59.671	-52705.85	12.3885	3.75949
349	RRC	12	25.2285	217.394	-52530.27	2.0852	0.80855
350	RRC	13	54.8287	673.371	-52179.11	6.2107	0.17405
351	RRC	14	64.0681	59.671	-53583.74	10.7423	0.59714
352	RRC	15	45.5846	89.880	-49545.48	8.4773	0.80855
353	RRC	16	51.1317	126.798	-54110.47	12.3885	3.75949
354	RRC	17	25.2285	76.454	-54286.05	2.0852	0.80855
355	RRC	18	-74.2312	277.775	-53583.74	9.0952	-0.03765
356	RRC	19	28.9318	69.741	-52705.85	5.3861	-1.94780
357	RRC	20	27.0803	9.312	-60431.46	12.1828	1.65327
358	RRC	21	27.0803	210.684	-54637.21	5.1799	-0.88547
359	RRC	22	41.8856	133.510	-55866.28	8.2713	3.54919
360	RRC	23	60.3729	106.662	-55690.69	7.0351	0.59714
361	RRC	24	45.5846	110.018	-54637.21	5.1799	-0.88547
362	RRC	25	43.7352	150.289	-52354.69	8.2713	3.54919
363	RREW	01	60.3729	234.167	-24966.56	7.0351	1.23108
364	RREW	02	2.9848	110.018	-37782.37	6.2107	2.07513
365	RREW	03	8.5500	150.289	-54110.47	6.8291	0.17405
366	RREW	04	32.6340	110.018	-51827.96	6.4169	1.86424
367	RREW	05	40.0357	157.000	-55866.28	9.7129	2.07513
368	RREW	06	58.5250	157.000	-26019.89	10.7423	3.12840
369	RREW	07	-8.1555	-7.477	-30584.37	7.8593	2.28593
370	RREW	08	4.8402	99.949	-54812.79	9.0952	2.28593
371	RREW	09	21.5242	177.133	-55339.53	6.0046	2.07513
372	RREW	10	58.5250	-10.835	-57446.52	10.7423	2.49666
373	RREW	11	-0.7271	214.039	-23386.57	11.3597	1.44222
374	RREW	12	28.9318	2.597	-30233.25	7.2412	1.44222
375	RREW	13	2.9848	110.018	-52705.85	9.0952	1.23108
376	RREW	14	2.9848	110.018	-58851.19	5.7985	0.59714
377	RREW	15	51.1317	157.000	-59377.94	8.6833	2.07513
378	RREW	16	21.5242	592.939	-29004.35	7.8593	1.65327
379	RREW	17	8.5500	492.381	-34271.12	2.7044	0.17405
380	RREW	18	17.8188	32.814	-53583.74	7.0351	1.23108
381	RREW	19	73.3032	110.018	-53934.69	6.2107	2.07513
382	RREW	20	40.0357	123.442	-61133.81	10.9481	1.23108
383	RREW(S)	01	.	.	.	6.6230	0.17405
384	RREW(S)	01	.	.	.	13.0057	2.07513
385	RREW(S)	02	.	.	.	7.0351	1.23108
386	RREW(S)	04	.	.	.	9.3011	5.22972
387	RREW(S)	05	.	.	.	9.3011	1.01986
388	RREW(S)	06	.	.	.	8.8892	2.91789
389	RREW(S)	07	.	.	.	12.5943	1.65327
390	RREW(S)	08	.	.	.	8.0653	0.17405
391	RREW(S)	09	.	.	.	11.1539	1.86424
392	RREW(S)	10	.	.	.	7.0351	1.65327

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWiPED	SALPHAD
393	RREW(S)	11	.	.	.	15.2678	1.23108
394	RREW(S)	12	.	.	.	9.0952	1.01986
395	RREW(S)	13	.	.	.	7.6533	-2.58674
396	RREW(S)	14	.	.	.	7.6533	1.23108
397	RREW(S)	15	.	.	.	8.2713	1.01986
398	RREW(S)	16	.	.	.	9.7129	1.65327
399	RREW(S)	17	.	.	.	6.2107	1.44222
400	RREW(S)	18	.	.	.	5.5923	0.80855
401	RREW(S)	19	.	.	.	7.6533	1.01986
402	RREW(S)	20	.	.	.	9.3011	4.60000
403	RRF	01	-23.0343	-81.365	-41293.67	7.2412	0.17405
404	RRF	02	69.6096	5.954	-39889.14	5.5923	-0.03765
405	RRF	03	1.1291	-81.365	-39186.88	10.1247	0.59714
406	RRF	04	-26.7593	-30.983	-37255.68	10.1247	0.59714
407	RRF	05	80.6884	-125.040	-37957.93	8.0653	0.17405
408	RRF	06	-56.6743	-0.761	-44805.04	8.6833	-0.67335
409	RRF	07	-56.6743	-98.161	-45331.75	6.2107	2.49666
410	RRF	08	-30.4868	-88.083	-46034.03	12.3885	3.96971
411	RRF	09	-23.0343	-168.728	-43927.19	8.0653	0.38564
412	RRF	10	-36.0833	-61.210	-54110.47	11.9770	0.70285
413	RRF	11	-15.5909	-91.443	-50774.50	9.0952	1.86424
414	RRF	12	-36.0833	-94.802	-53408.16	2.9108	-0.88547
415	RRF	13	-26.7593	-71.287	-48843.18	7.8593	2.91789
416	RRF	14	-10.0137	-84.724	-50423.35	4.1487	-0.46134
417	RRF	15	-41.6869	-84.724	-52354.69	10.2276	-0.14353
418	RRF	16	-23.0343	-121.680	-54461.63	8.8892	-0.24944
419	RRF	17	-56.6743	-198.981	-56744.18	4.3550	-.24944
420	RRF	18	-45.4271	-118.320	-50598.93	10.3306	-.28593
421	RRF	19	-45.4271	-138.481	-50423.35	1.8787	0.80855
422	RRF	20	-39.8182	-178.811	-47263.03	8.4773	0.59714
423	RRF	21	-24.8965	-121.680	-53232.58	8.6833	1.01986
424	RRF	22	-49.1713	-138.481	-53583.74	1.4658	-1.94780
425	RRF	23	-30.4868	-111.600	-55690.69	7.7563	-0.99157
426	RRF(S)	01	.	.	.	7.4473	1.01986
427	RRF(S)	01A	.	.	.	7.4473	0.17405
428	RRF(S)	02	.	.	.	7.0351	0.38564
429	RRF(S)	02A	.	.	.	7.8593	3.33883
430	RRF(S)	03	.	.	.	2.2916	-1.09769
431	RRF(S)	03A	.	.	.	4.1487	-1.94780
432	RRF(S)	04	.	.	.	-4.5302	-0.46134
433	RRF(S)	04A	.	.	.	7.6533	-0.24944
434	RRF(S)	05	.	.	.	5.7985	-0.03765
435	RRF(S)	05A	.	.	.	6.0046	-0.67335
436	RRF(S)	06	.	.	.	0.0199	-4.08286
437	RRF(S)	06A	.	.	.	15.2678	3.54919
438	RRF(S)	07	.	.	.	8.8892	1.44222
439	RRF(S)	07A	.	.	.	11.1539	0.80855
440	RRF(S)	08	.	.	.	8.2713	-0.24944
441	RRF(S)	08A	.	.	.	8.2713	3.96971
442	RRF(S)	09	.	.	.	13.4171	2.28593
443	RRF(S)	09A	.	.	.	3.5298	-1.52250
444	RRF(S)	10	.	.	.	11.1539	-0.03765
445	RRF(S)	10A	.	.	.	6.6230	-1.73509
446	RRF(S)	11	.	.	.	7.4473	0.38564
447	RRF(S)	11A	.	.	.	9.5070	0.38564
448	RRF(S)	12	.	.	.	7.6533	5.64924

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
449	RRF(S)	12A	.	.	.	13.6228	4.17987
450	RRF(S)	13	.	.	.	12.3885	2.07513
451	RRF(S)	13A	.	.	.	14.2397	1.65327
452	RRF(S)	14	.	.	.	2.4980	-0.67335
453	RRF(S)	14A	.	.	.	6.2107	1.23108
454	RRF(S)	15	.	.	.	7.8593	-0.46134
455	RRF(S)	15A	.	.	.	7.6533	-0.88547
456	RRF(S)	16	.	.	.	7.4473	1.65327
457	RRF(S)	16A	.	.	.	13.8284	-0.03765
458	RRF(S)	17	.	.	.	8.6833	2.07513
459	RRF(S)	17A	.	.	.	10.7423	-0.67335
460	RRF(S)	18	.	.	.	12.3885	1.01986
461	RRF(S)	18A	.	.	.	9.7129	2.07513
462	RRF(S)	19	.	.	.	7.0351	1.01986
463	RRF(S)	19A	.	.	.	8.8892	-0.03765
464	RRF(S)	20	.	.	.	14.2397	1.23108
465	RRF(S)	20A	.	.	.	8.6833	-1.73509
466	RRF(S)	21	.	.	.	9.0952	0.38564
467	RRF(S)	21A	.	.	.	5.1799	-0.88547
468	RRF(S)	22	.	.	.	6.0046	1.23108
469	RRF(S)	22A	.	.	.	6.4169	-0.67335
470	RRF(S)	23	.	.	.	8.2713	1.86424
471	RRF(S)	23A	.	.	.	6.4169	0.38564
472	RRNW	01	6.6953	421.976	-32691.08	11.1539	0.80855
473	RRNW	02	-13.7314	237.522	-30057.69	3.9424	1.01986
474	RRNW	03	-8.1555	284.483	-28302.12	12.5943	2.49666
475	RRNW	04	-10.0137	271.066	-26546.56	10.5364	0.38564
476	RRNW	05	40.0357	200.619	-30233.25	4.9737	3.75949
477	RRNW	06	28.9318	281.129	-28477.67	5.1799	0.38564
478	RRNW	07	-49.1713	180.488	-27775.45	7.8593	2.28593
479	RRNW	08	-24.8965	157.000	-26722.11	2.4980	0.59714
480	RRNW	09	93.6069	-81.365	-32339.96	3.0140	-0.88547
481	RRNW	10	76.9961	-397.517	-33744.44	7.8593	3.54919
482	RRNW(S)	01	.	.	.	8.0653	2.91789
483	RRNW(S)	02	.	.	.	8.6833	4.60000
484	RRNW(S)	03	.	.	.	11.9770	2.70732
485	RRNW(S)	04	.	.	.	3.1171	-2.80000
486	RRNW(S)	05	.	.	.	6.4169	0.59714
487	RRNW(S)	06	.	.	.	13.8284	3.54919
488	RRNW(S)	07	.	.	.	11.7713	0.80855
489	RRNW(S)	08	.	.	.	3.7361	-1.73509
490	RRNW(S)	09	.	.	.	4.5612	-0.24944
491	RRNW(S)	10	.	.	.	8.4773	-0.67335
492	RRSW	01	8.5500	-98.161	-55163.95	5.5923	1.44222
493	RRSW	02	-19.3115	-111.600	-54110.47	7.8593	1.44222
494	RRSW	03	-19.3115	-205.705	-53057.00	1.0528	-1.52250
495	RRSW	04	45.5846	-41.058	-54110.47	8.6833	1.23108
496	RRSW	05	27.0803	-88.083	-52705.85	8.4773	3.12840
497	RRSW	06	10.4044	-37.700	-52003.54	8.4773	3.96971
498	RRSW	07	45.5846	264.358	-53759.32	8.8892	1.44222
499	RRSW	08	82.5343	-27.625	-53934.89	6.2107	0.80855
500	RRSW	09	86.2257	12.670	-53759.32	3.9424	0.80855
501	RRSW	10	54.8287	-138.481	-52354.69	8.0653	1.23108
502	RRSW	11	60.3729	-4.119	-56393.02	7.0351	2.07513
503	RRSW	12	32.6340	9.312	-61836.16	6.0046	1.44222
504	RRSW	13	10.4044	-27.625	-48140.89	9.0952	1.23108

OBS	LOC	SLOC	ALPHAD	BETAD	GAMMAD	SWIPED	SALPHAD
505	RRSW	14	-10.0137	-54.802	-46209.60	4.9737	2.07513
506	RRSW	15	32.6340	-37.700	-48316.46	6.6230	0.17405
507	RRSW(S)	01	.	.	.	6.0046	1.23108
508	RRSW(S)	02	.	.	.	4.9737	2.07513
509	RRSW(S)	03	.	.	.	7.8593	2.07513
510	RRSW(S)	04	.	.	.	9.0952	1.23108
511	RRSW(S)	05	.	.	.	6.4169	0.38564
512	RRSW(S)	06	.	.	.	6.6230	0.80855
513	RRSW(S)	07	.	.	.	9.9188	2.49666
514	RRSW(S)	08	.	.	.	8.0653	1.44222
515	RRSW(S)	09	.	.	.	10.9481	3.12840
516	RRSW(S)	10	.	.	.	3.3235	-1.94780
517	RRSW(S)	11	.	.	.	13.8284	2.70732
518	RRSW(S)	12	.	.	.	3.1171	0.38564
519	RRSW(S)	13	.	.	.	9.3011	-0.46134
520	RRSW(S)	14	.	.	.	7.6533	-0.67335
521	RRSW(S)	15	.	.	.	2.9108	-1.73509
522	RRWW	01	41.8856	-88.083	-55690.69	6.0046	-1.73509
523	RRWW	02	14.1122	-54.493	-51652.38	4.7675	0.59714
524	RRWW	03	25.2285	-41.058	-51125.66	13.0057	5.64924
525	RRWW	04	-6.2978	-34.342	-52179.11	0.0199	-4.08286
526	RRWW	05	-6.2978	-51.134	-52179.11	14.0341	1.23108
527	RRWW	06	-36.0833	-37.700	-52003.54	10.2276	2.18054
528	RRWW	07	-19.3115	-121.680	-52354.69	10.9481	0.70285
529	RRWW	08	-2.5836	-111.600	-52003.54	4.9737	1.12548
530	RRWW(S)	01	.	.	.	9.7129	3.12840
531	RRWW(S)	02	.	.	.	8.6833	-1.09769
532	RRWW(S)	03	.	.	.	4.3550	1.23108
533	RRWW(S)	04	.	.	.	7.8593	2.28593
534	RRWW(S)	05	.	.	.	7.4473	0.59714
535	RRWW(S)	06	.	.	.	13.4171	3.33883
536	RRWW(S)	07	.	.	.	11.9770	1.65327
537	RRWW(S)	08	.	.	.	13.6228	2.28593
538	SD(S)	01	.	.	.	7.2412	1.23108
539	SD(S)	02	.	.	.	6.0046	-0.24944
540	SD(S)	03	.	.	.	4.9737	-0.46134
541	SD(S)	04	.	.	.	4.9737	1.44222
542	SD(S)	05	.	.	.	5.5923	4.38997

The following table is a summary of the results from section five. Raw background counts were taken from the Smith, Nichols, and Widtsoe buildings. These are all masonry and concrete construction as is the reactor facility.

Alpha background	10.5 cpm
Beta background	45.3 cpm
Gamma background	13,280 cpm
Swipe	39 cpm
Salpha	13 cpm

Acceptance Criteria

Alpha less than	100dpm/100cm^2
Beta less than	5000dpm/100cm^2
Gamma less than	5000dpm/100cm^2
Removable Alpha less than	20dpm/100cm^2
Removable Beta/Gamma less than	1000dpm/100cm^2

Variable	N	Mean	Std Dev	Minimum	Maximum
SWIPED	542	7.8383201	3.5426306	-4.5301982	34.1418558
SALPHAD	542	1.1782068	1.8063055	-4.2972761	8.1618172

Variable	N	Mean	Std Dev	Minimum	Maximum
ALPHAD	286	4.1288314	38.1694699	-75.5625761	110.2068542
BETAD	286	12.1721935	166.8520353	-397.5166852	673.3710637
GAMMAD	286	-54431.37	11951.66	-88353.81	4174.18

Swipe samples counted with counter windows wide open averaged 7 dpm above background. Note that this includes the addition of two standard deviations. In addition the sample distribution had a standard deviation of 3.5 dpm/100cm^2. Thus we are over 95% confident that the true average count is less than 15 dpm which. In this case we were measuring for gamma and beta removable surface contamination and the acceptance criteria is set at 1,000 dpm.

Swipe samples counted for removable alpha surface contamination were counted with windows set to exclude low energy counts (150 kev). These counts designated as Salpha had a mean of 1.2 and Standard deviation of 1.8. The maximum count in this group was only 8.2 dpm above background. Again the acceptance criteria was met with very high confidence.

The fixed alpha counts averaged 4 dpm above background with a standard deviation of 38.2 dpm. One sample result taken from the large room wall had an alpha count exceeding the acceptance criteria. This count has since been repeated with a raw count of 15 cpm and a value of less than 100 dpm/100cm^2. Other than this sample, all counts fell within the acceptance criteria as listed.

Fixed beta counts at over 95% confidence averaged 12.2 counts above background. The maximum deviation from background with 95% confidence was 673 dpm. This is well within the acceptance criteria of 1000 dpm fixed beta surface contamination.

Fixed Gamma counts did not exceed 4,174 dpm above background and are therefor within acceptance criteria.

Under acceptance criteria established in the letter of March 9, 1992; the above data supports a conclusion that the reactor facility is suitable for release to unrestricted use.