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OPERATION SUN BEAM, SHOTS LITTLE FELLER I, II, JOHNIE BOY, AND SMALL BOY

Project Officers Report—Project 2.8

Radiological Surveys

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FOREWORD

Classified material has been removed in order to make the information available on an unclassified, open publication basis, to any interested parties. The effort to declassify this report has been accomplished specifically to support the Department of Defense Nuclear Test Personnel Review (NTPR) Program. The objective is to facilitate studies of the low levels of radiation received by some individuals during the atmospheric nuclear test program by making as much information as possible available to all interested parties.

The material which has been deleted is either currently classified as Restricted Data or Formerly Restricted Data under the provisions of the Atomic Energy Act of 1954 (as amended), or is National Security Information, or has been determined to be critical military information which could reveal system or equipment vulnerabilities and is, therefore, not appropriate for open publication.

The Defense Nuclear Agency (DNA) believes that though all classified material has been deleted, the report accurately portrays the contents of the original. DNA also believes that the deleted material is of little or no significance to studies into the amounts, or types, of radiation received by any individuals during the atmospheric nuclear test program.

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Operation

SUN BEAM

SHOTS LITTLE FELLER I, II, JOHNIE BOY, AND SMALL BOY(u)

PROJECT OFFICERS REPORT—PROJECT 2.8

RADIOLOGICAL SURVEYS (U)

Edwin H. Bouton, Project Officer

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U. S. Army Nuclear Defense Laboratory,
Edgewood Arsenal, Maryland

Issuance Date: October 30, 1964

OPERATION SUN BEAM

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ABSTRACT

The objectives of Project 2.8 were (1) to determine the residual radiation patterns and the field decay rates resulting from low-yield contaminating detonations, and (2) to determine the gamma dose rates and decay rates in and around the crater areas as soon after detonation as possible.

Detailed ground surveys of the contaminated areas were conducted in July 1962 at the Nevada Test Site (NTS) after the detonations of Little Feller I, Little Feller II, Johnie Boy, and Small Boy. In addition to ground-survey operations, high-level dose-rate recorders were placed by helicopters in or near the crater produced by each shot, and helicopter-to-ground instruments were used to measure dose rates in ground zero areas.

Approximately three thousand film badges were installed at on-site monitoring points for the four shots, and about four thousand badges were placed at off-site survey points to 300 miles for the Small Boy shot.

The H+1-hour gamma dose-rate contours for the Little Feller I and II, Johnie Boy, and Small Boy shots are based on ground surveys that were significantly more detailed than surveys at any previous nuclear tests.

Field gamma dose-rate decays through D+1 day varied considerably from point to point within individual patterns. In general, for the

above-ground shots, there were differences between the decay rates near ground zero and those observed in the downwind direction. In the expression $I_t = I_1 t^{-x}$, the average exponent in the upwind and crosswind directions tended to be appreciably less than 1.2; for stations at significant downwind distances, the decay exponent tended to be near 1.2.

The maximum ground zero dose rates based on measurements extrapolated to H+1 hour ranged from 3,300 r/hr for the Little Feller shots to 38,000 r/hr for Small Boy.

The percent of total activity deposited by Little Feller I, Little Feller II, and Small Boy within the 0.5 r/hr H+1-hour contour was 6.5 percent, 6.6 percent, and 24 percent, respectively. The percent deposited within the Johnie Boy 1 r/hr H+1-hour contour was 69 percent.

PREFACE

This project was conducted with the assistance of a large number of individuals who worked long hours making radiological surveys over rough terrain.

The ground radiological surveys made in Area 18 for Little Feller I and II and Johnie Boy were conducted by personnel from the Military District of Washington, D. C., under the direction of Captain Burton J. Conway, U. S. Army Nuclear Defense Laboratory (USANDL), Edgewood Arsenal, Maryland. The 50th Chemical Platoon from Fort Ord, California, performed the on-site ground surveys at Small Boy, and the 22nd Chemical Company from Fort McClellan, Alabama, commanded by Lt Richard D. Wade, made off-site ground surveys. Both groups were directed by Captain William G. Powell, USANDL. Helicopter dose-rate measurements were performed by a group of Chemical Corps officers furnished by Headquarters, Continental Army Command, Fort Monroe, Virginia, through arrangements made by the Chief Chemical Officer and were supervised by Captain Alan A. Nord. All the aforementioned officers assisted in the planning of the experiments.

The four Marine Corps helicopters and crews were commanded by Lt Colonel H. L. McRay. These men were skilled pilots and contributed many suggestions helpful to successful helicopter operations.

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CHAPTER 1

INTRODUCTION

1.1 OBJECTIVES

The objectives of this project were: (1) to determine the residual radiation patterns and the field decay rates resulting from low-yield contaminating detonations, and (2) to determine the gamma dose rates and decay rates in and around the crater areas as soon after detonation as possible.

1.2 BACKGROUND

Knowledge of the residual contamination from bursts of tactical nuclear weapons on or near the surface is required to exploit more effectively the offensive use of these weapons and to prepare the necessary countermeasures for defense against them. The input information now available for the current prediction systems is based on limited data from a few test detonations.

The land surface shots for which close-in fallout contamination intensities have been measured are: the surface shot of Operation Jangle (1.2 kt); Coulomb C of Operation Plumbbob (500 tons); Fig of Operation Hardtack

The H+1-hour downwind dose-rate contour distances for Jangle S, Coulomb C, and Fig are shown in Figure 1.1 as corrected for a 15-knot mean wind speed. This correction

was made by assuming that downwind distance for a given contour varies as the cube root of the wind speed (Reference 2).

The determination of the fallout pattern resulting from the Jangle surface shot was of necessity exploratory in nature and was also, in many respects, a dry run for the subsequent underground shot. The fallout pattern that was developed was incomplete. The overall downwind extent of the contours of importance in scaling or extrapolation to higher yields was not determined. Therefore, the extent of contours representing dose rates less than 35 r/hr at H+1 hour is not known.

For Coulomb C, a one-point detonation, the 1, 10, and 100 r/hr contours were relatively well defined (Reference 3). The 1-r/hr contour extended approximately 13,000 yards downwind. The mean wind speed for the altitude interval of importance for this shot was estimated to be 8 knots.

The Shot Fig downwind fallout occurred over water. Hence, the equivalent gamma dose rates were inferred primarily from fallout collector data supplemented by monitor readings on a few barges (Reference 4). The 1-r/hr contour for this shot extended 750 yards downwind.

An analysis of Shot Fig results points out that the extent of the 10 r/hr H+1-hour contour for a 20-ton weapon was shorter by a factor of 5 than an admittedly large-range extrapolation from TM 23-200 (Reference 6) would indicate. However, this same analysis showed the extent of the higher level contours (100 r/hr or greater) to be approximately as predicted.

The amount of fallout produced by detonation of fractional-kiloton weapons at operational heights of burst has never been measured. At Shot Fig, the soil at ground zero was saturated with salt water and was not typical of a true land-surface burst. Furthermore, the detonation did not take place at the operational height of burst planned for weapons.

The efficient use of cratering detonations for peaceful as well as military usage demands accurate knowledge of the degree to which the radioactivity is scavenged and retained in the immediate vicinity of the burst. Information about dose rates formed in and near the crater by contaminating bursts was needed for the development of models to be used in extrapolation to other yields. Ideally, a model attempts to account for all fission products produced in the detonations. Thus, it was essential to know the extent of the high dose-rate contours as well as the extent of the low dose-rate contours normally measured. An additional requirement for a knowledge of high dose-rate contours has been established by designers of protective shelters for hardened sites. Here, high dose-rate data are needed primarily to determine how soon above-ground operations can be resumed near the site. In general, the protective factors required for shielding against initial radiation were more than adequate for protection against fallout.

Attempts to measure dose rates in high dose-rate regions were made at previous surface and near-surface bursts. However, it was not possible, except for low-yield tests, to obtain measurements at times less than H+2 hours because of safety considerations.

At Shot Ess, Operation Teapot (Reference 8), and at Shots Lacrosse and Mohawk, Operation Redwing (Reference 9), early measurements were made in the crater area by lowering a dose-rate measuring instrument from a helicopter hovering over the area while actual dose rates were read on a meter inside the helicopter. These measurements were made for bursts of widely different yields, depths of burial, and types of soil.

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CHAPTER 2

PROCEDURE

This project participated in Shots Little Feller II, Johnie Boy, Small Boy, and Little Feller I, as shown in Table 2.1.

TABLE 2.1 PROJECT 2.8 SHOT PARTICIPATION

Event	Date	Time
	1962	
Little Feller II	7 July	1200
Johnie Boy	11 July	0945
Small Boy	14 July	1130
Little Feller I	17 July	1000

2.1 OPERATIONS

The contaminated area produced by each event was thoroughly surveyed by ground-survey parties and helicopter-to-ground units. In addition, high-dose-rate recording instruments were placed in and near the crater produced by each shot. Film badges were placed throughout the regions of expected fallout.

2.1.1 Ground-Survey Station Layout. In order to accomplish the detailed radiological surveys required to meet the project objectives, it was necessary to establish an array of points throughout the expected downwind region at which the radiation could be measured repeatedly.

Little Fellers I and II, and Johnie Boy Ground-Survey Stations. Events Little Fellers I and II and Johnie Boy were fired near each other in Area 18 of the Nevada Test Site (NTS). An array of close-in monitoring stations was established in such a manner that a portion of the array used for the earlier Danny Boy event (March 1962) could be utilized. This station layout is shown in Figure 2.1 and extends for a distance of approximately 4 miles in a northerly direction.

The mountainous terrain in Area 18 made cross-country travel from one station to another impossible even with four-wheel-drive vehicles. To overcome this difficulty, a network of roadways was made by bulldozers. Trails were made as shown along the various lines of stations. However, some of these trails were impassable by vehicle because of the poor traction on the loose, sandy surfaces of steep inclines. In general, the roads were laid out perpendicular to the expected wind direction at shot time. This procedure could be followed only within a few miles of ground zero. Approximately 95 miles of trails were made by bulldozer.

At greater distances, north of Pahute Mesa, it was necessary to fit roads to the natural land contours because of the still more rugged mountainous terrain. An inverted U-shaped array of stations was therefore laid out to run north through Kawich Valley, west through the Standard Mine Region into Gold Flats, and south through

the Silent Canyon area, as shown in Figure 2.2. This route enabled coverage north of the mountains to a distance of 30 miles downwind. A line of east-west stations was placed across Kawich Valley between the Quartzite Mountain Range on the west and the Belted Range to the east. At Gold Flat Well No. 1, stations were located in a general easterly direction to Quartzite Mountain and then north along the base of the mountain to the main stake line. During operations, an additional line, 3 miles long, was run cross-country in an easterly direction from Station 00 at the mouth of Silent Canyon toward Quartzite Mountain. Stations were placed along all these routes at intervals of 0.3 mile. Helicopter-survey stations located in these mountains are discussed in Section 2.1.2.

Points at which dose rates were to be measured were established along each of the roads shown in Figures 2.1 and 2.2. At each point, a 2- by 2-inch stake was driven into the ground to extend 36 inches above the surface. The distance between each stake in the station layout shown in Figure 2.1 was measured by chain. Note that this technique, when employed over hilly terrain, produced locations which were not a given straight-line distance from each other.

Each line of stakes in the close-in array was designated by letter or assigned a name, and the stakes were numbered consecutively from one end of each line. All sides of each stake were marked for ease of identification. In addition, a 3-inch-wide, 18-inch-long

streamer of colored flourescent cloth was stapled to the top of each stake. Four different colors were repeated throughout the array to ensure positive identification of location for survey parties. Approximately 2,000 stakes were used for these three arrays in Area 18. Film badges were placed on each stake on D-1 day for the event to be studied. Three types of badges were used because of a shortage of a single type. For purposes of cross-calibration, all three types were placed at many locations throughout the area.

Field operations began on 28 June 1962 when thirty military personnel from the Military District of Washington began marking the roads described above. All roads were marked by the evening of 5 July 1962. For Little Feller II, stakes were placed from 100 to 1,000 feet apart on downwind roads at distances of 200, 400, 600, 900, 1,200, 1,500, 2,000, 2,500, 3,000, 4,000, 5,000, 7,000, 9,000, 11,000, 13,000, and 16,000 feet from ground zero. Three upwind radial roads at azimuths to ground zero of 135, 180, and 260 degrees were staked at 100-foot intervals to a distance of 2,000 feet from ground zero to enable complete pattern coverage.

The station layout for Johnie Boy was located on the same site as that for Little Feller II except that roads for stake lines were placed at distances of 500, 1,000, 1,500, 2,250, 3,000, and 4,000 feet from ground zero. In addition, a Danny Boy line that passed 250 feet upwind of the Johnie Boy ground zero was utilized along the downwind

Danny Boy radials at azimuths of 20, 28, 37, and 45 degrees to the Danny Boy ground zero. Upwind radial lines were established at azimuths of 125, 154, 178, and 198 degrees to the Johnie Boy ground zero. The Little Feller I station layout required that only a few new perpendicular roads be cut at distances of 200, 400, 600, 900, 1,200, 1,500, 2,000, 2,500, 3,000, 3,500, 4,000, and 5,000 feet downwind of ground zero. Beyond 5,000 feet downwind of ground zero, the Johnie Boy and Little Feller II networks were used. Upwind radial lines at azimuths of 125, 170, and 225 degrees were used to complete the pattern. As in the other two events, adjacent stations were placed at increasing distances of 100 to 1,000 feet from ground zero.

Small Boy Ground-Survey Stations. The job of monitoring to 300 miles from ground zero was divided into off-site and on-site operations. A platoon from the 22nd Chemical Company of Fort McClellan, Alabama, was given responsibility for off-site operations from 30 to 300 miles from ground zero The 50th Chemical Platoon from Fort Ord, California, was given responsibility for on-site operations. The Platoon from the 22nd Chemical Company spent approximately 60 days in establishing monitoring locations in both regions.

North-south stake lines were placed east of ground zero at 1,000-foot intervals to 4,000 feet; at 2,000-foot intervals between 4,000 and 12,000 feet; and at 15, 18, 26, 34, and 46 thousand feet. In addition,

three rows of stakes were placed in both Indian Springs Valley and Three Lakes Valley (sometimes designated as East Indian Springs Valley) at distances of approximately 16 and 30 miles, respectively, from ground zero. In each valley, stakes were placed 1,000 feet apart along the road running through the center of the valley, and an additional row was placed along each side of the valley. The stake rows were extended as far north and as near the edge of the valley as four-wheel-drive vehicles could be driven. Upwind of ground zero, radial rows of stakes were placed at azimuths of 210, 240, 270, 300, and 330 degrees from ground zero. The distance between stakes varied from 200 feet, close to ground zero, to 1,000 feet at a distance of 10,000 feet from ground zero. The station layout is shown in Figures 2.3 and 2.4. Some of the close-in stake lines have been omitted from Figure 2.4.

In the area within about 9 miles east of ground zero (Figure 2.3), 1,044 stakes were placed on 55 miles of stake lines. The northern and southern extents of stake lines P through G were dictated by the sandy terrain, which made it difficult to drive on the northern portion of these lines. Single-pass bulldozed roads along each of these stake improved trafficability in some areas, but these deteriorated rapidly with postshot traffic and summer weather. Nine hundred and eighteen survey stations were located in Indian Springs Valley and Three Lakes Valley (East Indian Springs Valley) on 110 miles of roads. Forty-two stakes were placed in four rows approximately east and west across the valley.

Film badges were placed on all stakes except on lines A, C, D, F, L, N, Q, U, and W. Three types of film badges were used, as described above for Area 18 events.

Initially, a water-proof stencil card bearing an identification number was stapled to each stake. Later, stakes had to be marked directly since some of the cards were blown off by the wind. Also, stakes placed in the loose sand at the north end of Indian Springs Valley were blown down by high winds, and about 30 percent had to be replaced.

Spacing along all stake lines was determined by chaining. Project 2.9 stations were used for reference points wherever available, and a survey point was established near each Project 2.9 station. The direction of the stake lines was determined by established roads or transit sightings.

All stations within range of prompt nuclear or thermal effects were in line of sight of ground zero. The majority of the stations along stake lines K, I, and G were slightly depressed, and a few stations at the north end of the M road from M-1 through M-12 were shielded by sand ravines. Monitoring stations were also established beyond 30 miles from ground zero and extended to 300 miles in the expected downwind area. However, stakes were used only where fence posts or other permanent markers were not present.

Off-site operations were defined as any operations east of the Las Vegas Bombing Range to 300 air miles from ground zero and at an

azimuth of 90 ±30 degrees. The off-site preparations included:

1. Map reconnaissance of approximately 4,000 miles of roads in the off-site area.

2. Initial ground reconnaissance.

3. Changes to original routes utilizing experience of first ground reconnaissance.

4. Assignment of twelve team routes.

5. Personal reconnaissance by each team of their assigned road net for geographic familiarization, determination of exact number of instruments required, location of instruments, and the number of stakes needed.

The twelve teams were assigned as follows: one team was placed in Richfield, Utah, to operate independently; two teams were based in St. George, Utah; two teams in Kanab, Utah; three teams in Cedar City, Utah; and four teams were based in Mercury, Nevada, and scheduled to move between Mercury and Caliente, Nevada, to cover the off-site area from 25 to 100 air miles from Frenchman Lake.

The teams in St. George, Kanab, and Cedar City were controlled by a supervisor in each city and by a roving field marshall based in Cedar City. Overall off-site operations were directed cooperatively from Camp Mercury with the United States Weather Bureau, United States Public Health Service, and the University of California at Los Angeles (UCLA) Laboratory of Nuclear Medicine and Radiation Biology. Figure 2.5 is a map showing routes that were carefully reconnoitered and along which

film badges were placed.

Film badges from Lexington Signal Depot (LSD) were placed at 1,000-foot intervals along line B, at 1/2-mile intervals along routes AD-AE, AE-AG, AD-AK, AK-AJ, AJ-AI, and AJ-AE; at 1-mile intervals from AN to Caliente and on all routes east of the AN-to-Caliente road to include the road along BG-BI-Kanab-BW-JK-BE-BB-Richfield. All film badges east of the BG-Richfield road net were at 2-mile intervals, as were the film badges south of the Grand Canyon. This plan utilized approximately 2,800 film badges and is designated as Plan A (see Figure 2.5).

The possibility of meteorological conditions adverse to Plan A necessitated development of a second plan (Plan B). Plan B extended the northern boundary of the area of responsibility to a line from ground zero in a direction 10 degrees west of magnetic north. This line extended from ground zero through a point approximately 10 miles west of Warm Springs, Nevada. Approximately 1,200 film badges obtained from Reynolds Electrical and Engineering Company (REECo) were used for this extension. Plan B is also shown in Figure 2.5.

2.1.2 Helicopter-Survey Station Layout. Remote reading survey meters were lowered to the ground from a helicopter to take radiation measurements in areas where ground-survey parties could not enter because of the high radiation dose rates and inaccessible terrain.

Little Feller II and Johnie Boy Helicopter Stations. On D-4 and D-3 days three rows of stations were established on the high

mesa north of Area 18 for Little Feller II (see Figure 2.2). Helicopter pilots used magnetic bearings and attempted to match the terrain maps scaled 1: 50,000 to position these stations. The stations in the first row consisted of panels having characteristic shapes and color combinations of fluorescent cloth. The stations in the second and third rows were Roman numerals of a single-color fluorescent cloth; white in the second row, and red in the third or northernmost row. Grid coordinates for each of these stations are shown in Table 2.2.

To provide for a cross calibration between helicopter and vehicle-mounted surveys and to obtain data from high-intensity areas, a system of panels was established throughout the regions staked for ground-survey parties. These panels were easily visible from the helicopter altitudes.

Small Boy Helicopter Stations. The locations at which surveys from helicopters were taken were established by a system of panels as described above for Little Fellers I and II and Johnie Boy. Approximately 140 such panels were installed at the ground-survey stations.

2.1.3 Radiological Surveys by Vehicle. The procedures followed by the monitors in making radiological surveys were the same for each of the four events. All monitoring was conducted by two-man teams in four-wheel-drive vehicles.

In monitoring a particular on-site station, the vehicle was halted from 30 to 50 feet from the station while the monitor walked to the

station. The monitor, holding the dose-rate meter at a 3-foot height in front of him, turned 360 degrees and recorded the highest reading obtained. All personnel operating in the area were required to report their locations and dosimeter readings every 15 minutes. The locations of the 10 mr/hr, 100 mr/hr, 1 r/hr, and 10 r/hr readings were also reported by radio to enable the preparation of a rough fallout pattern that was used to ensure coverage of the entire pattern by survey parties.

Prior to the operation, each team was assigned a fixed number of stake lines to monitor. This procedure, together with the shifting of teams upon completion of assigned missions, enabled an early complete survey of the area. For all events, with the exception of Little Feller I, two complete surveys were made on D-day in addition to selected station resurveys.

Little Feller II. The initial radiological survey was started at H+12 minutes. At this time, four teams entered the area to survey the ground zero radial lines and the lines within 400 feet downwind of ground zero. All teams used the 10-r/hr lines as their turnaround point. At H+28 minutes, additional teams were sent to survey the stations located at greater distances downwind. By H+40 minutes all fourteen of the survey teams were making their initial surveys of the contaminated area. Following the first complete survey of the area, spot resurveys were conducted at selected stations. A second complete survey of the area was finished just prior to darkness.

On D+1 day a complete resurvey was made of the area.

On D+2, D+3, D+4, and D+9 days, resurveys of selected stations were accomplished.

During the D+3-day resurvey, all film badges in the area were recovered.

Johnie Boy. The initial survey of the area was started at H+15 minutes when four teams entered the area upwind of ground zero. Additional teams were sent out at H+30 minutes and H+45 minutes to survey the close-in station array. Resurvey of this area was conducted at H+6 hours; selected stations within the close-in station array were resurveyed in order to obtain field decay data on D+1, D+2, D+5, D+7, D+9, and D+10 days. High winds occurred on the morning of the D+1-day survey. Film badges were recovered on D+5 days.

At H+2 hours, three teams proceeded to Kawich Valley and to the Gold Flat-Silent Canyon area for a survey of the regions beyond the mountains north of ground zero (see Figure 2.2). Dose-rate readings were obtained at stations within this area from H+5 to H+8 hours. A resurvey of this area was conducted on D+1 day. Rain was encountered during these operations. Selected stations in the Gold Flat-Silent Canyon area were remonitored on D+4 days, at which time the film badges were recovered.

A survey of all roads to the northwest of the close-in station array was conducted on D+1 day. The first complete survey of the main

in the vicinity of the mountains was also made at this time. The high dose rates existing along these roads prevented access to this area on D-day. In other parts of this area, access was impossible because of the absence of roads in the mountainous terrain.

Little Feller I. The only survey conducted on D-day was started at H+3 hours. The delay in starting the survey was due to troop operations in the area following the shot. A complete survey to the 10-r/hr line was delayed until D+1 day because the monitors used were the same as those used for Little Feller II and Johnie Boy, and they were approaching their maximum limits of radiation exposure.

On D+2, D+3, and D+4 days, resurveys of selected stations were accomplished to obtain decay data. Film badges in the area were recovered on D+3 days.

Small Boy. On D-day the initial on-site radiological survey was started at approximately H+1 hour in the Frenchman Flat area. The delay was due to the slow-moving fallout cloud and the uncertainty as to the existence of high-explosive hazards in the area. Teams were dispatched and a survey was completed of all stake lines to the 10-r/hr contour. A second survey obtained two or three readings between 1 and 10 r/hr on every other stake line downwind. A third survey was started and about 90 percent completed before reentry was stopped because of impending darkness. The last survey was devoted to locating the 10-r/hr dose-rate contour and to obtaining as many readings on each stake line

as possible within the time available and without exceeding the 1,500-mr dose established for D-day operations.

On D+1 day, all stakes in the Frenchman Flat area, where the dose rate was less than 10 r/hr, were monitored. In Indian Springs Valley, only the E-line was read because of administrative difficulties that prevented one team from reaching the contaminated portion of their stake line. Resurveys were made on each succeeding day until D+6 days. On D+5 and D+6 days an effort was made to determine dose rates at stations where stakes were missing.

Off-site surveys were not begun until cloud tracking reports indicated those regions of the off-site station array to be surveyed. These reports, combined with meteorological data, signified that the roads indicated for D+1 day, shown in Figure 2.6, be monitored. Results of monitoring runs over the entire area showed that gamma dose rates 3 feet above the ground were very low; efforts were then made to measure beta radiation approximately 2 inches above the surface of the ground. On D+2 days, all locations at which UCLA had placed stations on U. S. Army Nuclear Defense Laboratory (USANDL) routes were surveyed for gamma and beta radiation. These locations are noted in the data in Appendix E. Surveys continued for as long as D+6 days.

On D+4 days, radiation detected by Project 62.80 aerial survey was reported in the vicinity east of Provo, Utah, and in southeastern Wyoming. Four teams were dispatched to conduct surveys along roads in

this region. Their routes are also shown in Figure 2.6. Most of this area was beyond a distance of 300 miles from ground zero and was not originally included in the planned off-site surveys. Therefore, background dose rates were not measured on most of the routes. Eberline E500B instruments, furnished by UCLA, were used for radiation measurements in this area.

2.1.4 Radiation Measurements from Helicopter.

Little Feller II. Project 2.8 aerial operations in Little Feller II involved three types of missions: (1) placing high dose-rate recording instruments in and near ground zero in order to determine dose rates and decay rates, (2) lowering a radiation-detecting probe (the dropping probe) from helicopters to determine dose rates in regions where dose rates exceeded 10 r/hr on the ground, and (3) landing a helicopter in areas geographically inaccessible from the ground in order to measure dose rate by conventional techniques for radiological surveys.

At H+13 minutes one helicopter flew over ground zero to determine the dose rate at an altitude of 1,000 feet; a second helicopter flew safety rescue. Since the radiation field was below the preestablished limiting dose rate of 10 r/hr, a third helicopter was cleared to hover over the crater while a high dose-rate recording instrument was lowered by rope to a position in or near the crater. The instrument was positioned approximately 35 feet to the southeast of ground zero but was turned over by the momentum of the rope release. A second identical

instrument package was placed approximately 30 feet to the northwest of ground zero at H+50 minutes.

Beginning at H+29 minutes, dropping probe missions were flown by two helicopters over ground zero and the close-in station array. A number of panels were surveyed but some trouble was experienced; one probe lost its ion chamber, and batteries on the second probe were shaken loose.

When the dose rate inside the helicopters did not exceed 1 r/hr, the craft were permitted to land. At approximately H+4 hours, and again on D+1 day, one helicopter landed near each of the panels on the high mesa north of Area 18, where monitors dismounted and determined the dose rate with Victoreen Radectors.

Johnie Boy. Helicopter missions for Johnie Boy had the same objectives as those described above for Little Feller II. At H+13 minutes, one helicopter flying toward ground zero at an altitude of 1,000 feet determined that the 10-r/hr line at this altitude extended 300 yards south of ground zero. After repeated determinations, the position of the 10-r/hr line at the helicopter altitude allowed the instrument package to be deposited at H+92 minutes. Considerable trouble was encountered in attempting to place this package in an upright position on the steep sides of the crater. After four attempts, the instrument was left overturned in the crater. At H+1-3/4 hours, the second instrument package was placed approximately 30 feet from the northeast lip of the crater.

The helicopters were used for dropping-probe surveys at helicopter downwind ground stations throughout D-day, but under the established criterion of 10 r/hr at the helicopter position, the crater was too hot for such surveys on D-day.

Beginning at H+1-3/4 hours, one helicopter landed near each of the panels on the high mesa north of Area 18. Monitors dismounted and determined the dose rate with Victoreen Radectors. Helicopters were not permitted to land when the dose rate inside the craft exceeded 1 r/hr. Measurements were not permitted at stations located on the mesa after D-day because of the potential risk to the helicopter crews when operating in such inaccessible regions.

Helicopters were not used for Johnie Boy ground zero surveys between D+1 and D+5 days because of troop exercises in Area 18; the necessity of preparing for Small Boy Plan B (meteorological conditions, Section 2.1.1); and later, because Small Boy data measurements by helicopter were given priority over measurements from all other shots.

Helicopter ground zero measurements were begun for Johnie Boy on D+5 days and continued through D+8 days.

Small Boy. Helicopter operations for Small Boy were of the same type as those described above for Little Feller II and Johnie Boy. Beginning at H+1-1/3 hours, dropping-probe missions were flown intermittently by two aircraft throughout the day. As at previous tests, helicopters hovered at altitudes of 400 to 700 feet while the tripod was lowered to the ground; thus, the ion chamber was

3 feet above the ground.

The first of four instrument packages was placed near the crater at H+3-1/3 hours. In placing the third package in the crater, one of the previously-placed instruments was overturned and could not be righted.

Dropping-probe missions were flown daily on D+1, D+2, D+3, D+4, and D+5 days to determine dose rates near ground zero as well as high dose rates at panel locations.

Little Feller I. Helicopter operations were very limited for this event because of the troop exercise. At H+1-1/2 hours an instrument was placed near the crater in the manner described above for previous events. Aerial survey dropping-probe missions were conducted over the ground zero area, four times on D-day, and were repeated on D+1 and D+2 days.

2.2 INSTRUMENTS

2.2.1 Ground Monitoring Team Instruments. Radiological surveys were accomplished by using three basic instruments; the AN/PDR-39A, the AN/PDR-27J, and the Jordan Radector. These three types were used because of difficulty in procuring a sufficient number of any one type. A fourth instrument, the Eberline E-500B geiger counter, was used on the D+4-day survey in northern Utah.

The AN/PDR-39A is an ion-chamber instrument with five linear dose-rate ranges: 0 to 5 mr/hr, 0 to 50 mr/hr, 0 to 500 mr/hr, 0 to 5,000

mr/hr, and 0 to 50,000 mr/hr. Thirty-four of these instruments were used by this project. Twenty of these instruments were AN/PDR-39A model instruments originally procured for Operation Danny Boy. The AN/PDR-39A instruments performed very well during the operation. Only three instruments developed defects that required repair.

The AN/PDR-27J is the standard military low-range beta-gamma survey meter. This instrument has four linear dose-rate ranges: 0 to 0.5 mr/hr, 0 to 5 mr/hr, 0 to 50 mr/hr, and 0 to 500 mr/hr. A beta window is available for use on the two lower ranges. The J-model AN/PDR-27 has several features that make it particularly suitable for field operations. One outstanding feature is its calibration stability. Repeated and exhaustive tests prior to the use of the instruments proved that the battery pack consisting of six D-cells could be changed without affecting the accuracy of the instrument. The transistorized power supply of this instrument requires a 6-volt input which is obtained from the 9-volt battery pack and regulated by Zener diodes. This feature was particularly valuable during this operation since it negated the requirement for exchange of instruments with teams operating as far as 600 road miles from the test site.

The Jordan Radector uses a miniature Neher-White ion chamber. The instrument weighs 3-1/2 pounds and has an accuracy of ±15 percent within a temperature range from -10°F to 150°F. Its gamma energy response is from 80 keV to 1.2 MeV. The instrument is powered

by mercury cell batteries and contains an internal Sr^{90} source for calibration. The scales are logarithmic with two ranges; two types were used. The 50B series has ranges of 0 to 50 mr/hr and 0 to 50 r/hr while the 500B series has ranges of 0 to 500 mr/hr and 0 to 500 r/hr. Only one instrument became defective during the operation.

The Eberline Instrument Corporation E-500B transistorized portable survey meter uses two halogen-quenched GM-tubes. One small-volume detector tube is located inside the instrument case and is used only on the 0 to 2,000 mr/hr gamma range. The other detector tube is mounted in an external probe and is used for four ranges: 0 to 0.2 mr/hr, 0 to 2 mr/hr, 0 to 20 mr/hr and 0 to 200 mr/hr. Discrimination between beta and gamma is made by means of a rotary beta shield on the probe. All scales are linear. Standard D cells or Mallory RM-42 Mercury cells may be used to power the instrument. These instruments were borrowed from UCLA for the D+4-day survey in northern Utah.

The AN/PDR-39A ion-chamber instrument was used for Small Boy surveys by teams operating from ground zero to 30 miles downwind. The AN/PDR-27J instruments were used by teams operating from 9 to 300 miles downwind. This afforded some cross comparison of readings.

The Jordan Radectors were used exclusively in Area 18 for Little Feller and Johnie Boy Shots. The AN/PDR-39A instruments were used on a limited basis on Little Feller II, along with the Jordan instruments. The Jordan AG 50B series meter was also selected by the Radiological

Safety Division of REECo as a primary survey meter. The selection of this instrument for use by Project 2.8 therefore minimized the variety of instruments used by all agencies. Personnel using the Radector in the field preferred it to the AN/PDR-39A because of its lighter weight and because it was much easier to handle and use while wearing the gloves required with full radiation safety clothing.

2.2.2 Helicopter-Survey Team Instruments. The helicopter survey parties used a dropping-probe instrument to measure field gamma dose rates at particular points on the ground where contamination levels were to high for ground monitors to enter. While the helicopter hovered, a small boom and winch in the helicopter was used to raise and lower an ionization chamber to a position above the ground. The ionization chamber of a Jordan meter (Model AGB-10KG-SR) was shock mounted on an aluminum tripod that positioned the chamber exactly 3 feet from the ground when the tripod was standing upright. A cable extended from the ionization chamber to the meter inside the helicopter to permit the reading and recording of the ground dose rates in the aircraft. In this manner, surveys could be made from altitudes as high as 1,000 feet. A 28-volt, 20-ampere, direct-current power supply from the helicopter was required to operate the winch. A detailed description of the aerial survey instrument is given in Reference 10.

While the dropping probe meter was being used to measure dose rates on the ground, gamma dose rates inside the helicopter were monitored

with a U. S. Army Tactical Radiac Rate Meter, IM-174. The range of this instrument is 0.1 r/hr to 500 r/hr.

2.2.3 High Dose-Rate Radiation Recording Instruments. Three high-level dose-rate recorders, designated as the General Electric Model 703, were furnished by the General Electric Defense Systems Department, Syracuse, New York. They were capable of measuring gamma dose rates from 10 to 20,000 r/hr. Each device utilized a single-growth cadmium sulfide crystal coupled through a transistorized amplifier to a Rustrak chart recorder. A thermocouple connected to a second recorder with a range of 20°F measured the ambient temperature inside the instrument housing. Each instrument was powered for 10 days of continuous operation by dry cell batteries. All instrumentation was housed inside an air-tight steel cylinder, approximately 2 feet high and 1-1/2 feet in diameter, which was mounted inside a four-sided pyramidal frame. The total height of the instrument and also the width of the base was approximately 4 feet and was designed to be lowered into the crater by helicopter. The data were to be obtained by recovering the instrument, removing the recorder paper, and comparing the recording with calibration charts.

The Eberline Model HILEM 2R dose-rate recorder was composed of an Eberline Model HILEM-1 dose-rate meter with a maximum range of 1,000 r/hr connected to a wet-or-dry-cell-powered chart recorder. The assembly was intended to be used to record high dose rates in and near

the crater following the Little Feller II, Johnie Boy, and Small Boy events. For Small Boy, the instrument with batteries and recorder was packed in a 55-gallon drum with plastic foam cushions to prevent damage from a possible rough landing when the package was lowered from a helicopter. For Little Feller II and Johnie Boy it was not possible to pack the instrument in a drum as described above. However, a cross made of 6-foot lengths of angle iron was bolted to the bottom of each instrument package.

At Small Boy, two gamma-intensity-time recorders (GITR) from Project 2.11 were placed in or near the crater. These latter instruments are described in the Project 2.11 report (Reference 11).

All instruments also carried packets of film badges.

2.2.4 Film Badge Measurements. Film badges were placed on each survey stake to determine the total dose at that location during a 3-to-4-day period following each shot. Three types of film badges were employed in this series of tests: the standard military film holders FSN 666-K53-1760; the National Bureau of Standards (NBS) film holder; and Type 556 DuPont dosimeter film packets.

The standard military film holder consisted of a Tenite II plastic film holder, 1/8-inch thick, with an open area to act as a beta window, and three gamma filters to discriminate between energies of less than 100 keV, 100 to 200 keV, and greater than 200 keV. The emulsions used were DuPont 555 and 1,290 to provide a dose range of 0.02 to 3,000 r.

The lowest readable gamma doses for these films are as follows: less than 100 keV, 2 mr; 100 to 200 keV, 10 mr; above 200 keV, 20 mr. This film holder is frequently referred to as the LSD-type holder.

The NBS holder consisted of a bakelite container with a thickness of 8.25 mm, which was covered with a layer of tin 1.07 mm thick, and a layer of lead, 0.30 mm thick. A lead strip, 0.75 mm thick, was wrapped around the outer edge of the seam of the container. Inside the container were two dental-size film packets; each packet contained three emulsions with ranges of 0.1 r to 10 r, 10 to 35 r, and 35 to 2,500 r. The entire film container was placed in a plastic cigarette case for protection in the field. The NBS film holder cuts out all gamma energies below 115 keV, but it is considered accurate to within ±20 percent in the energy range from 115 keV to 10 MeV (Reference 12). Film for the NBS holders and developing facilities were furnished by the U. S. Army Electronics Research and Development Laboratories (ELRDL), Fort Monmouth, New Jersey.

The Type 556 DuPont dosimeter film packet consisted of a DuPont 508 and a DuPont 834 film with a 0.028-inch thick lead strip, 1/2-inch wide, attached front and back to one edge of the film wrapper. The Type 556 film packet also included a sealed plastic wrapper. This film packet was identical to the film packet currently used at NTS for personnel dosimetry and was obtained from REECo at NTS.

The NBS and LSD film holders were placed in small polyethylene

plastic bags to prevent contaminati of the holder.

Originally Project 2.8 intended to use LSD film holders on all survey stakes for all four operations, and to use NBS and DuPont Type 556 packets on selected stakes in order to obtain comparative readings. This plan was followed for Small Boy but, because of the compression of the shot schedule and because a sufficient number of LSD film holders were not available for simultaneous instrumentation of all sites, the Type 556 packets were used to instrument each stake in the array for the other events. The LSD and NBS holders were used on selected stakes for the Little Feller II event.

2.2.5 Instrument Calibration. All instruments used by ground survey teams were calibrated on a REECo Radiation-Safety calibration range. Details of the calibration procedures are given in Appendix A. The AN/PDR-39A instruments were calibrated on 29 June, 12 July, and 23 July, 1962. The AN/PDR-27J instruments were calibrated on 8, 10, and 20 July, 1962, and the Jordan Radectors, on 6, 9, 13, 16, and 23 July, 1962. All instruments were operationally checked daily.

The Jordan dropping probe-survey meters were checked on the REECo UDM-1 range and calibrated on the Signal Corps range with a 96-curie Co^{60} source. Calibrations were made on 6, 10, and 19 July, 1962. The probes were calibrated in a vertical position as used in the field and were positioned so that the range calibration lines coincided with the diameter of the probe chamber. Calibration graphs were drawn and

from these, tables were prepared.

The Eberline instruments, which were placed near or in the various craters, were calibrated by a representative from Eberline Instrument Company. The Edgerton, Germeshausen, and Grier calibration range in Las Vegas was used to obtain high dose rates.

The General Electric instruments, which were placed in high dose-rate areas, were calibrated by General Electric before shipment to NTS. These instruments were checked by a representative from General Electric just before they were used.

TABLE 2.2 GRID COORDINATES OF JOHNIE BOY AND LITTLE FELLER II GROUND STATIONS REACHED BY HELICOPTER

The coordinates in terms of the Army Map Service (AMS) grid. The AMS maps used are the 1:50,000 scale, Sheet 2758-III, Timber Mountain, and Sheet 2758-IV, Silent Canyon

Station	Coordinates	
	East	North
A-1	5,639	41,130
A-2	5,627	41,143
A-3	5,612	41,153
A-4	5,598	41,175
A-5	5,587	41,176
A-6	5,575	41,165
A-7	5,567	41,180
A-8	5,554	41,174
A-9	5,534	41,172
A-10	5,519	41,178
A-11	5,503	41,183
I	5,654	41,186
II	5,638	41,186
III	5,624	41,188
IV	5,607	41,196
V	5,592	41,192
VI	5,578	41,198
VII	5,565	41,198
VIII	5,547	41,203
IX	5,525	41,210
X	5,507	41,222
I-2	5,497	41,275
II-2	5,515	41,275
III-2	5,525	41,282
IV-2	5,536	41,272
V-2	5,555	41,267
VI-2	5,571	41,268
VII-2	5,590	41,277
VIII-2	5,609	41,260
IX-2	5,627	41,239
X-2	5,643	41,235

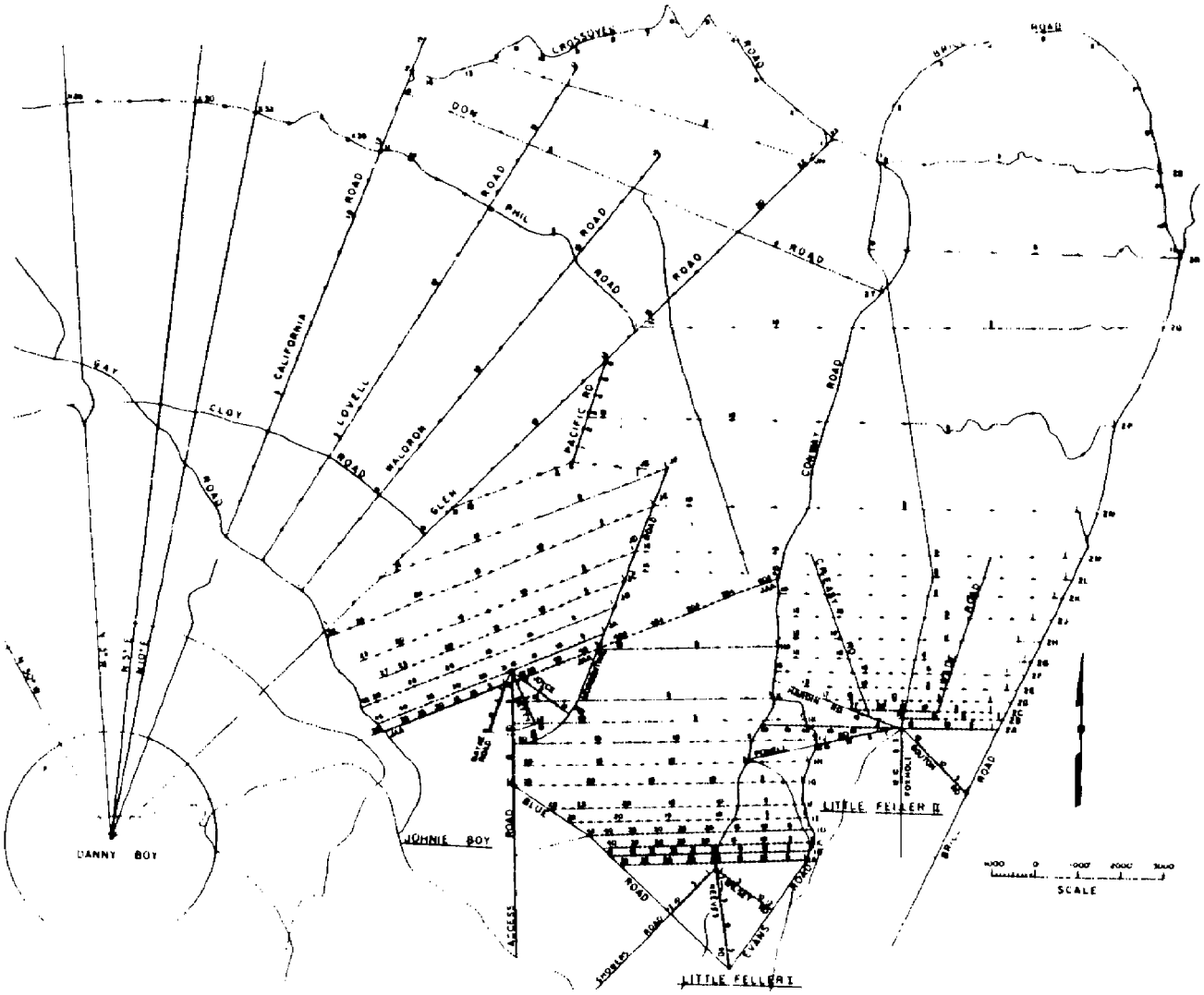


Figure 2.1 Area 18 station layout for Little Fellers I and II and Johnie Boy events.

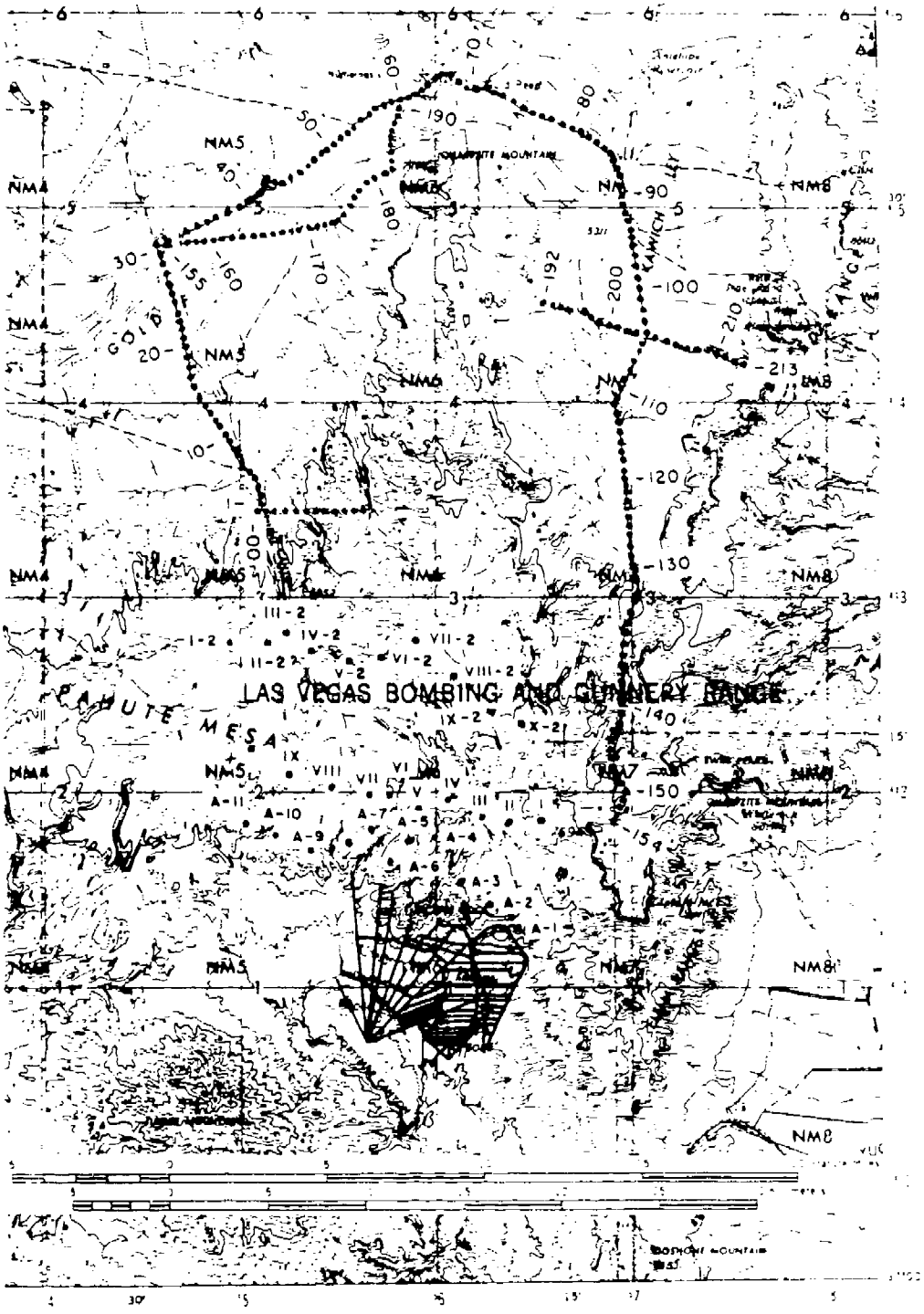


Figure 2 2 Johnie Boy station layout north of Area 18

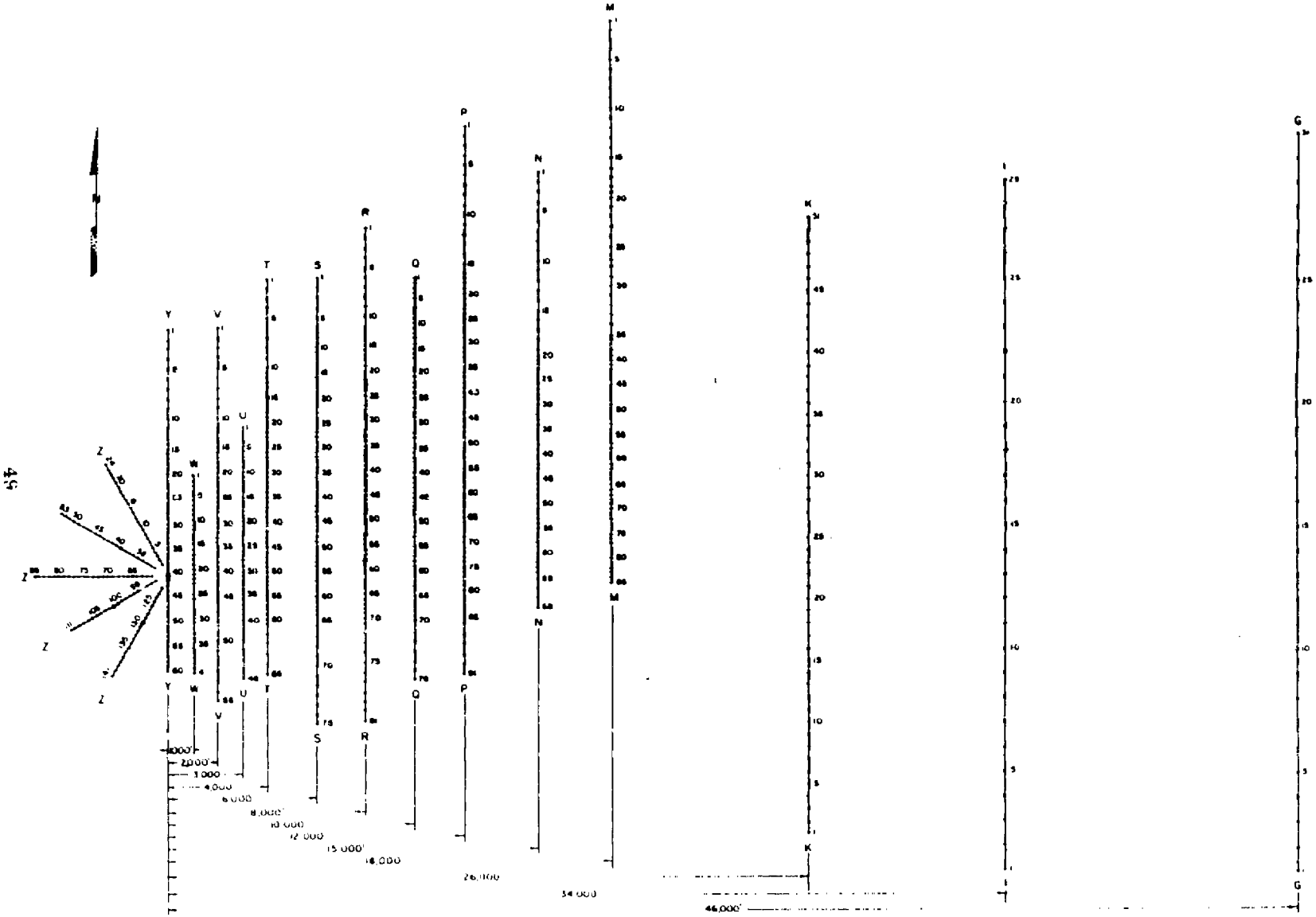


Figure 2.3 Small Boy close-in station layout.

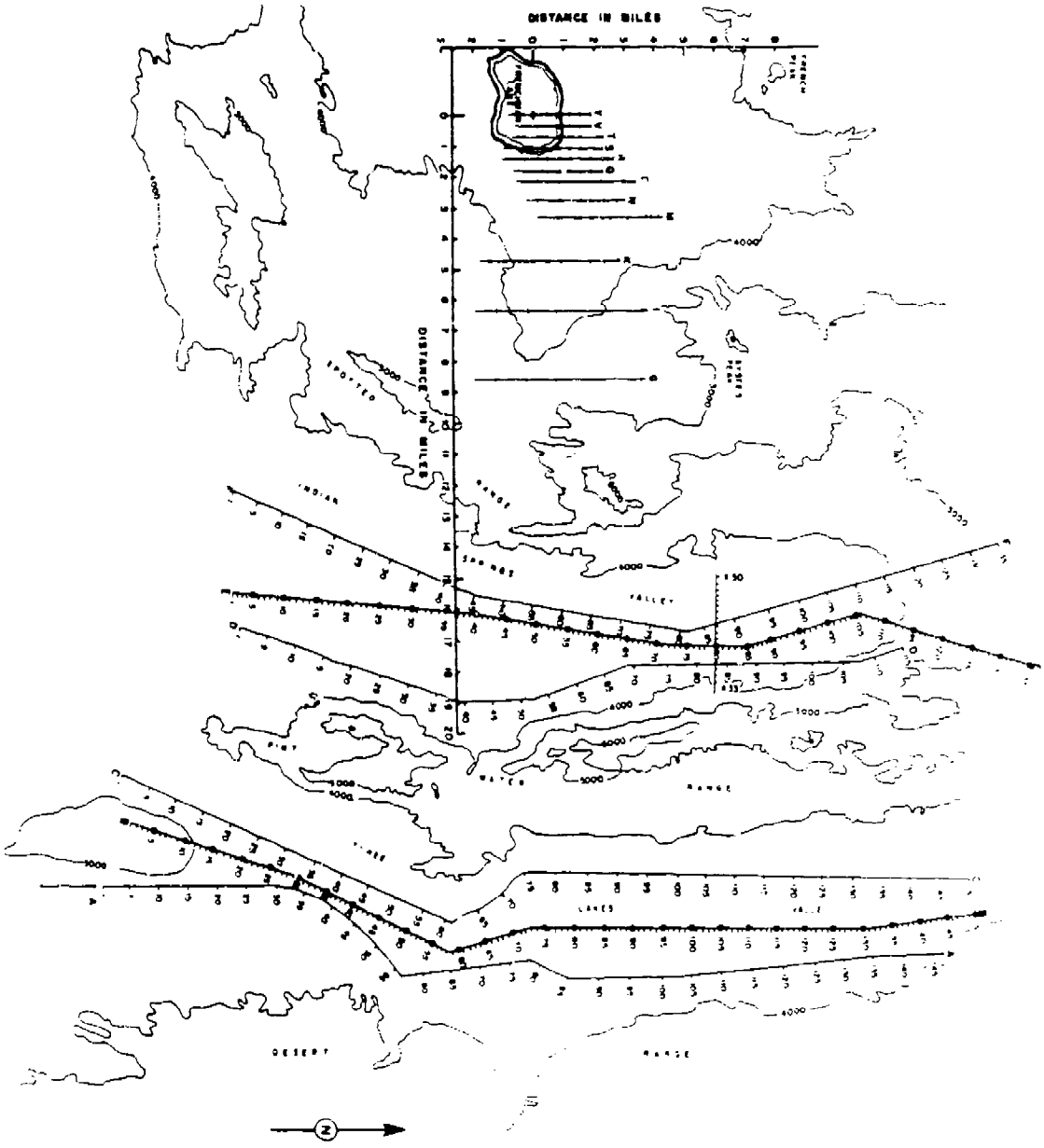


Figure 2.4 Small Boy station layout to 30 miles from ground zero.

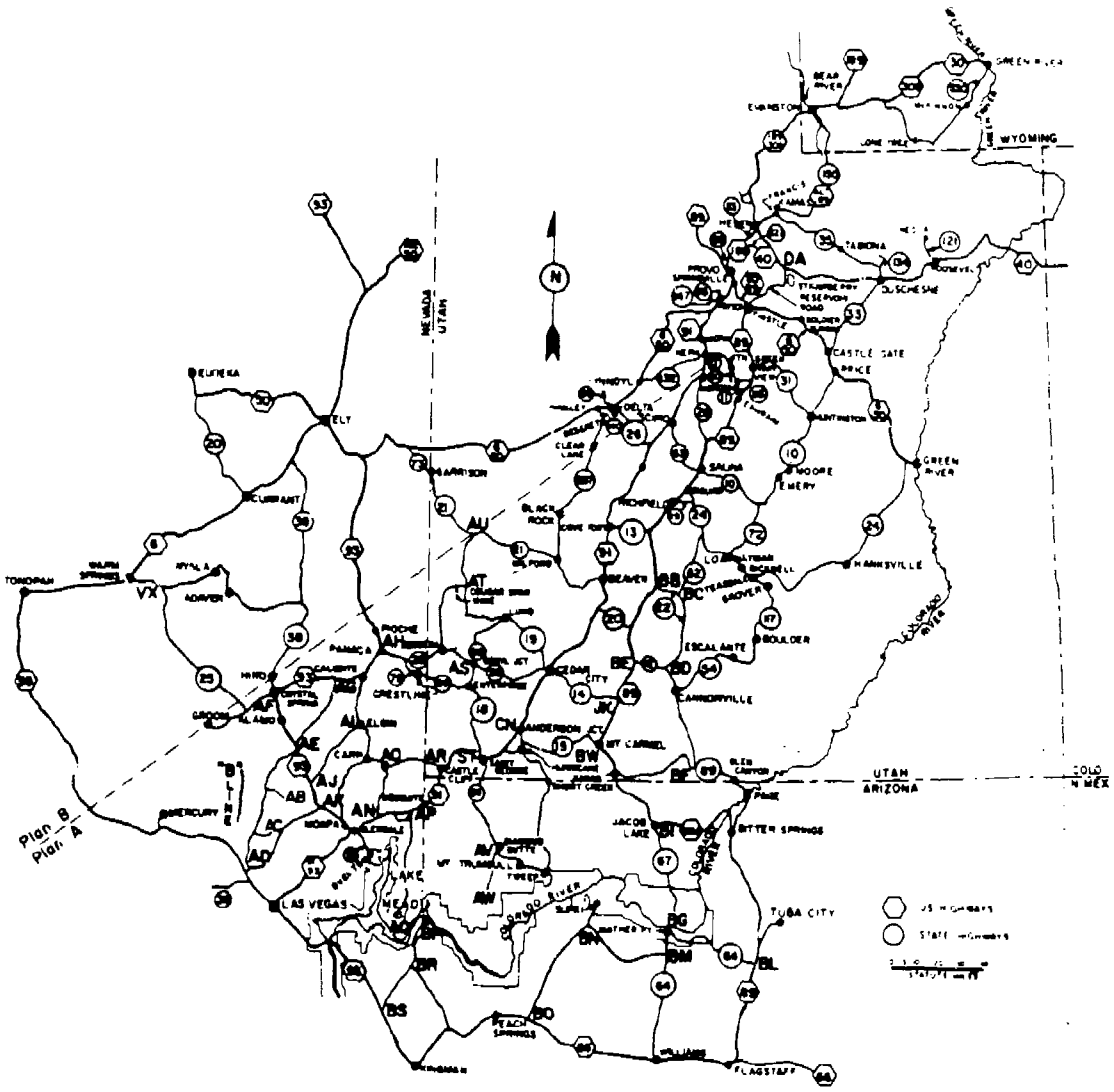


Figure 2.5 Small Boy off-site routes.

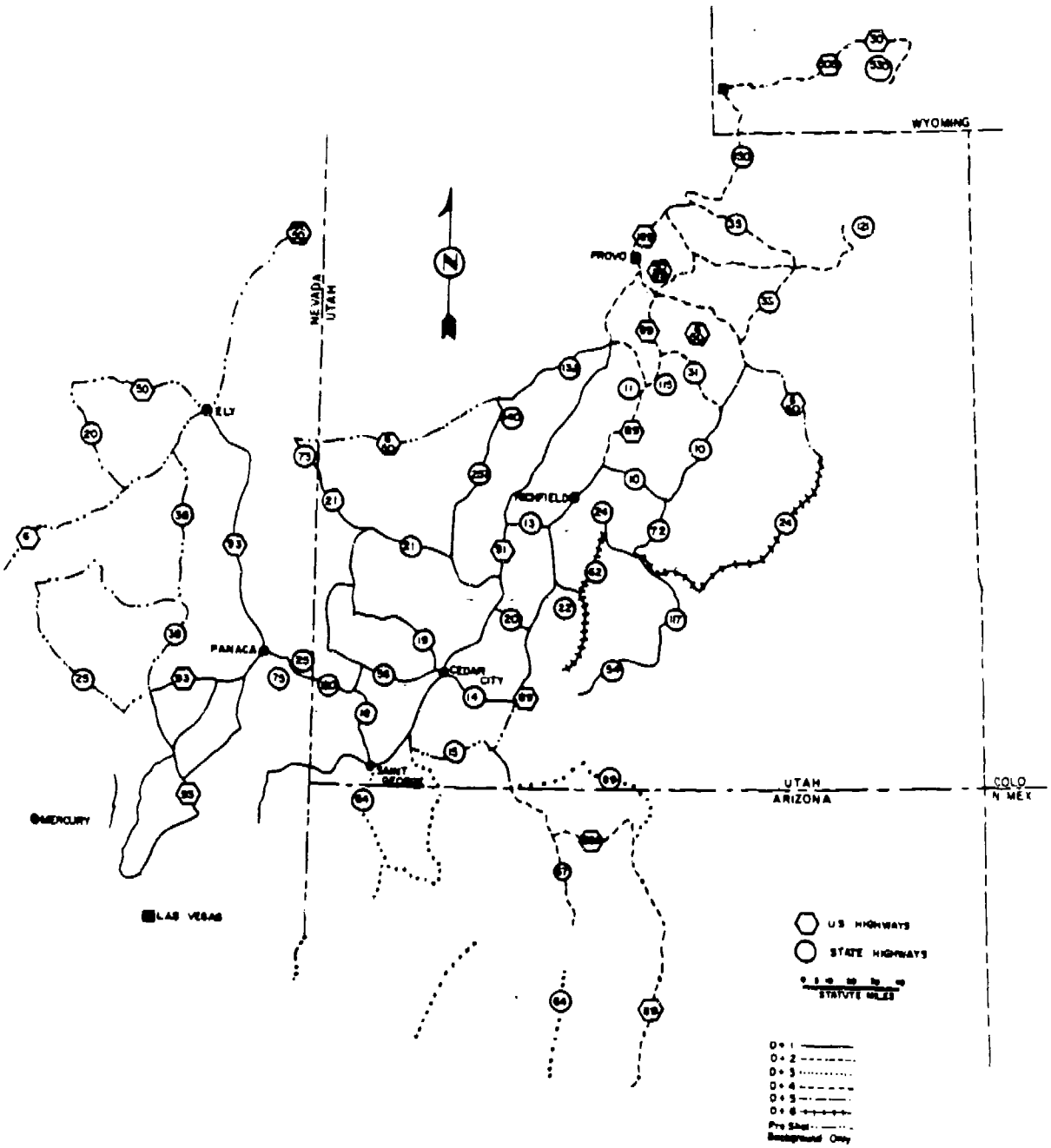


Figure 2.6 Off-site area monitored after Small Boy event.

CHAPTER 3

RESULTS

3.1 LITTLE FELLER II

Little Feller II was detonated in Area 18 of NTS at 1200 hours PDT, 7 July 1962 The weapon was suspended between two posts with its center of gravity 3 feet above the ground surface. The elevation of surface zero was 5,129 feet. Air temperature at the surface was 35.5°C, and the relative humidity was too low to measure. The upper wind data are shown in Table 3.1. The Little Feller II cloud at H+30 seconds is shown in Figure 3.1. The cloud top reached a height of approximately 11,000 feet MSL (Reference 13).

TABLE 3.1 LITTLE FELLER II UPPER WIND DATA

Observations Made at Forward Control Point, Area 18, at 1200 hours (PDT), 7 July 1962

Height (MSL)	Direction	Speed	Height (MSL)	Direction	Speed
feet	degrees	knots	feet	degrees	knots
Surface	171	7	12,000	120	13
6,000	190	14	13,000	110	19
7,000	180	17	14,000	100	1[illegible]
8,000	180	13	15,000	90	9
9,000	180	10	16,000	140	[illegible]
10,000	180	10	17,000	200	[illegible]
11,000	140	7	18,000	200	[illegible]

3.1.1 Field Decay Rates. The radiological survey of the Little Feller II on-site station array was begun 1/2 hour after the detonation.

Most of the stations were monitored by H+2 hours. Some of the close-in stations and those near the hot line were not monitored until later because of radiological safety requirements. Resurveys were made on D-day and at selected stations during the next several days. All survey data are tabulated in Appendix B. The corresponding station locations are shown on the station layout in Figures 2.1 and 2.2.

To determine the apparent field decay rate, dose-rate measurements versus time after shot were plotted on logarithmic paper for each station for which a reading was available by H+2 hours and for which the estimated H+1-hour dose-rate value was greater than 10 mr/hr. Typical curves are presented in Figures 3.2 and 3.3. The data plotted in Figure 3.2 are for stations within 1,500 feet of ground zero; those in Figure 3.3 are for downwind stations at distances greater than 1,500 feet. It can be seen that, for times earlier than approximately 26 hours, the curves for the close-in stations are less steep than those for the more distant stations. The average of the slopes for stations along various survey lines for times earlier than 26 hours are listed in Table 3.2. The stations beyond the 2F line have significantly higher slopes than the closer stations. The average slope for all stations to and including the 2F line is -0.91; for the more distant stations the average slope is -1.25.

The H+1-hour dose rates for all stations having initial field readings prior to H+1 hour were read directly from the individual decay plots. In certain other cases where the first reading was taken as

TABLE 3.2 AVERAGE DECAY SLOPES ALONG STATION LINES

For times earlier than 26 hours.

Station Line	Number of Stations Plotted	Average Slope	Station Line	Number of Stations Plotted	Average Slope
Bouton	15	-0.98	2H	5	-1.33
Powell	16	-0.92	2J	4	-1.32
Foxhole	7	-0.92	2K	6	-1.10
Hardin	6	-1.07	2L	6	-1.20
2A	32	-0.90	2M	4	-1.36
2B	11	-0.83	2N	5	-1.36
2C	14	-0.91	2P	2	-1.21
2D	9	-0.86	2Q	7	-1.34
2E	7	-0.99	2R	3	-1.18
2F	9	-0.75	2S	4	-1.05
2G	7	-1.28	Brill	6	-1.21

early as approximately H+1-1/2 hours, and where smooth decay curves were available, the individual curves were extrapolated to H+1 hour. For the remaining stations, a decay exponent of -0.91 or -1.25, depending upon the station location, was used in the expression

$$I_t = I_1 t^{-x} \tag{3.1}$$

In general, the earliest available survey reading was used for the calculation. The calculated H+1-hour values are included in the table in Appendix B.

Field decay data during the first 20 minutes after the detonation were obtained by REECo from several remote monitoring stations connected by wire to a central readout position. All these stations were upwind or crosswind of ground zero at distances from 200 to 3,000 feet. The

locations are shown in Figure 3.4. These data were furnished to Project 2.8 and are presented in Figures 3.5 and 3.6. The overall slopes of these decay curves are appreciably steeper for this early period than are the slopes of the decay curves based on monitor readings for later times. Radiation from the cloud probably contributed to the dose rates recorded during the first few minutes.

3.1.2 Fallout Patterns. The H+1-hour dose-rate contours for Little Feller II are presented in Figures 3.7 and 3.8. The contours shown in Figure 3.7 are based on corrected ground-survey readings at approximately 360 stations extending 16,000 feet downwind. Broken lines have been used in areas where there were insufficient data to properly locate the position of the contour. The distant portion of the pattern shown in Figure 3.8 is based upon readings obtained by helicopter-transported personnel at Stations A1 to A6 and I to VII. No reading was available for Station A3, however, and the positioning of the dashed portion of the 0.01-r/hr contour to the west of A3 is uncertain.

The D+107-day contours in milliroentgens per hour are shown in Figure 3.9. These contours are based on readings taken 19 and 22 October 1962 and no decay corrections are needed.

3.1.3 Ground Zero Area Dose Rates. The apparent average crater radius for Little Feller II was 3.1 meters and the depth 0.6 meter (Reference 14).

Dose-rate measurements were made in and near the crater by an HILEM-2R dose-rate recorder, by dropping probes, and by ground surveys.

A second HILEM-2R did not operate. The data obtained are listed in Table 3.3.

TABLE 3.3 GROUND ZERO AREA DOSE RATES FOR LITTLE FELLER II

Location of Instrument	Time After Detonation	Dose Rate Reading	Dose Rate Extrapolated to H+1 Hour	Type of Instrument
	hours	r/hr	r/hr	
30 ft NW of GZ	1.0	300	300	HILEM-2R Recorder
Center of Crater	1.3	3,500	4,800	Dropping Probe
25 ft NE of GZ	4.7	60	260	Dropping Probe
25 ft W of GZ	4.7	100	440	Dropping Probe
20 ft SW of GZ	4.8	94	420	Dropping Probe
Vicinity of Crater	21.3	6.9	92	Dropping Probe
Center of Crater	285.7	1.0	-	Dropping Probe
Center of Crater	456	1.5	-	Ground Survey
20 ft N of Crater	456	0.3	-	Ground Survey
20 ft E of Crater	456	1.0	-	Ground Survey
20 ft S of Crater	456	0.12	-	Ground Survey
20 ft W of Crater	456	0.4	-	Ground Survey

The dose-rate recorder was placed about 30 feet northwest of the crater at H+50 minutes and was recovered on D+9 days. The dose rates decreased to the threshold value of the instrument, about 1 r/hr, after H+60 hours. The recorder data were corrected for chart speed and dose-rate calibrations and are presented in Figure 3.10. The average decay slope of the curve from 1 hour to 20 hours is less than 1 and is consistent with decay exponents calculated from the close-in, ground-survey data. The H+1-hour dose rate indicated by this instrument is 300 r/hr.

The early dropping-probe data were corrected by calibration curves and converted to H+1 hour by the decay curve in Figure 3.10. Approximate

locations of these dose rates are shown in Figure 3.11, together with the location of the 100-r/hr contour at H+1 hour in the vicinity of ground zero.

3.1.4 Total Dose Contours. The film badges that were placed at the Little Feller II ground-survey stations prior to shot were recovered on D+3 days and forwarded to the appropriate agency for processing. There were two types of films used at most stations. One type was furnished and processed by ELRDL and the other by REECo. In addition, a few film badges obtained from LSD were used. These film badges are described in Section 2.2.4.

The gamma dose data supplied by REECo were generally lower than those supplied by ELRDL and LSD. The REECo values were low by a greater percentage at high doses than at low doses and some of the REECo data were obviously inconsistent at gamma dose values greater than 100 to 200 r. The REECo film began to saturate at a dose something less than 1,000 r. In addition, there was evidence that some misinterpretations were made in reading the film for high doses because of solarization of the low-range film in the film pack.

The ELRDL and REECo film data were compared for 107 stations having an indicated gamma dose below 200 r. The mean ratio of ELRDL to REECo values was 1.41, with a standard deviation of 0.02. The LSD values were generally higher than either of the others at the high and low ranges. In the 25 cases where valid comparisons of the LSD and ELRDL data could be made, the average value of the ratio of LSD to ELRDL reading was 1.3.

The total-dose contours presented in Figure 3.12 were constructed primarily on the basis of the ELRDL film data. In a few instances where gaps existed at doses less than 200 r, REECo values were multiplied by 1.4 and used for locating the position of the contours. Approximately 275 ELRDL values and 20 REECo values were used in constructing the total-dose contours. These film data are presented in Appendix B. For stations shown in Figure 2.1 it may be noted that the high total-dose contours around ground zero are relatively larger and more nearly circular than are the dose-rate contours shown in Figure 3.7. This was to be expected since the films at the close-in stations were exposed to both initial and residual radiation.

3.2 JOHNIE BOY

The Johnie Boy shot was fired in Area 18 of NTS at 0945 PDT, 11 July 1962, and produced a yield of 0.5 ±0.2 kt. The weapon was buried with its center of gravity 23 inches below the ground surface. The elevation of surface zero was 5,153 feet. Air temperature at the surface was 24.3°C and the relative humidity was 12 percent. The upper wind data are shown in Table 3.4. The Johnie Boy cloud at H+25 seconds is shown in Figure 3.13. The cloud top reached a height of 17,000 feet MSL (Reference 13).

TABLE 3.4 JOHNIE BOY UPPER WIND DATA

Observations made at Forward Control Point, Area 18, at 0945 hours (PDT), 11 July 1962

Height (MSL)	Direction	Speed	Height (MSL)	Direction	Speed
feet	degrees	knots	feet	degrees	knots
Surface	195	7	13,000	190	17
6,000	170	7	14,000	200	21
7,000	160	7	15,000	200	22
8,000	160	11	16,000	200	22
9,000	160	16	17,000	200	27
10,000	170	15	18,000	200	27
11,000	180	12	19,000	210	26
12,000	180	15	20,000	200	23

3.2.1 Field Decay Rates. The Johnie Boy detonation was followed by comprehensive radiological surveys of the on-site and off-site areas. The survey station locations are shown in Figures 2.1 and 2.2. All survey data are reported in Appendix C for station locations presented in Figures 2.1 and 2.2. Although the surveys were begun within H+1/2 hour, many stations were not monitored until several hours had elapsed and some were not monitored for several days. An analysis of field gamma decay rates was required in order that H+1-hour values could be calculated.

Of the data available, that useful for decay purposes is limited to the on-site area. Figures 3.14 and 3.15 typify the information recorded from many selected points on the station network. It is evident that the decay relationship , expressed in Equation 3.1 , with a constant decay

exponent is not a valid representation of the field decay for the time interval from about H+1/2 hour to H+361 hours. Since the data were of a random nature and the decay curves from widely separated stations seemed analogous, the synthesis of a composite decay curve appeared logical. This was accomplished by normalizing the field decay data and subjecting this set of normalized data to a least-squares procedure.

The decay data were normalized to a value of 1,000 r/hr at H+7.2 hours. The value of 1,000 r/hr was chosen to facilitate calculations, while the normalization time of H+7.2 hours was dictated by the distribution of the data; this was the only time at which dose-rate readings were taken over a large area of the station layout with complementary readings at the same station for earlier and/or later times. Admittedly, this process eliminates data where no measurements were taken at or near H+7.2 hours. However, the selection of this normalization time eliminated the least amount of data from consideration.

The mechanics of the process consisted of adjusting all the values in a given set of survey readings from one station by a factor which transformed the H+7.2-hour reading to 1,000 r/hr. When such data from a large number of stations are plotted on logarithmic paper, a number of groups of points massed about specific time intervals is the result. Data from approximately 220 stations were utilized in this manner and although few of the decay curves extended from H+1/2 to H+361 hours, the total number of readings was fairly evenly distributed between the different time periods.

Trends in the individual decay curves and in the vertical distribution of the massed normalized points indicated that straight lines with a change of slope between H+7 and H+30 hours would best represent the whole fallout field. A least-squares procedure was used to construct two straight lines from the normalized data; one for all data to H+7.2 hours, with a fixed point at H+7.2 hours (1,000 r/hr) and a second line for all data from H+30 hours to H+361 hours. The composite decay curve produced by the above method is presented in Figure 3.16. The first phase of the curve is a line with slope -1.22 while the second phase is a line with slope -2.29. Since the time from H+7.2 hours to H+30 hours represents the period between the last survey on D-day and the first survey on the following day, the slope of the curve during this interval was not determined but is represented by a dashed line.

The composite decay curve was used to correct the survey readings to H+1 hour. The ratios of the gamma intensity at H+1 hour and at other desired times were determined from the curve. The individual ground-survey readings nearest H+1 hour were then multiplied by the appropriate ratio. For specific times between H+30 hours and H+361 hours, corrections to H+1-hour values would correspond to the use of a decay exponent within the range -1.0 to -1.6.

The only additional decay information available for Johnie Boy agreed favorably with the composite curve. This information consisted of data from five of the remote monitoring stations set out by the REECo Rad Safe Unit. The locations of these stations, all of which were on the

perimeter of the fallout pattern, are shown in Figure 3.17. The readings taken at the REECo stations started at H+1 minute and continued at short time intervals for approximately 3 hours, thus providing a comparison with the composite decay curve to H+3 hours. These data are plotted in Figures 3.18 and 3.19. Heavy solid lines with a slope of -1.22 have been drawn through the REECo H+1-hour values to show the agreement between the composite decay curve and the data from the remote monitoring stations.

3.2.2 Fallout Patterns. The Johnie Boy H+1-hour dose-rate contours are presented in Figures 3.20 and 3.21. The aerial photograph of the Johnie Boy ground zero area, Figure 3.22, shows the irregular dust deposition pattern close to ground zero. The upwind extent of this visible pattern is greater than that of the 1,000-r/hr contour but less than that of the 100-r/hr contour.

The close-in contours, Figure 3.20, are based upon corrected ground-survey readings at approximately 570 stations extending to a distance of 15,000 feet downwind. There is a hot spot of over 100 r/hr approximately 8,500 feet downwind from ground zero. Other survey readings would not extend the 100-r/hr contour line beyond Glen Road. Therefore, this area of higher intensity around Lovell Road was interpreted as a hot spot on the pattern. A second hot spot was noted on Don Road east of the main fallout pattern. The broken lines indicate uncertainty as to the actual extent of these hot areas. An interesting feature of the close-in pattern is the presence of 10,000-r/hr and 17,000-r/hr dose-

rate contours. These two contours were not drawn around ground zero because of a lack of radiological information at the very close-in ground-zero areas. They were drawn from dose-rate measurements made at H+361 hours and extrapolated by the composite decay curve. These very high dose-rate contours should be recognized as being only as reliable as the extrapolation.

The helicopter survey stations, noted on Figure 3.21 by X's, were of extreme importance in delineating the more-distant contours. The first closed contour shown in this figure is 10 r/hr. Definition of this contour was made possible by surveying stations beyond the area accessible by vehicle, to which access was gained by helicopter. The 1 - r/hr contour is well defined out to the stake road extending eastward from Silent Canyon. There are no more survey stations until the stake road extending eastward from Gold Flat is reached; thus, the dashed portion of the contour indicates a lesser degree of reliability than the rest.

The 0.1-r/hr contour is relatively well defined on the west side of the pattern, through the Pahute Mesa-Silent Canyon-Gold Flat area, because of the combination of helicopter stations and accessible roads in this region. The eastern side of the 0.1-r/hr contour is not well defined north of Pahute Mesa because the contour goes through less accessible country. There were some anomalous readings on the road in Gold Flat toward Gold Reed and they were not considered in the positioning of the 0.1-r/hr and 1-r/hr contours in that area. Only very low-level contamination was found by ground surveys in the Kawich Valley area.

The residual radiation pattern prepared from a survey completed on D+100 days is shown in Figure 3.23. No decay corrections were necessary since the field measurements were made from 19 to 23 October 1962.

3.2.3 Ground Zero Area Dose Rates. Johnie Boy produced a crater with an apparent average radius of 61 feet and a depth of 30 feet (Reference 14). One HILEM-2R dose-rate recorder was lowered by helicopter to approximately 90 feet from ground zero on an 8-degree azimuth at approximately H+1-3/4 hours. It was removed on D+8 days. The recorder was off-scale (dose rates greater than 550 r/hr) until almost 5 hours after detonation. The dose rate at approximately 5 hours was 500 r/hr (Table 3.5). This instrument furnished no later data because of operational difficulties with the recorder. The second HILEM-2R dose-rate recorder, positioned at the bottom of the crater near the Project 2.16 bulldozer, turned over and battery acid destroyed much of the recorder.

Little information from dropping probe surveys was obtained, for reasons outlined in Section 2.1.4. Data obtained on D+5 and D+6 days were not usable because of instrumental problems. Table 3.5 shows D+7- and D+8-day readings, as well as the comparative dose rates in the crater at H+243 hours. These comparative dose rates were obtained in the following manner: the dropping probe was connected to its winch by its regular cable and the winch was placed on the west-northwest crater lip. The probe was also fastened to a rope, which was controlled by a man on the opposite lip of the crater. By simultaneous control of cable and rope, the probe was lowered into the crater and brought up on the opposite

side, where dose-rate measurements were taken. An additional ground survey of the crater was made with Jordan Radectors at H+2400 hours.

No realistic estimates of the H+1-hour crater dose rates were possible since no field decay data were obtained in the crater area. If it were assumed, however, that decay rates could be represented by the composite curve of Figure 3.16, the 5-hour reading at a point 90 feet from ground zero (See Table 3.5) would extrapolate to an H+1-hour reading of 3,300 r/hr; the 169- and 294-hour readings would give 10,000 to 13,000 r/hr at H+1 hour; and the 243-hour reading would give equivalent H+1-hour values within the range 2,600 to 6,500 r/hr.

3.2.4 Total Dose Contours. The film badges used at the Johnie Boy ground-survey stations were furnished primarily by REECo and LSD. REECo film badges were placed at all station; LSD badges were placed at approximately half the stations. In addition 28 badges furnished by ELRDL were placed at certain stations having both REECo and LSD badges. All badges were recovered on D+5 days.

In general, the REECo data appeared to be unreliable at doses higher than 100 to 200 r and indicated generally lower doses than did the other two types (See Section 3.1.4).

The LSD and REECo readings were compared at 73 stations having an indicated dose below about 100 r, where data from both types of film were available. For these 73 stations, the mean ratio of the LSD to REECo readings was 1.98 with a standard deviation of 0.02. At 20 stations where usable data were available, the average ratio of LSD to ELRDL dose values was 1.18.

TABLE 3.5 GROUND ZERO AREA DOSE RATES FOR JOHNIE BOY

Location	Type of Measurement	Time After Detonation	Dose-Rate Reading
		hours	r/hr
8° azimuth 90 ft from GZ (30 ft from Crater Lip)	Recorder	5	~ 500
Center of Crater	Dropping Probe	169	10
Inside Crater Lip	Dropping Probe	192	0.5
WNW Crater Lip	Ground Survey[a]	243	1.0
2/3 of distance to Bottom	Ground Survey[a]	243	0.8
Crater Bottom	Ground Survey[a]	243	1.5
1/3 of distance to SSE Top	Ground Survey[a]	243	0.95
2/3 of distance to SSE Top	Ground Survey[a]	243	1.1
SSE Top	Ground Survey[a]	243	0.7
S Crater Lip	Ground Survey	243	1.0
NW Crater Lip	Ground Survey	243	1.75
N Crater Lip	Ground Survey	294	2.7
40 ft N of N Crater Lip	Ground Survey	294	2.0
Center of Crater	Ground Survey	2,400	1.5
N Lip	Ground Survey	2,400	0.80
20 ft below N Lip	Ground Survey	2,400	0.15
40 ft below N Lip	Ground Survey	2,400	0.20
60 ft below N Lip[b]	Ground Survey	2,400	0.35
E Lip	Ground Survey	2,400	0.85
20 ft below E Lip	Ground Survey	2,400	0.20
40 ft below E Lip	Ground Survey	2,400	0.30
60 ft below E Lip	Ground Survey	2,400	0.90
71 ft below E Lip[c]	Ground Survey	2,400	1.25
S Lip	Ground Survey	2,400	0.19
20 ft below S Lip	Ground Survey	2,400	0.20
40 ft below S Lip	Ground Survey	2,400	0.15
62 ft below S Lip[b]	Ground Survey	2,400	0.75
W Lip	Ground Survey	2,400	0.30
20 ft below W Lip	Ground Survey	2,400	0.12
40 ft below W Lip	Ground Survey	2,400	0.40
60 ft below W Lip	Ground Survey	2,400	0.30
65 ft below W Lip[c]	Ground Survey	2,400	0.90

[a] Dropping probe assembly used as explained in Section 3.2.3

[b] North-south distance across bottom, 28 feet

[c] East-west distance across bottom, 37 feet

The total-dose contours are shown in Figure 3.24. The LSD film data were used where available, and REECo readings, multiplied by the conversion factor 2, were used for readings below 100 r where LSD values were not available. Approximately 190 LSD values and 145 REECo values were used in this manner for constructing the contours. These data are presented in Appendix C for stations shown in Figures 2.1 and 2.2. The effect of the initial radiation on the magnitude of the contours around the ground zero area can be seen by comparing the dose contours with the H+1-hour dose-rate contours shown in Figure 3.20. The dose contours at a given cross-wind distance from ground zero are higher by a factor of at least 100 than those that would be calculated from the dose-rate contours. On the other hand, the very high dose contours immediately downwind of ground zero are lower than those that would be calculated from the dose-rate contours. These lower values may be attributed to the inability of the film used to reliably measure doses higher than a few thousand roentgens.

3.3 LITTLE FELLER I

The Little Feller I shot was fired in Area 18 of NTS at 1000 hours PDT, 17 July 1962, and

was detonated

approximately 3 feet above the ground surface. The elevation of surface zero was 5,194 feet. Air temperature at the surface was 29.7°C and the relative humidity was 17 percent. The upper wind data are shown in

Table 3.6. The Little Feller I cloud at H+30 seconds is shown in Figure 3.25. The cloud top reached a height of approximately 11,000 feet MSL (Reference 13).

TABLE 3.6 LITTLE FELLER I UPPER WIND DATA

Observations made at Forward Control Point, Area 18, at 1000 hours, (PDT), 17 July 1962

Height (MSL)	Direction	Speed	Height (MSL)	Direction	Speed
feet	degrees	knots	feet	degrees	knots
Surface	200	15	11,000	140	11
6,000	200	13	12,000	150	13
7,000	190	12	13,000	180	15
8,000	170	12	14,000	180	20
9,000	170	11	15,000	180	23
10,000	150	11	16,000	190	25

3.3.1 Field Decay Rates. No Little Feller I stations were surveyed earlier than H+3.2 hours because of the priority of troop exercises that were conducted in the area of interest (Reference 15). Readings were taken at the majority of the 400 survey stations at approximately H+4 hours and H+26 hours (Appendix D). At approximately 50 of these stations, measurements were also made at H+50 hours, H+74 hours, and H+94 hours. The station layout is shown in Figure 2.1

The ranges and average values of the individual decay exponents based on the two earliest readings along the various stake lines are shown in Table 3.7. These values are shown separately for each half of

TABLE 3.7 LITTLE FELLER I DECAY EXPONENTS

Based on H+4- and H+26-hour survey readings

Stake Line	Number of Stations	Value of x in $\frac{I_1}{I_2} = \left(\frac{t_2}{t_1}\right)^x$ Range	Mean
Showers	10	1.04 to 1.19	1.13
Reeves	15	0.91 to 1.36	1.07
Wilsey	11	0.72 to 1.20	0.92
1A East of "hot line"	18	0.97 to 1.19	1.09
1A West of "hot line"	15	0.94 to 1.22	1.01
1B East of "hot line"	19	0.73 to 1.27	0.92
1B West of "hot line"	17	0.5 to 0.92	0.76
1C East of "hot line"	18	0.38 to 0.99	0.70
1C West of "hot line"	15	0.89 to 1.21	1.07
1D East of "hot line"	22	0.61 to 1.12	0.75
1D West of "hot line"	15	0.90 to 1.28	1.07
1E East of "hot line"	12	0.90 to 1.0	0.94
1E West of "hot line"	10	1.08 to 1.3	1.18
1F East of "hot line"	10	0.81 to 1.26	1.0
1F West of "hot line"	11	0.67 to 1.62	1.21
1G East of "hot line"	13	0.72 to 1.27	0.98
1G West of "hot line"	9	0.81 to 1.4	1.15
1H	13	0.57 to 1.13	0.92
1J	10	0.37 to 1.3	0.95
1K	7	0.6 to 1.39	0.99
1L	5	0.72 to 1.47	1.12
1M	5	1.05 to 1.34	1.24
2M	3	1.25 to 1.58	1.37

lines 1A through 1G because of the quite evident difference in the apparent field decay rates to the east and west of the hot line. Factors considered for an explanation of this asymmetry with respect to decay rates were: fractionation, neutron-induced activity in the soil, Little Feller II or Johnie Boy radiation background, IVY FLATS troop maneuvers, incorrect instrument calibration, and incorrect use over portions of the pattern. No explanation was found. With respect to the last of these possibilities, the same two-man monitoring team, using the same instrument, monitored the west side of lines 1A and 1B. Nevertheless, the decay slopes along these two lines were markedly different. One remaining possible explanation is that a redistribution of some of the fallout material from the southwest toward the northeast during the interval from H+4 to H+26 hours would cause the apparent decay rate to be lower on the east side of the pattern and higher on the west side. This effect, however, could not be confirmed.

Typical decay curves for individual upwind and downwind stations are shown in Figures 3.26 to 3.32. Figures 3.26, 3.27, and 3.28 show individual decay curves for the upwind radials and the 1A line. Curves for eighteen of the approximately thirty downwind stations for which more than two readings were available are shown in Figures 3.29 to 3.32.

The interpretation of the foregoing data, with the considerable variations of individual slopes for stations with only two readings, cannot be straight-forward. The sorting out of conflicting indications is made especially difficult by the complete lack of any information on

the early dose rates on which all representative field decay exponents finally hinge. If significant sodium and magnesium activity due to neutron activation of soil were present, a lower overall decay rate should be noted between H+1 and H+4 hours than that between H+4 and H+26 hours. On the other hand, the dose-rate decay slope for plutonium fission products should be slightly higher from H+1 to H+4 hours than during the la r interval (Reference 16). The absence of dose-rate readings prior to H+4 hours and of additional readings between H+4 and H+26 hours prevents a confident extrapolation of individual decay curves to H+1 hour. Similarly, the application of an average decay exponent to the overall pattern or the representative portions of the pattern does not appear to be justified.

Very early field decay data were obtained from several remote monitoring stations set out by the REECo Rad Safe Unit and connected by wire to a central readout position. The approximate locations of these stations are shown in Figure 3.33. The data obtained are presented in Figures 3.34 and 3.35. The curves shown do not extend sufficiently far beyond H+1 hour to allow conclusions to be drawn for the interval H+1 to H+4 hours.

3.3.2 Fallout Patterns. The H+4-hour dose-rate pattern for Little Feller I is presented in Figure 3.36. The H+4-hour time was chosen for this pattern because most of the stations were monitored near this time; the choice of the decay exponent to be used for correcting to this time was therefore not critical. All survey readings used, except the few

that contributed to the location of contours representing dose rates greater than 100 r/hr, were taken between H+3.2 and H+5.3 hours. The decay exponent, 1.2, was arbitrarily used for these corrections. Because of the short time intervals involved, any error introduced through the use of 1.2 would be only a few percent. The H+4-hour contours are thus considered to be reliable.

The H+1-hour contours presented in Figure 3.37 were also based upon the arbitrary use of 1.2 as the decay exponent. With the exception of a few survey readings that contributed to the location of the 100 r/hr contour, all were taken between H+3.2 and H+5.3 hours. Because of the many uncertainties in actual decay rates (see Section 3.31), the H+1-hour pattern is considered to be less reliable than the H+4-hour pattern. It is presented here primarily for the purpose of showing the order of magnitude of the H+1-hour contours.

The D+98-day contours, shown in Figure 3.38, are in milliroentgens per hour and were based upon readings taken between 19 and 23 October 1962. No decay corrections were necessary.

3.3.3 Ground Zero Area Dose Rates. Ground zero data for Little Feller I, presented in Table 3.8, were obtained by high-level dose-rate recorder, dropping probe, and ground-survey readings.

The dose-rate recorder was placed by helicopter at H+1.55 hours on the east side of ground zero, but the rope that lowered the instrument became entangled with a Project 2.3 recovery cable. This cable pulled the dose-rate recorder away from the ground zero area at H+3.17 hours to

TABLE 3.8 GROUND ZERO AREA DOSE RATES FOR LITTLE FELLER I

Location of Instrument	Time After Detonation	Dose Rate Reading	Dose Rate Extrapolated to H+1 Hour	Type of Instrument
	hours	r/hr	r/hr	
Near Crater, E Side	1.67	1,000	1,800[a]	High-level Recorder
Near Crater NNW Side	2.9	200	840[a]	Dropping Probe
WNW of Crater	3.0	118	530[a]	Dropping Probe
Inside Crater Near East Lip	3.0	540	2,400[a]	Dropping Probe
About 60 feet from GZ Azimuth 220°	48	10	1,000[b]	Dropping Probe
Near Crater on NE Lip	48	13	1,400[b]	Dropping Probe
Center of Crater	150	7.5	3,100[b]	Ground Survey
Inner Edge of Crater Perimeter	150	5 to 8	2,000 to 3,000[b]	Ground Survey
Center of Crater	2,260	0.32	-	Ground Survey

[a] Extrapolated from Figure 3.39

[b] Extrapolated by $t^{-1.2}$

another position about a mile away from the contaminated area. The dose rate versus time plot from this recorder is shown in Figure 3.39. The extrapolation from 1.67 to 1 hour follows the curve in Figure 3.10 for the same time period, since the shot and environmental conditions for Little Feller II and Little Feller I were generally similar. The data were extrapolated to approximately 1800 r/hr at H+1 hour.

Dropping-probe readings were made on D-day and D+2 days (Table 3.8). The location of these readings is less exact than is usual, because the Little Feller I ground zero was very hard to distinguish from the air. The average apparent crater radius was 1.9 meters and the depth 0.35 meter (Reference 14). The readings taken after D-day were extrapolated to H+1 hour by $t^{-1.2}$ for purposes of comparison with the readings taken earlier. The H+1-hour values are illustrated in Figure 3.40.

3.3.4 Total Dose Contours. The shortage of film packs of a single type necessitated the use of two types. An LSD or a REECo film pack was placed alternately along a given survey line at each of the Little Feller I ground-survey stations. All films were recovered on D+3 days.

Although no direct comparison of doses reported for the two film types could be made, a qualitative comparison of reported doses at adjacent stations indicated that, as in Johnie Boy (See Section 3.2.4), the REECo readings for doses below about 100 r were lower than the LSD readings by a factor of 2; at higher doses, they were completely unrealistic.

The dose contours shown in Figure 3.41 were constructed primarily from the LSD readings. Where necessary, at doses below about 100 r, twice the REECo values were used, as described in Section 3.2.4. Approximately 210 LSD values and 100 REECo values were used in this manner in plotting the contours. The dose data at stations shown in Figure 2.1 are given in Appendix D. The effect of initial radiation on the overall size of the close-in contours relative to the downwind portion of the pattern can be seen by comparing the total dose pattern with the dose-rate pattern shown in Figure 3.37.

3.4 SMALL BOY

The Small Boy shot was detonated in Area 5 (Frenchman Lake) of NTS at 1130 PDT, 14 July 1962

The device was positioned on a wooden tower 10 feet high. The elevation of surface zero was 3,078 feet. Air temperature at the surface was 31.7°C, and the relative humidity was 16 percent. The upper wind data are shown in Table 3.9. The Small Boy cloud at H+20 seconds is shown in Figure 3.42. The cloud top reached a height of approximately 19,000 feet MSL (Reference 13).

3.4.1 On-Site Field Decay Rates. A decay curve was plotted for each survey station at which four or more dose-rate measurements were made. A variety of curve types resulted. Examples are shown in Figures 3.43 to 3.45. There is no clear correlation of location with the types of curve or, for the straight lines, with slope. However, a tabulation of values

TABLE 3.9 SMALL BOY UPPER WIND DATA

(Based on Reference 17)

Observations made at Frenchman Flat. Shot time was 1130 (PDT).

Height (MSL)	1045 PDT (1745Z)		1135 PDT (1835Z)		1145 PDT (1845Z)		1240 PDT (1940Z)	
	Azimuth	Speed	Azimuth	Speed	Azimuth	Speed	Azimuth	Speed
feet	degrees	knots	degrees	knots	degrees	knots	degrees	knots
Surface	-	Calm	135	2	120	2	180	6
4,000	-	Calm	300	1	145	4	185	6
5,000	-	Calm	310	1	170	5	188	7
6,000	203	3	330	2	180	6	212	8
7,000	270	2	280	2	170	6	224	10
8,000	260	5	250	6	180	3	237	10
9,000	235	6	240	12	230	5	245	11
10,000	235	11	240	16	240	11	240	13
12,000	250	9	240	8	235	9	225	8
14,000	240	9	240	8	230	8	280	7
15,000	-	-	-	-	-	-	265	4
16,000	240	7	240	8	230	7	-	-
18,000	270	8	280	14	260	13	-	-
20,000	290	16	280	25	280	23	-	-

of x in the expression,

$$\frac{I_1}{I_2} = \left(\frac{t_2}{t_1}\right)^x \tag{3.2}$$

for readings on D-day, D+1, and D+2 days indicated a natural differentiation between downwind stations (lines G through W), and crosswind and upwind stations (lines Y and Z). A mean value of $x = 1.27 \pm 0.02$ was computed for the downwind stations by the method of least squares. Nominal dose rates at H+1 hour were then computed by applying the expression,

$$I_1 = I_t t^{1.27} \tag{3.3}$$

to the earliest measurement available at each downwind station. (In a few instances, where there was reasonable doubt as to the validity of the earliest measurements, a later reading was used).

The same technique failed to provide a satisfactory mean value of x for the Y and Z stations. (The least-squares computation invalidated Equation 3.2). Fortunately, it was possible to construct a composite decay curve normalized to 1 r/hr at H+25.5 hours (Figure 3.46). The earliest reading at each station was extrapolated to H+1 hour along this curve.

The paucity of data made it difficult to characterize decay in Indian Springs Valley and Three Lakes Valley (lines A through F). The single station surveyed on D-day provided a decay curve (Figure 3.47) with a slope of -1.01. A few decay curves beginning on D+1 day

indicated a slope of -1.7. U. S. Naval Radiological Defense Laboratory (NRDL) dose-rate recorders indicated slopes between -1.2 and -1.3 (Reference 18). In fine, the H+1-hour dose rates obtained from lines G through W were computed by means of Equation 3.3. This procedure provided a more reasonable fallout pattern than a slope of -1.0.

The REECo Rad Safe Division installed eighteen remote reading dose-rate instruments from which the dose rates were transmitted by wire or radio to a readout point. Nine of them provided useful data from as early as H+1 minute to as long as H+44 hours. All but one of these nine stations were upwind or crosswind from ground zero (Figure 3.48). The one downwind station (Radio Relay 7) was near K-50, approximately 28,000 feet from ground zero. The earliest time of arrival there was H+45 minutes, which indicated an effective wind speed of 6 knots from ground zero to that position. Gamma dose-rate decay curves are shown in Figures 3.49 to 3.52.

3.4.2 Off-Site Field Decay Rates. There were very few off-site measurements that yielded worthwhile decay information. For operational reasons, no readings were made before D+1 day. The D+1-day readings themselves were unexpectedly low at the stations monitored; they were no higher than 2 mr/hr, with most readings below 1 mr/hr. These readings, in Tables E.3.1 and E.3.5 of Appendix E, measured relatively close to NTS, produced a large range of decay exponents. No decay information was available from the other stations. According to Reference 19, laboratory analysis of field samples and an examination of the usable early off-site

dose-rate-recorder measurements indicated that the dose-rate values decayed approximately as $t^{-1.2}$. The 1.2 decay exponent was thus used to extrapolate the off-site data to H+12 hours.

3.4.3 On-Site Fallout Patterns. The dose-rate contours at H+1 hour in Frenchman Flat are shown in Figure 3.53. These contours are for stations shown in Figures 2.3 and 2.4 and are based on data presented in Appendix E. Where necessary, the maximum downwind extent was estimated by linear interpolation. Doubtful segments on lines T, U, V, and W were drawn as dashed lines concentric with the complete contours. The 0.5-r/hr contour between I and K was dashed because the 0.5-r/hr position appeared to be slightly north of the end of the I-line, rather than on the line itself.

Figure 3.54 extends these contours to Indian Springs Valley and Three Lakes Valley. The true shapes in the intervening region are unknown. It is not difficult to visualize a significant bulge to the northwest. The 0.5-r/hr contour is extrapolated to conform to the 1-r/hr contour. This shape is supported by the way the dose rates vary along the B-line.

The D+96-day pattern is shown in Figure 3.55. The dose rates were actually measured between 16 and 19 October 1962. No decay corrections were needed and none were applied to these readings.

3.4.4 Off-Site Fallout Patterns. An off-site dose-rate contour pattern from the Small Boy event was constructed from the survey data presented in Appendix E and is shown in Figure 3.56. The corresponding routes are shown in Figure 2.6. In general, the earliest available data

after the detonation that were at least twice background were used to construct these contours. Background dose rates, where available, were subtracted from the readings before conversion. When measured backgrounds were not available, a value of 0.025 mr/hr was assumed. Dose rates minus background were then converted to equivalent dose rates at H+12 hours by $t^{-1.2}$ (Section 3.4.2), whether or not fallout had actually arrived at all locations by that time. Contours with values of 0.1, 0.2, 0.5, 1, and 5 mr/hr are presented for all areas except for northern Utah. There, contours of 0.1 and 0.2 mr/hr at H+12 hours are not shown because the earliest dose-rate measurements in northern Utah were made on D+4 days and the lowest level contour that could be estimated by extrapolation to H+12 hours was 0.5 mr/hr. Dashed contour lines are shown when not enough data points were available to warrant the use of solid lines. For completeness of presentation, data measured by one team in southern Utah and northern Arizona are also presented in Appendix E.3, but these data were not used to draw contours because of internal inconsistencies in the data. This fact is noted in the tables.

The off-site fallout proceeded in a northeasterly direction from the Small Boy ground zero. A small southerly lobe in the pattern was indicated at approximately 37 miles from ground zero. Individual small areas of hot spot contamination were indicated beyond 120 miles from ground zero. A large area, about 2,400 square miles within the estimated 0.5 mr/hr at H+12-hour contour, was centered in the Fruitland, Utah, area.

3.4.5 Ground Zero Area Dose Rates. The average radius of the depressed area of the crater was 38 feet and the depth was 5.2 feet (Reference 14). Six dose-rate recorders were lowered by helicopters into the Small Boy crater area. The two high-level recorders and the two NRDL GITR instruments (Reference 20) produced the dose-rate time data plotted in Figures 3.57 and 3.58. Neither of the two HILEM-2R instruments mounted in 55-gallon drums produced usable dose-rate data. None of these instruments was deposited before H+3 hours. The graphs of dose rate versus time from REECo Remote Stations 2 through 5 were used to extrapolate the dose-rate recorder curves to H+1 hour. The average ratio of H+1- to H+3-hour dose rates from the four REECo stations was 2. The arbitrary use of this factor to extrapolate the recorder data to H+1 hour probably results in a low estimate of the H+1-hour dose rates. Table 3.10 lists the dose rates recorded at the earliest times from these recorders as well as the extrapolated H+1-hour values.

Data were taken by means of the aerial-survey dropping probe from about H+2-1/2 hours to D+5 days. Measurements made along the M, Q, S, and U lines are not reported here because the process of measuring dose rates at given stations by the dropping-probe system was inherently less precise than measuring dose rates by means of ground survey, and because practically all valid measurements made on these four lines were below 10 r/hr and were therefore accessible to ground-surveying parties. The on-site dose-rate levels were lower than had been anticipated. Some

TABLE 3.10 GROUND ZERO AREA DOSE RATES FOR SMALL BOY

Location of Instrument		Time After Shot	Measured Dose Rate	Dose Rate Extrapolated to H+1 Hour	Type of Instrument
Azimuth	Distance from GZ				
degrees	feet	hours	r/hr	r/hr	
SSE	~ 50	3.18	17,300	38,000	High Level Recorder #1
100	~ 50	3.43	3,170	7,200	NRDL GITR II
SSE	~ 50	3.67	3,800	9,000	High Level Recorder #2
ENE	~ 590	5.45	328	1,400	NRDL GITR I
296	~ 20	71.0	25	3,600	Dropping Probe
234	265	71.0	5	700	Dropping Probe
235	80	71.0	19	2,700	Dropping Probe
236	160	71.1	13	1,800	Dropping Probe
284	205	71.1	4	570	Dropping Probe
288	210	71.1	4.5	640	Dropping Probe
293	125	71.1	15	2,100	Dropping Probe
266	300	71.2	5	700	Dropping Probe
267	165	71.2	10	1,400	Dropping Probe
274	305	71.2	4	570	Dropping Probe
282	290	71.2	3	420	Dropping Probe
289	295	71.2	3	420	Dropping Probe
297	275	71.2	0.75	110	Dropping Probe
290	90	71.3	19	2,700	Dropping Probe
Center of Crater		75.0	22	3,300	Dropping Probe
NE	35	75.0	2.5	-	Dropping Probe
W	45	75.0	2.5	-	Dropping Probe
SSE	~ 50	96.6	145	27,000	Dropping Probe
233	310	96.8	15	2,800	Dropping Probe
250	140	96.8	43	8,000	Dropping Probe
280	310	96.9	10	1,800	Dropping Probe
286	310	96.9	3	560	Dropping Probe
235	120	97.0	49	9,100	Dropping Probe
279	275	97.0	13	2,400	Dropping Probe
291	280	97.0	3.5	650	Dropping Probe
Near Center of Crater		119.0	2.0	-	Dropping Probe
At Drum (Figure 3.59) in Crater		406	15	-	Ground Survey

difficulties with instrumentation maintenance also developed during this time.

The dropping probe data were useful where there were no specified ground survey points; these were largely within the ground zero area where any survey points established before the Small Boy event were either obliterated or blown down. The usable observed measurements are also listed in Table 3.10, together with their values extrapolated to H+1 hour by the curves in Figure 3.57. An H+1-hour plot of the location of all these readings is shown in Figure 3.59. Four close-in positions on the southeastern side of ground zero showed rather high-level extrapolated dose rates. These four readings were made by three different types of instruments and three of the four readings were based on surveys before H+4 hours.

3.4.6 On-Site Dose Contours. The film badges on survey lines B, E, G, I, and K were recovered on D+3 days; all other on-site badges were recovered on D+4 days. Film badges supplied by LSD were placed at each survey station. In addition ELRDL and REECo badges were placed at approximately 15 percent of the on-site stations. Although there were occasional glaring inconsistencies in the gamma doses reported for the three types of films at given stations, the agreement was generally within 30 percent.

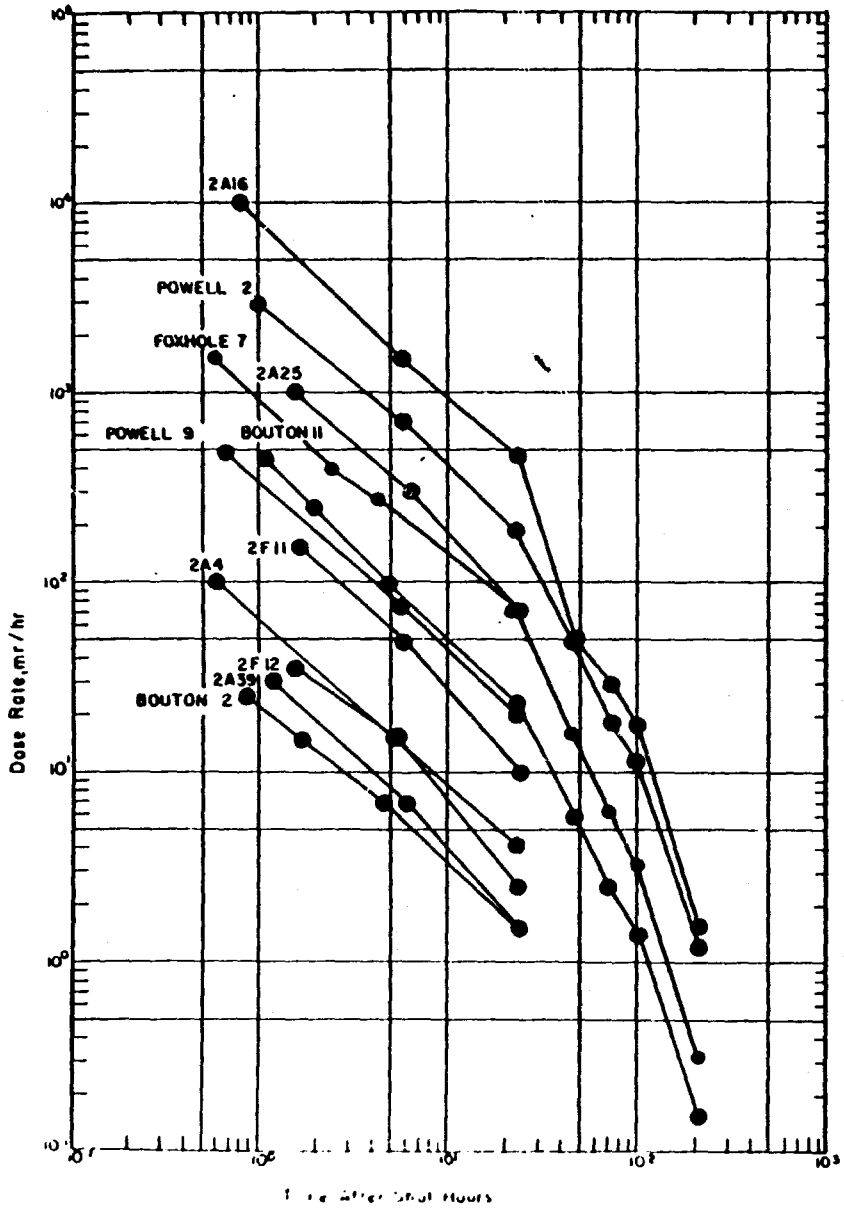
The solid line total-dose contours shown in Figures 3.60 and 3.61 were constructed from approximately 530 LSD gamma dose values plotted on the station layout. These film data are presented in Appendix E. The corresponding station locations are shown on the station layout on Figures 2.3 and 2.4. The dashed-line contours in Figure 3.60 are based on dose values calculated from the dose-rate contours of

Figure 3.53. Times of arrival were assigned to each of the dose-rate survey lines on the assumption that the effective wind speed was 6 knots (See Section 3.4) and that time of arrival is equal to downwind distance divided by effective wind speed. The fallout was assumed to decay as $t^{-1.37}$ as discussed in Section 3.4.1. The excellent agreement between the calculated and measured contours, except for the higher level contours around lines P and N, is an indication of the general reliability of the H+1-hour dose-rate contours. The close agreement also indicates that the radiation from the passing cloud (transit dose) did not affect the measured dose values in this area.

A comparison of the dose contours (Figure 3.60) and the H+1-hour dose-rate contours (Figure 3.53) shows a marked difference in shape for the area around ground zero to as far downwind as line S . The total-dose contours were more nearly circular with a neck around lines S and R as a result of exposure to both initial and residual gamma radiation.

3.4.7 Off-Site Dose Contours. The off-site dose contours shown in Figure 3.62 are based on the film badge data in Appendix E for routes shown in Figure 2.5. The measured dose levels were unexpectedly low; the highest contour that could be constructed from the data was the 1-r contour; contours below 0.2 r were difficult to construct. The dose-contour pattern confirmed roughly to the dose-rate contours in the same regions as those shown in Figure 3.56; a southerly lobe in the pattern was indicated at approximately 37 miles from ground zero, and the direction of the pattern changed from a more northerly to a more easterly direction in the vicinity of US highway 93 near position AG.

Figure 3.1 Little Feller II cloud formation at H + 30 seconds.



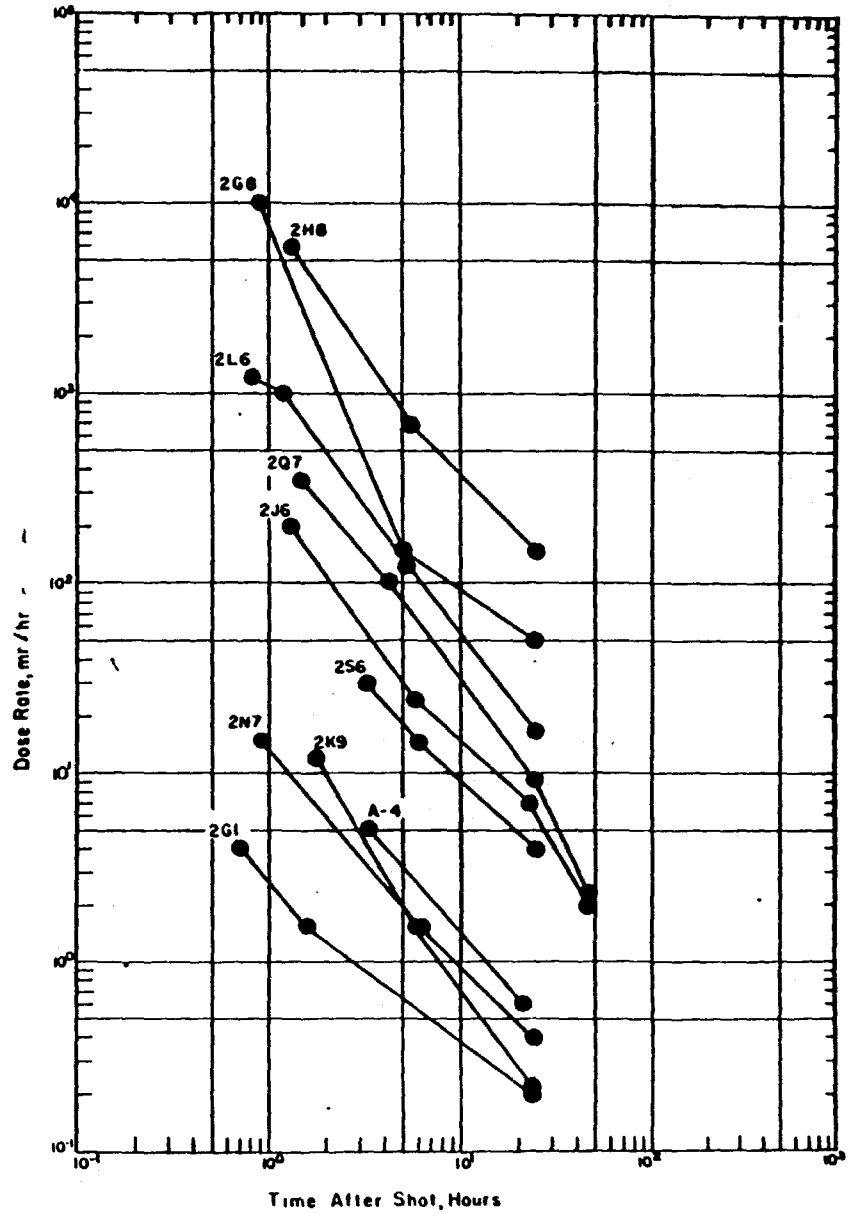


Figure 3.3 Little Feller II field decay curves for downwind stations beyond 2F line.

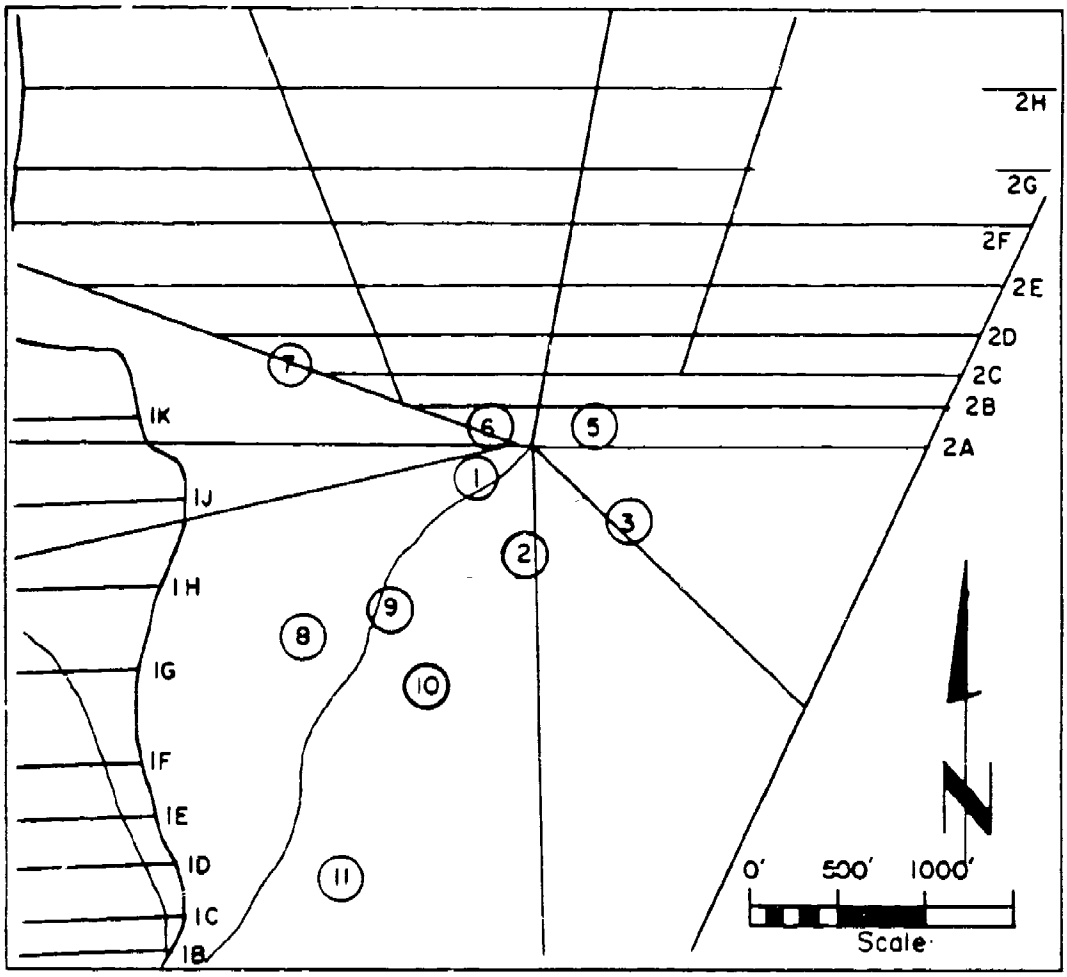


Figure 3.4 REECo remote monitoring station locations for Little Feller II.

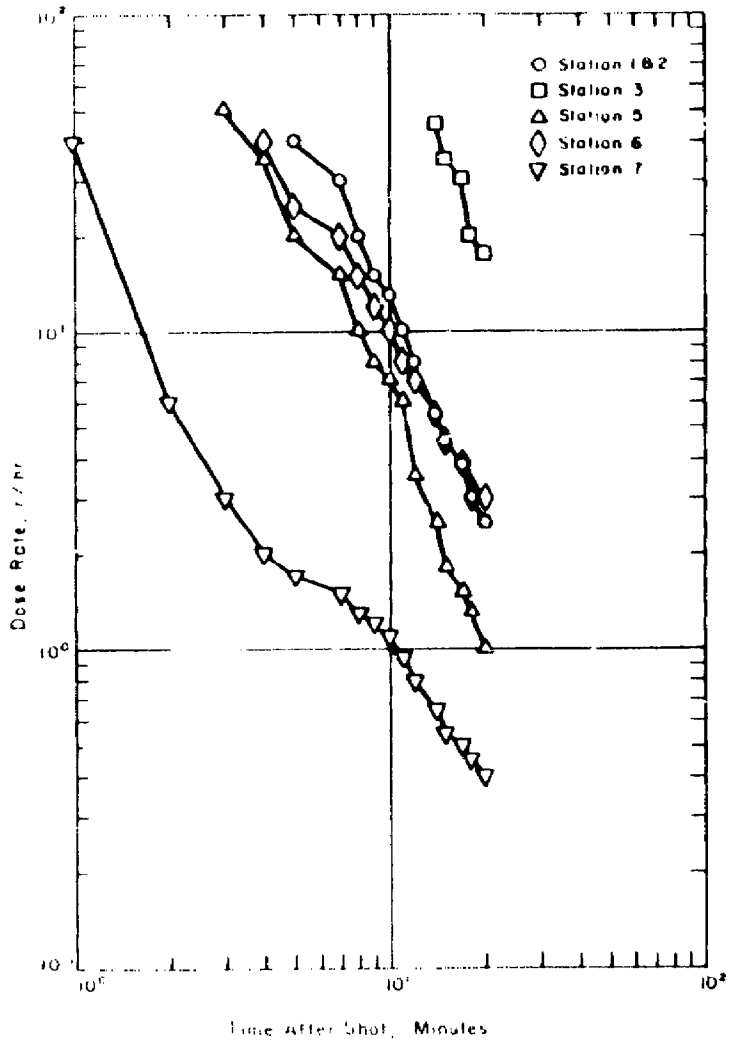


Figure 3.5 Field decay curves for Little Feller II remote monitoring stations

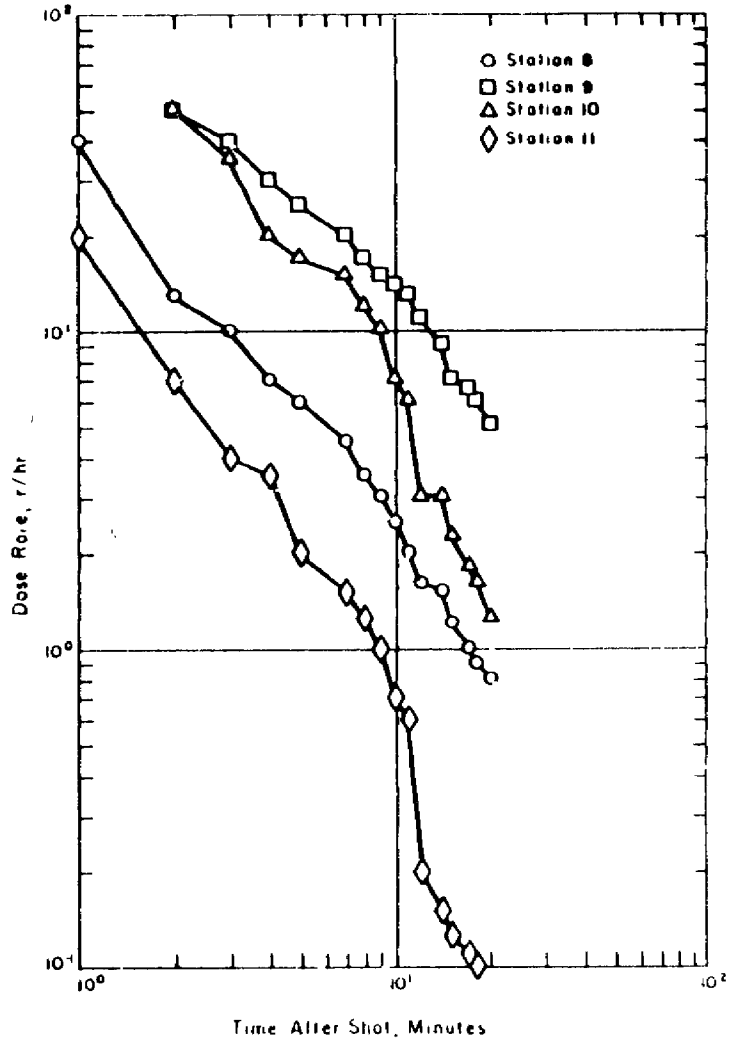


Figure 3.6 Field decay curves for Little Feller II remote monitoring stations

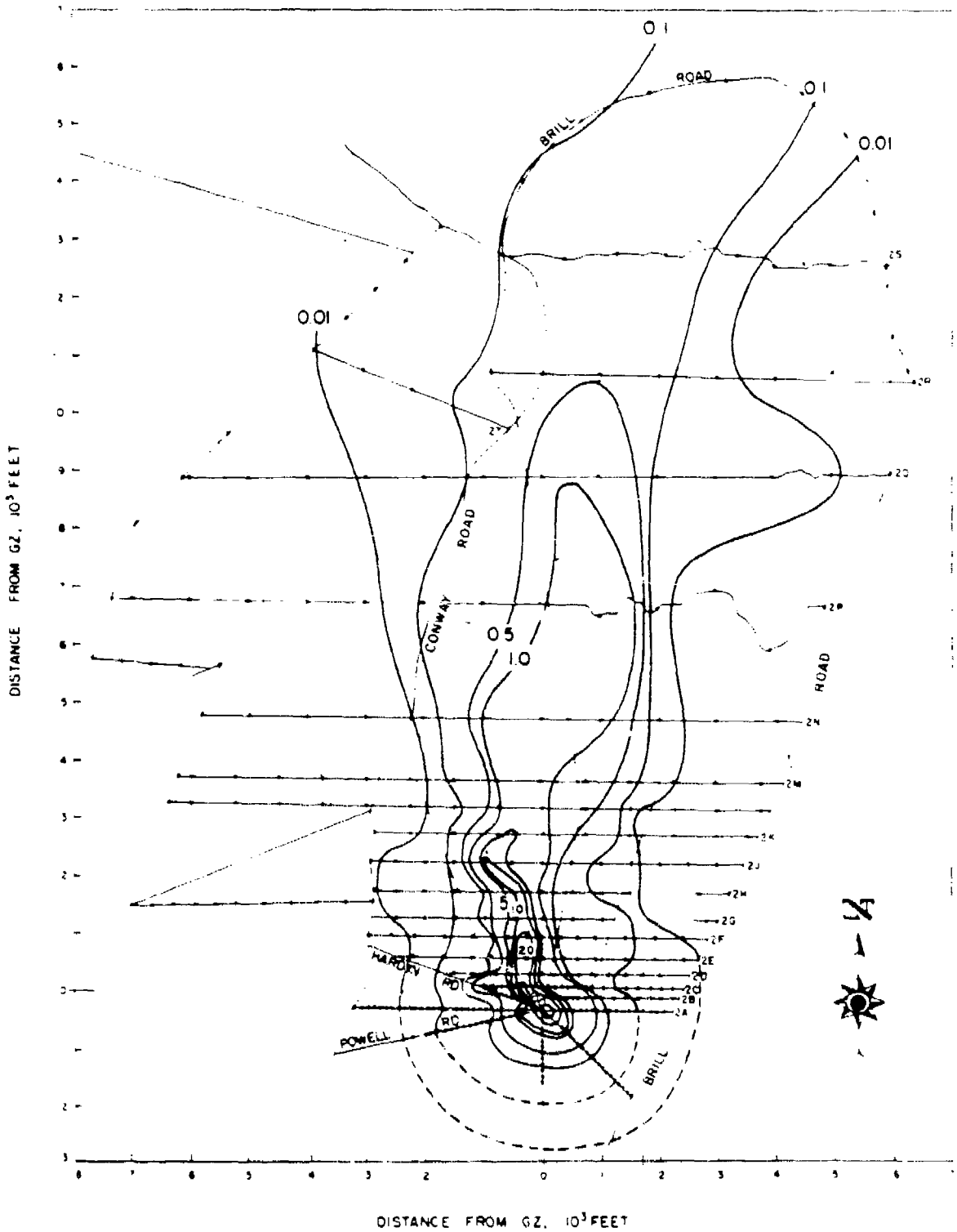


Figure 3.7 Little Feller II dose-rate contours in roentgens per hour at H - 1 hour to 3 miles downwind.

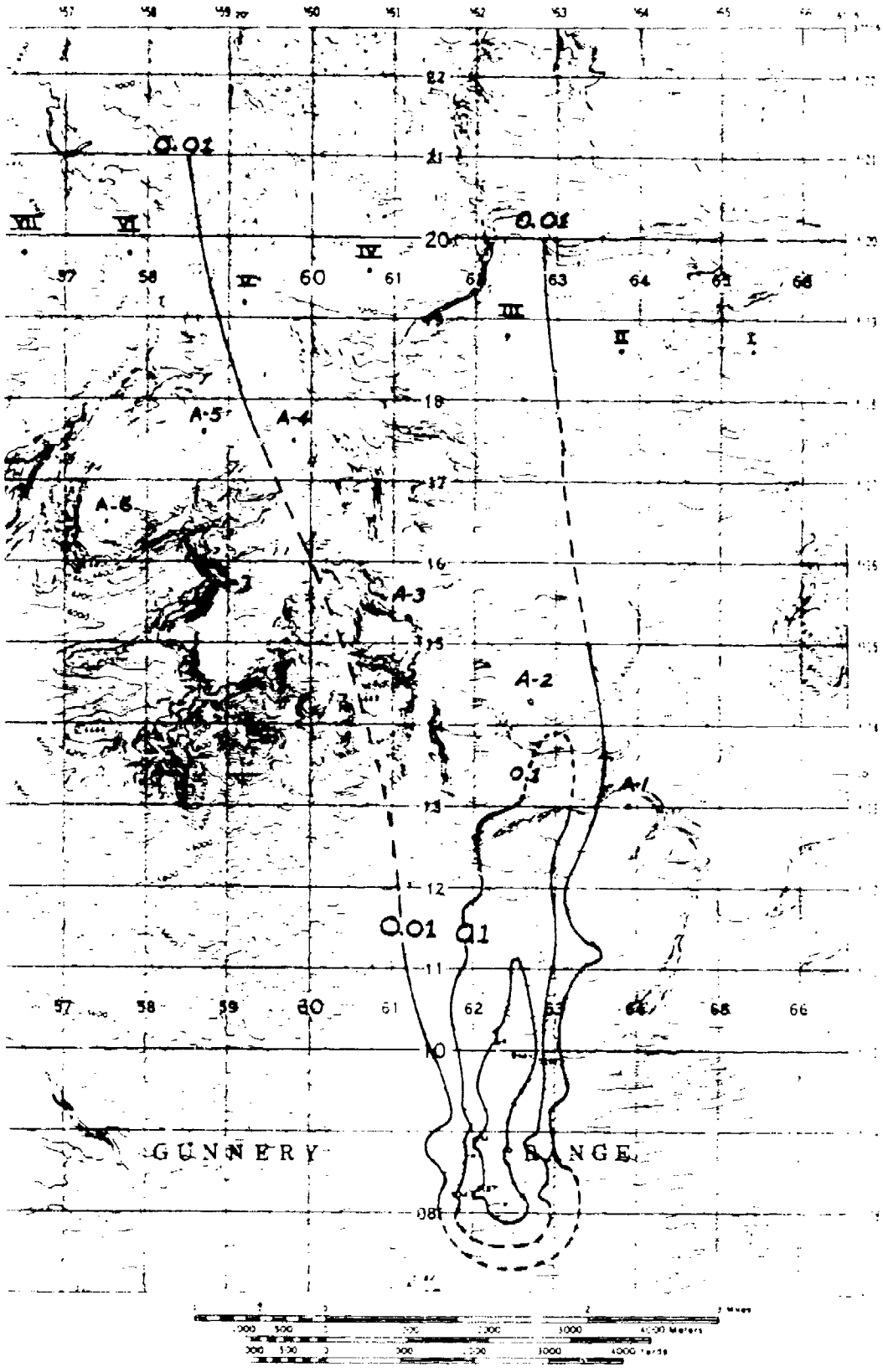


Figure 3.8 Little Feller II dose-rate contours in roentgens per hour at H + 1 hour to 13 miles downwind

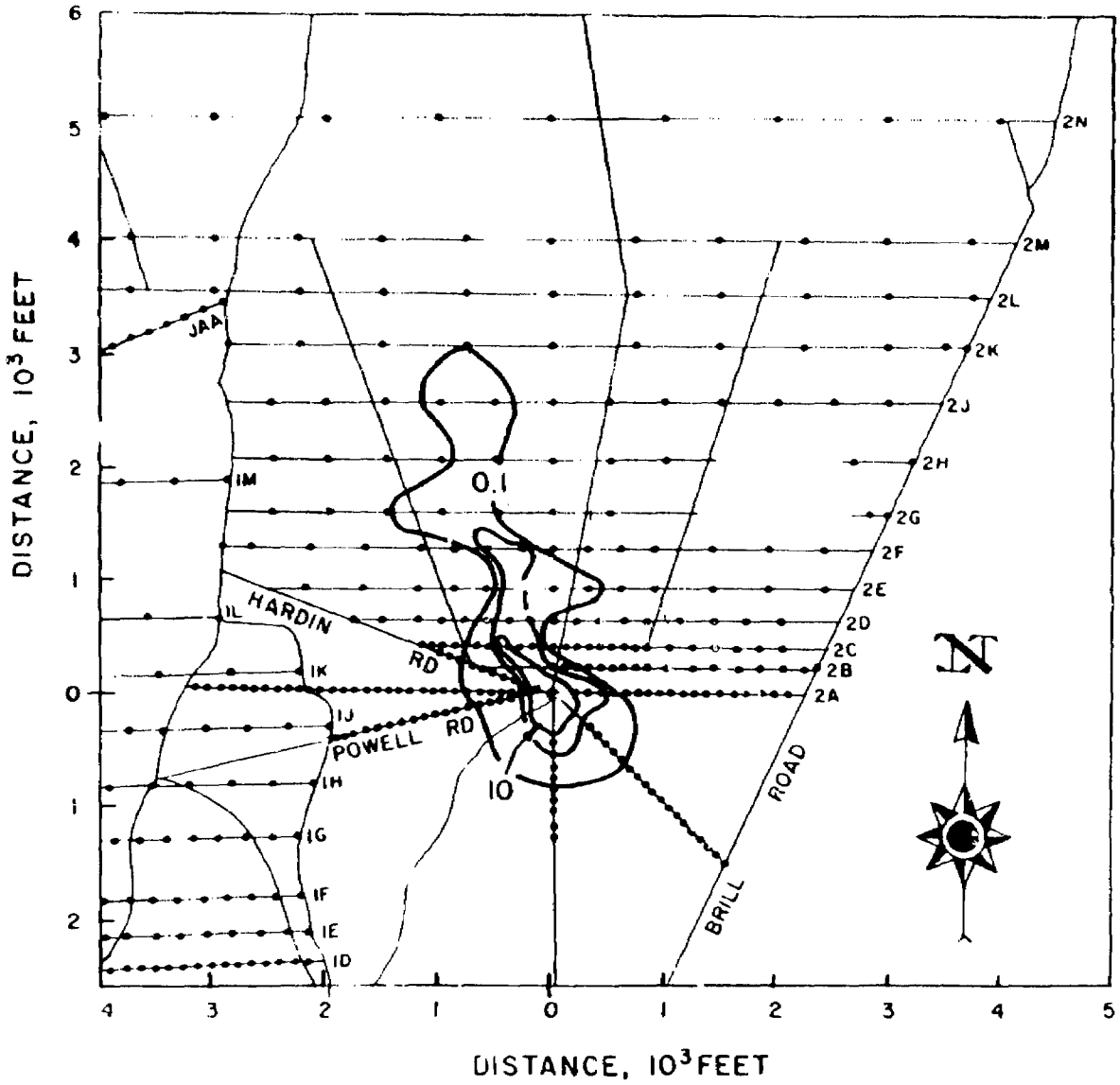


Figure 3.9. Little Feller II dose-rate contours in milliroentgens per hour at D + 107 days.

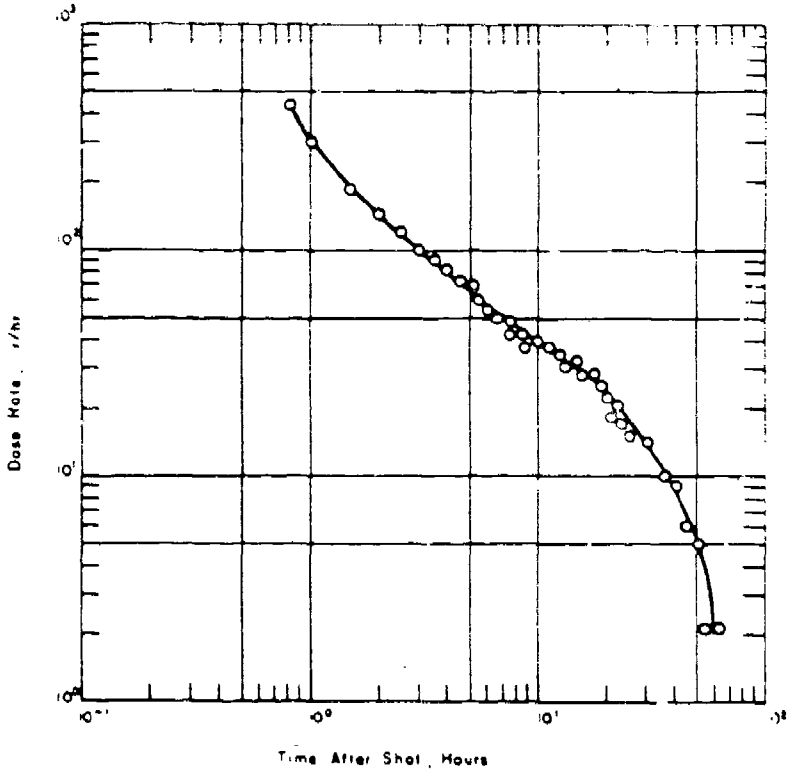


Figure 3.10 Gamma dose-rate decay curve near the Little Feller II crater.

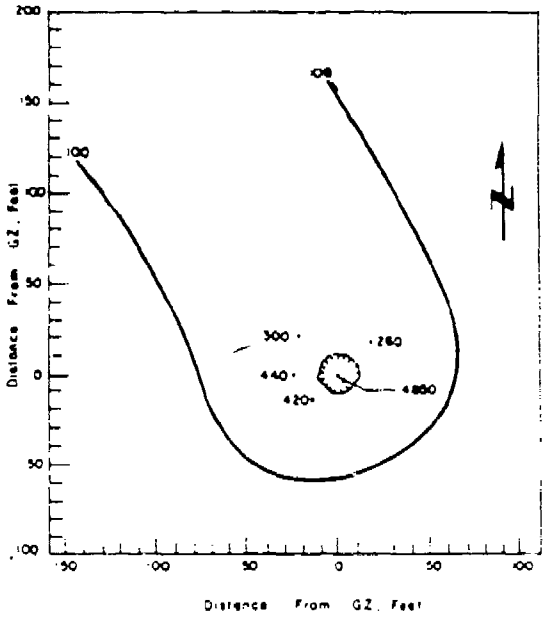


Figure 3.11 Little Feller II ground zero area dose rates in roentgens per hour at H + 1 hour.

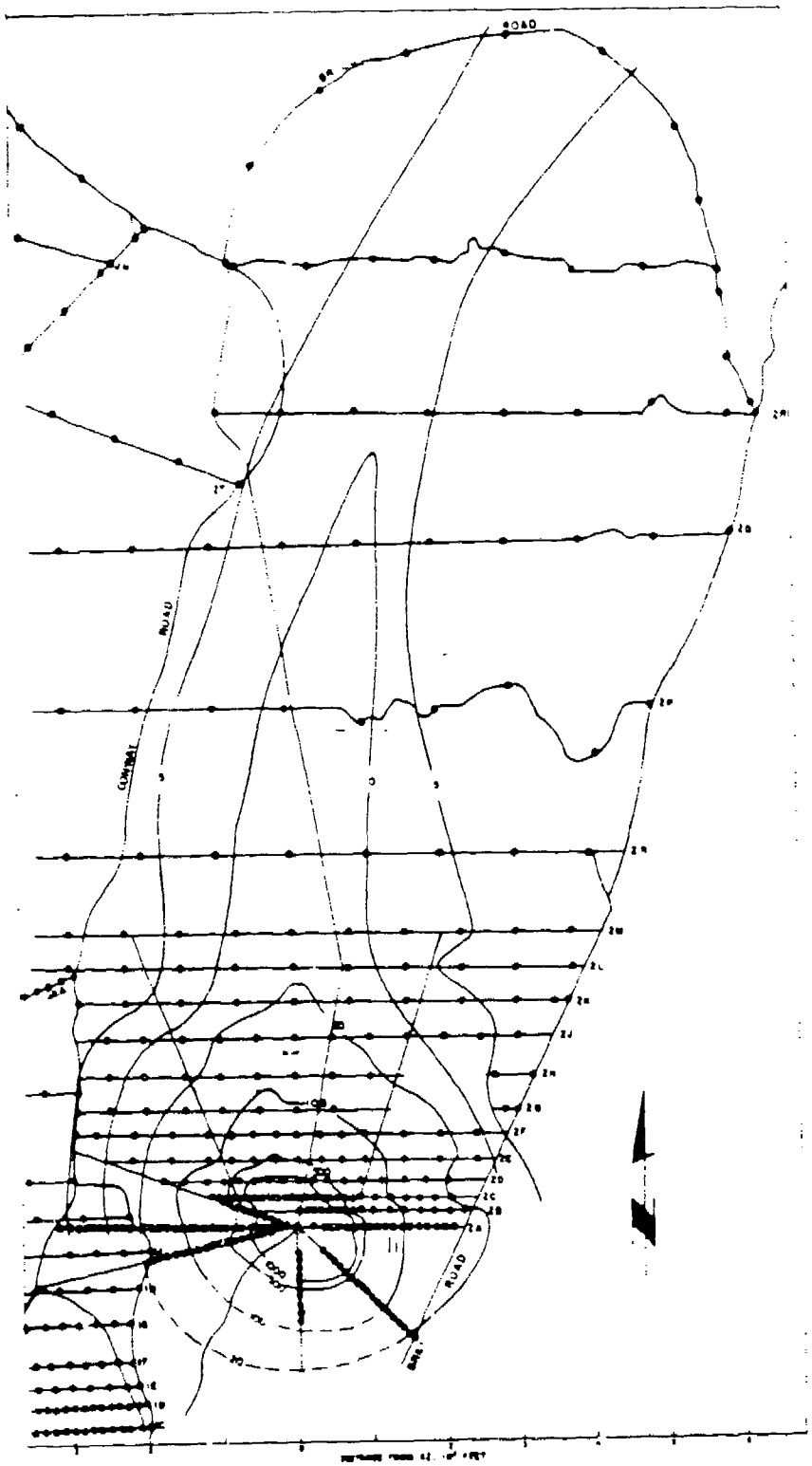


Figure 3.12 Little Feller II 3-day dose contours in roentgens.

Figure 3.13 Johnie Boy cloud formation at H + 25 seconds.

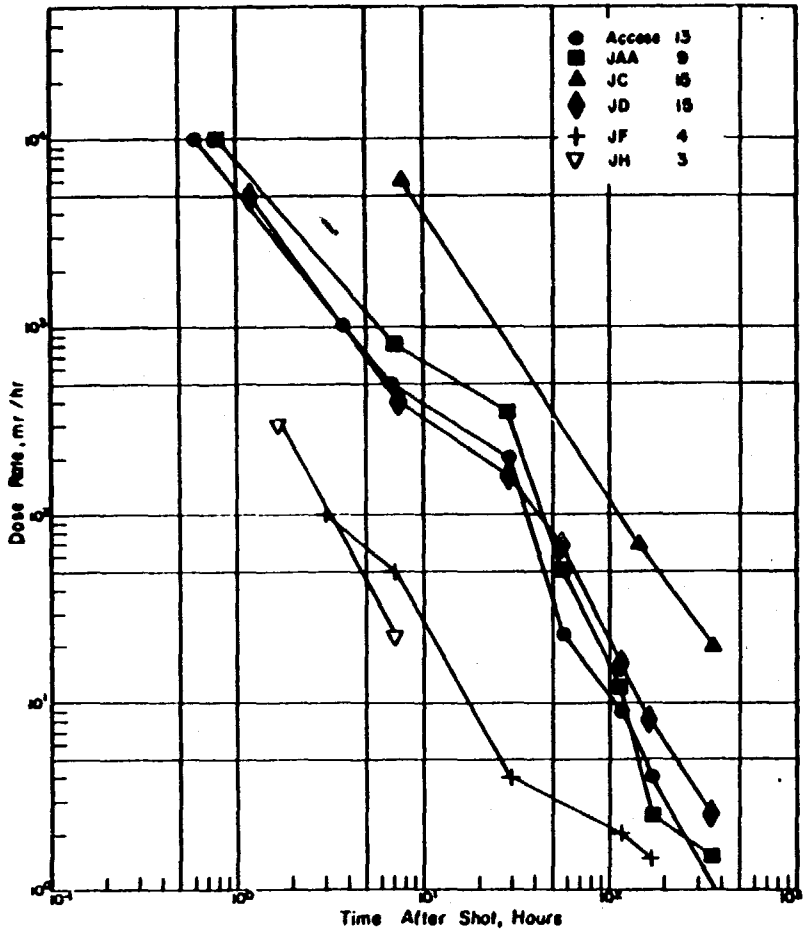


Figure 3.14 Field decay curves for upwind and downwind Johnie Boy stations.

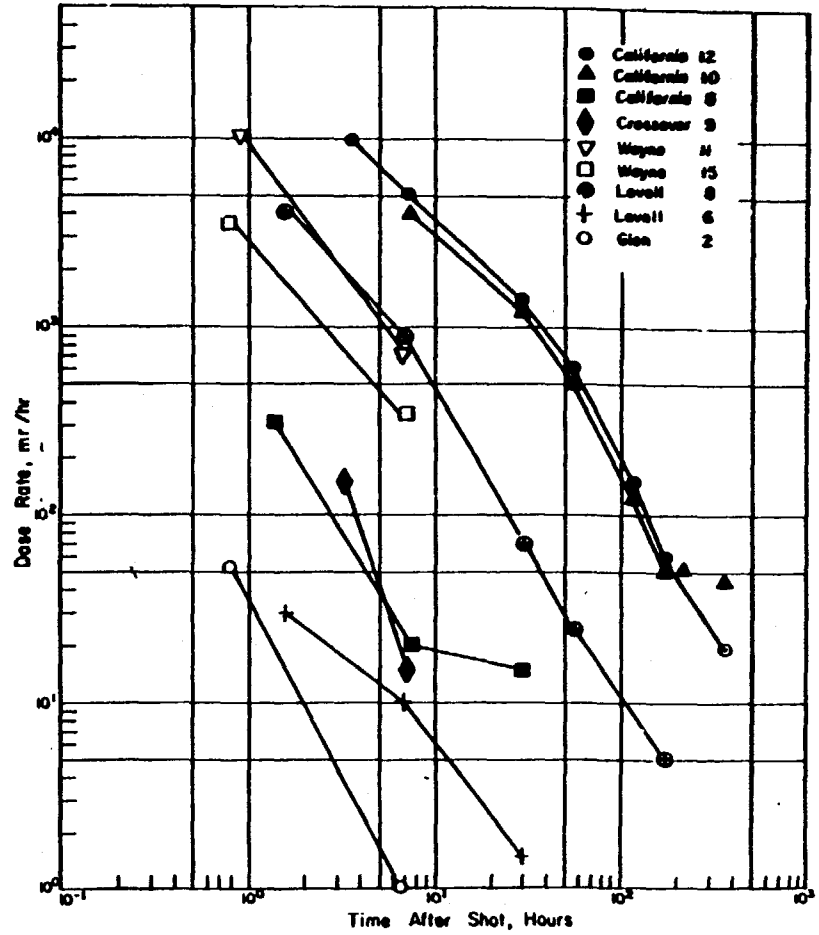
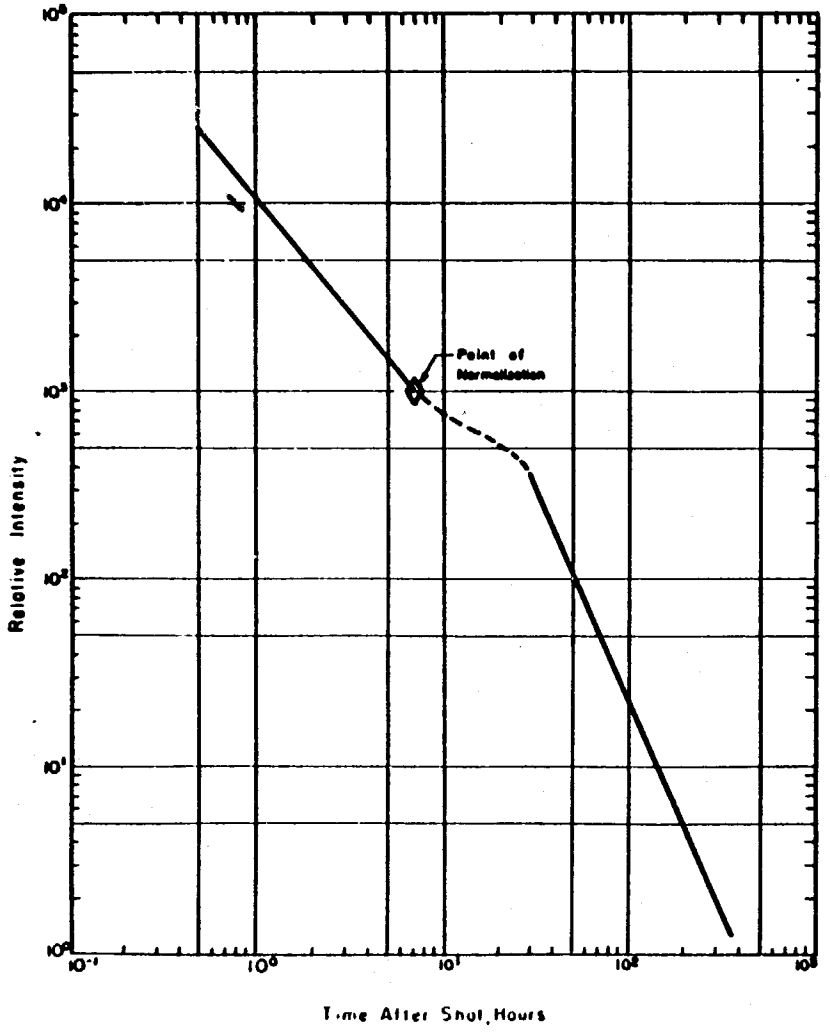


Figure 3.15 Field decay curves for downwind Johnie Boy stations.



[illegible]

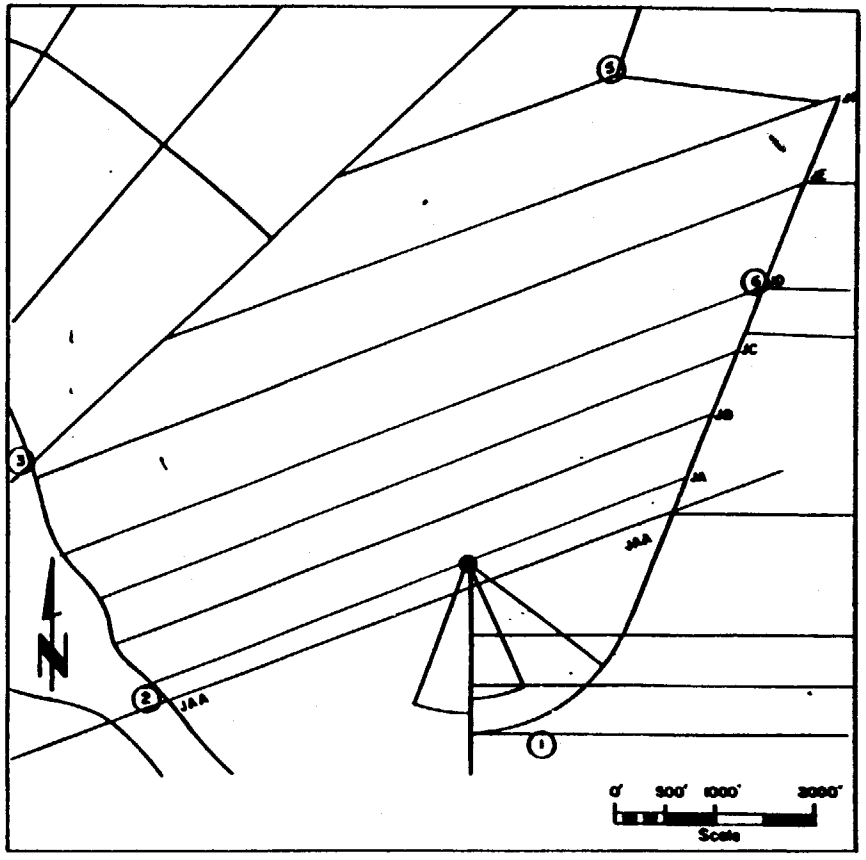


Figure 3.17 Remote monitoring station locations for Johnie Boy.

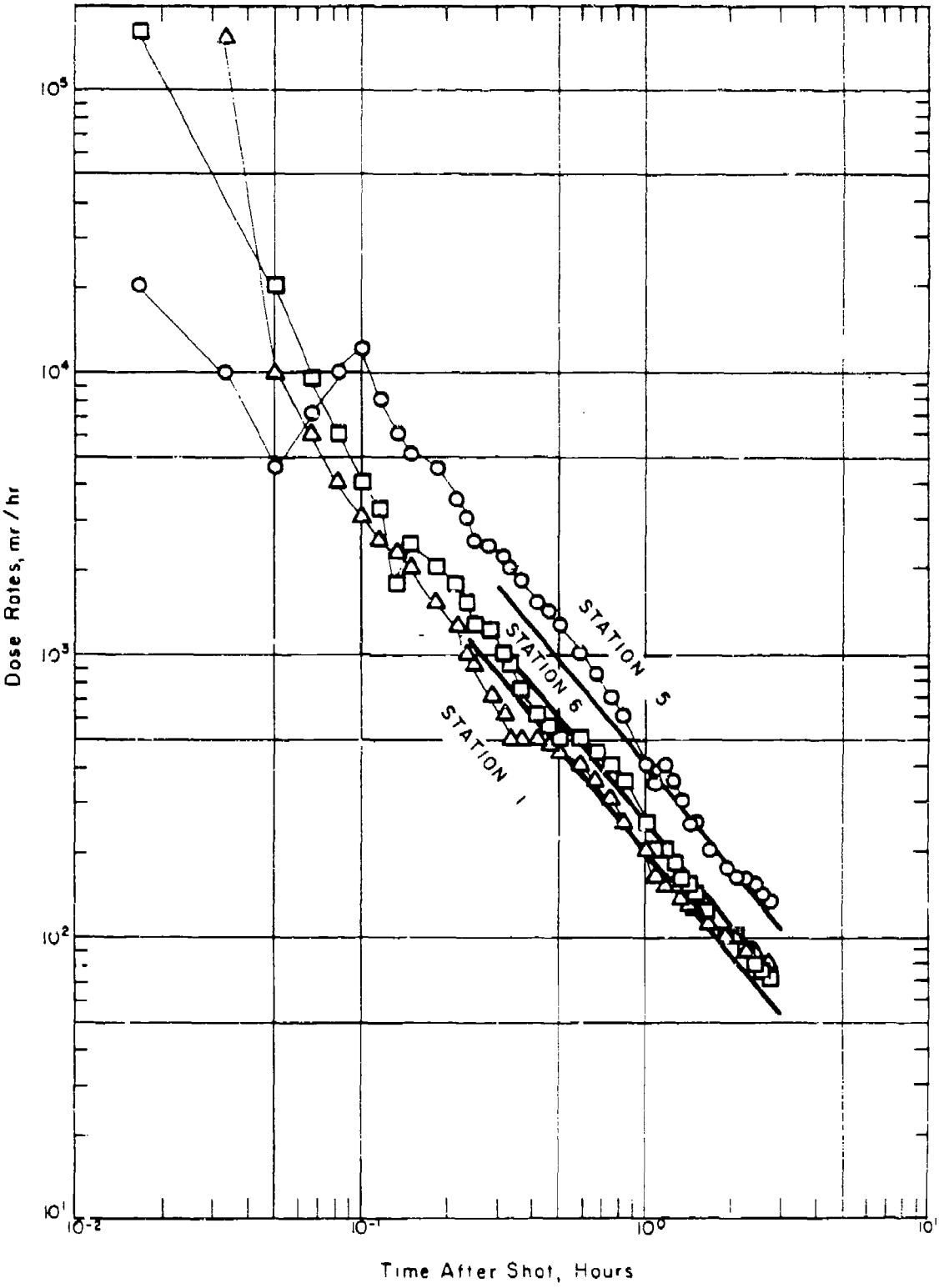


Figure 3.16 Field decay curves for Johnie Boy remote monitoring Stations 1, 5 and 6.

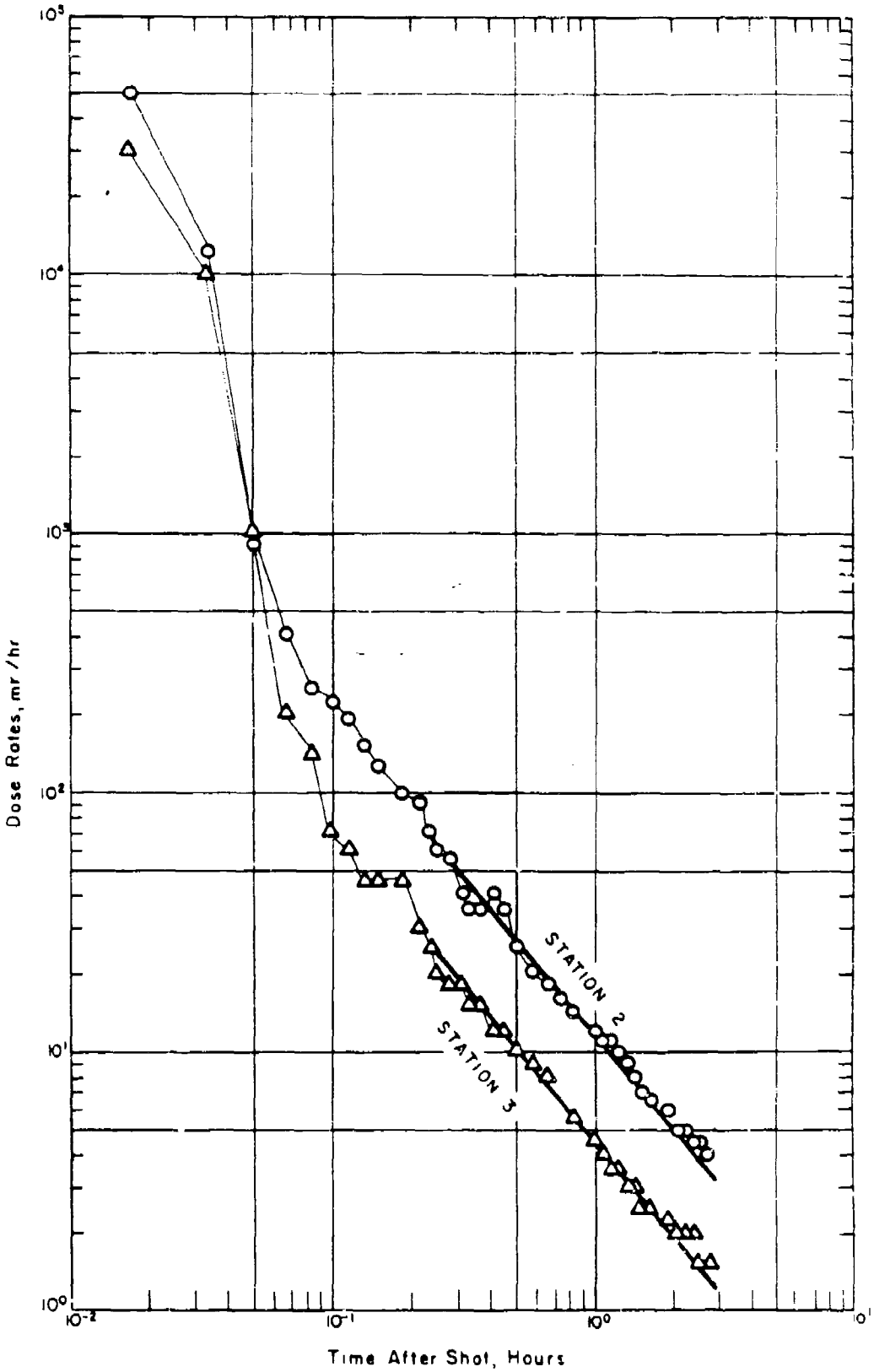


Figure 3.19 Field decay curves for Johnie Boy remote monitoring Stations 2 and 3.

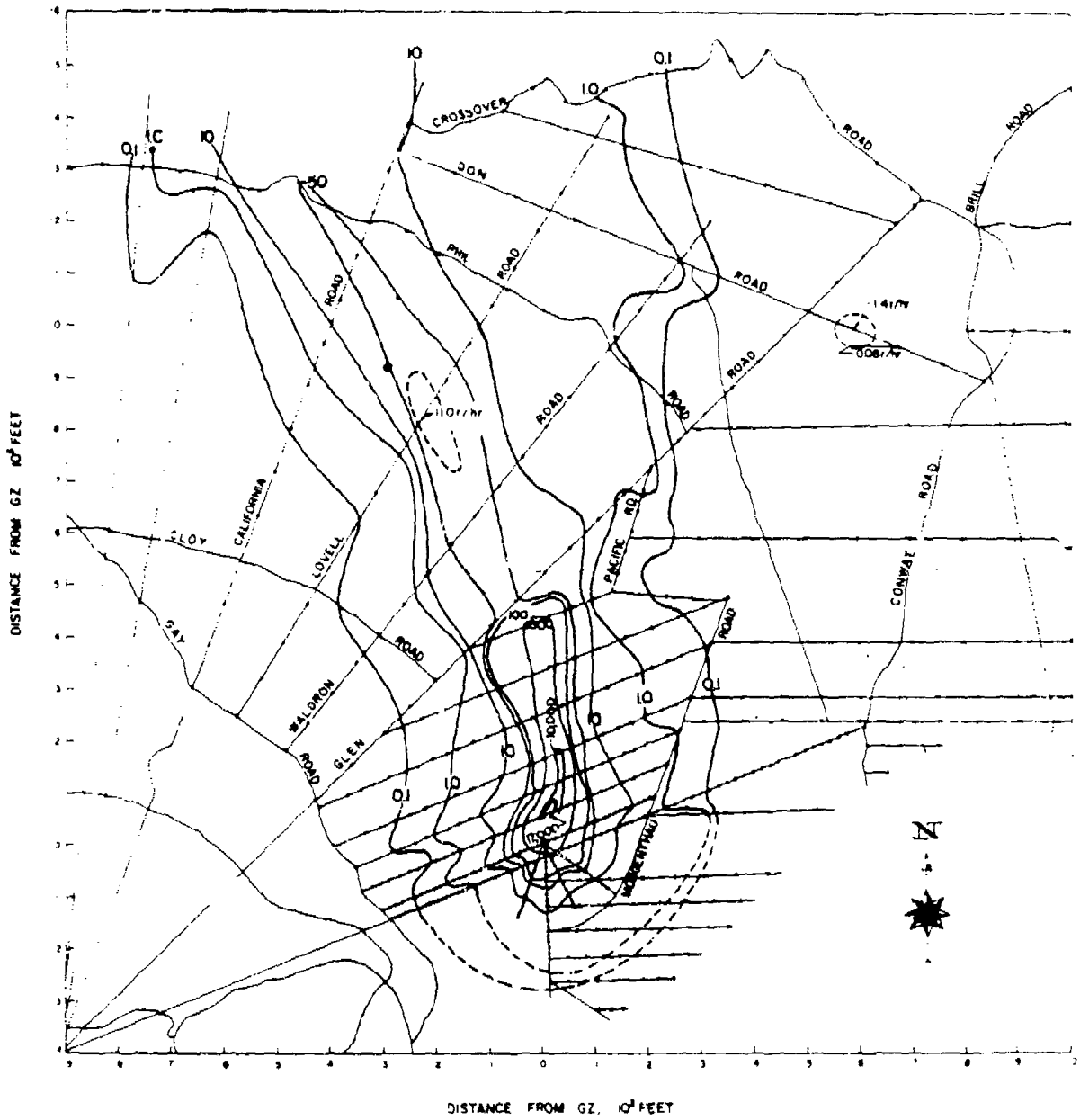


Figure 3.20 Johnie Boy dose-rate contours in roentgens per hour at H +1 hour to 2.5 miles downwind.

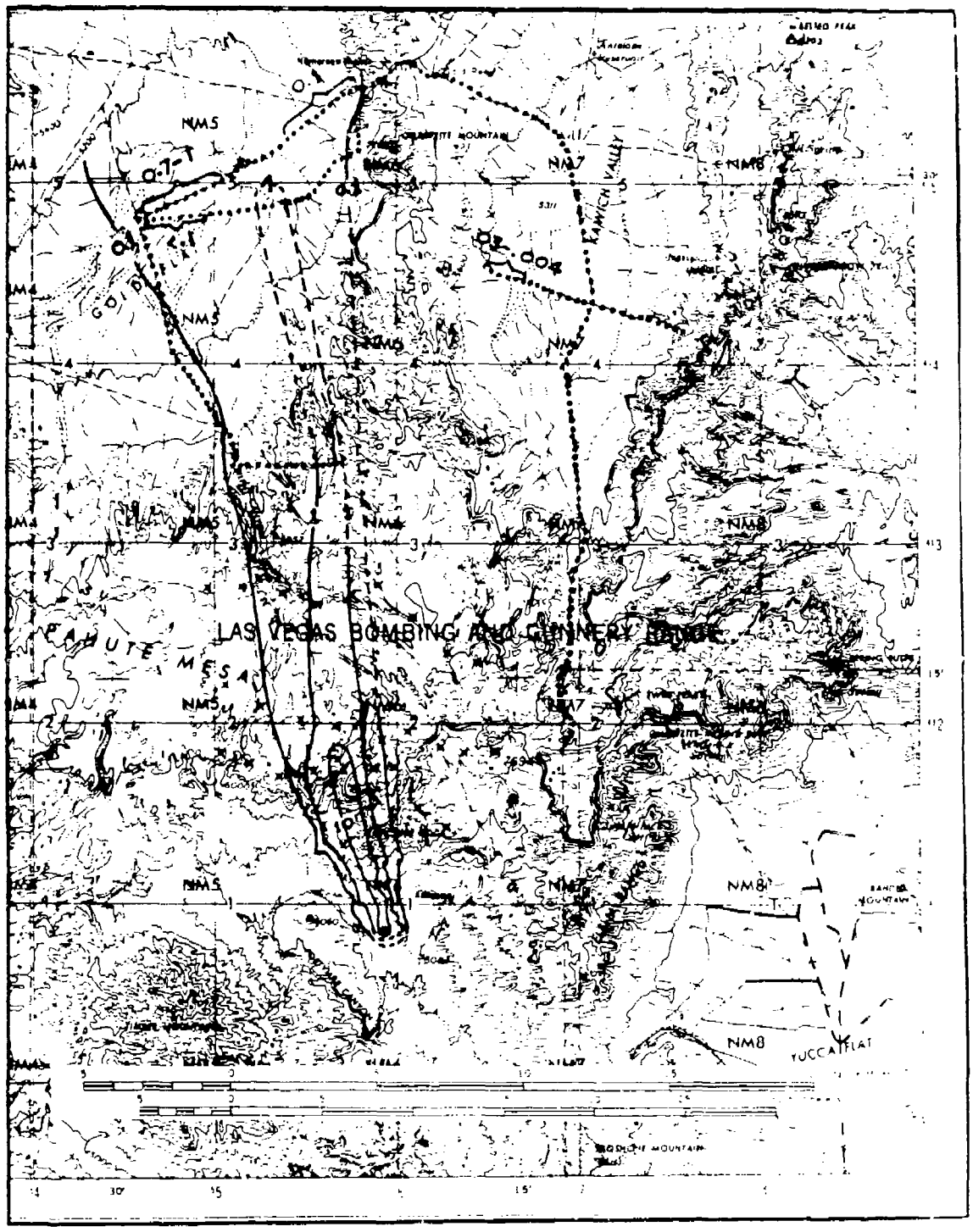


Figure 3.21 Johnie Boy dose-rate contours in roentgens per hour at H + 1 hour to 26 miles downwind from ground zero.

Figure 3.22 Johnie Boy crater and heavy dust deposition.

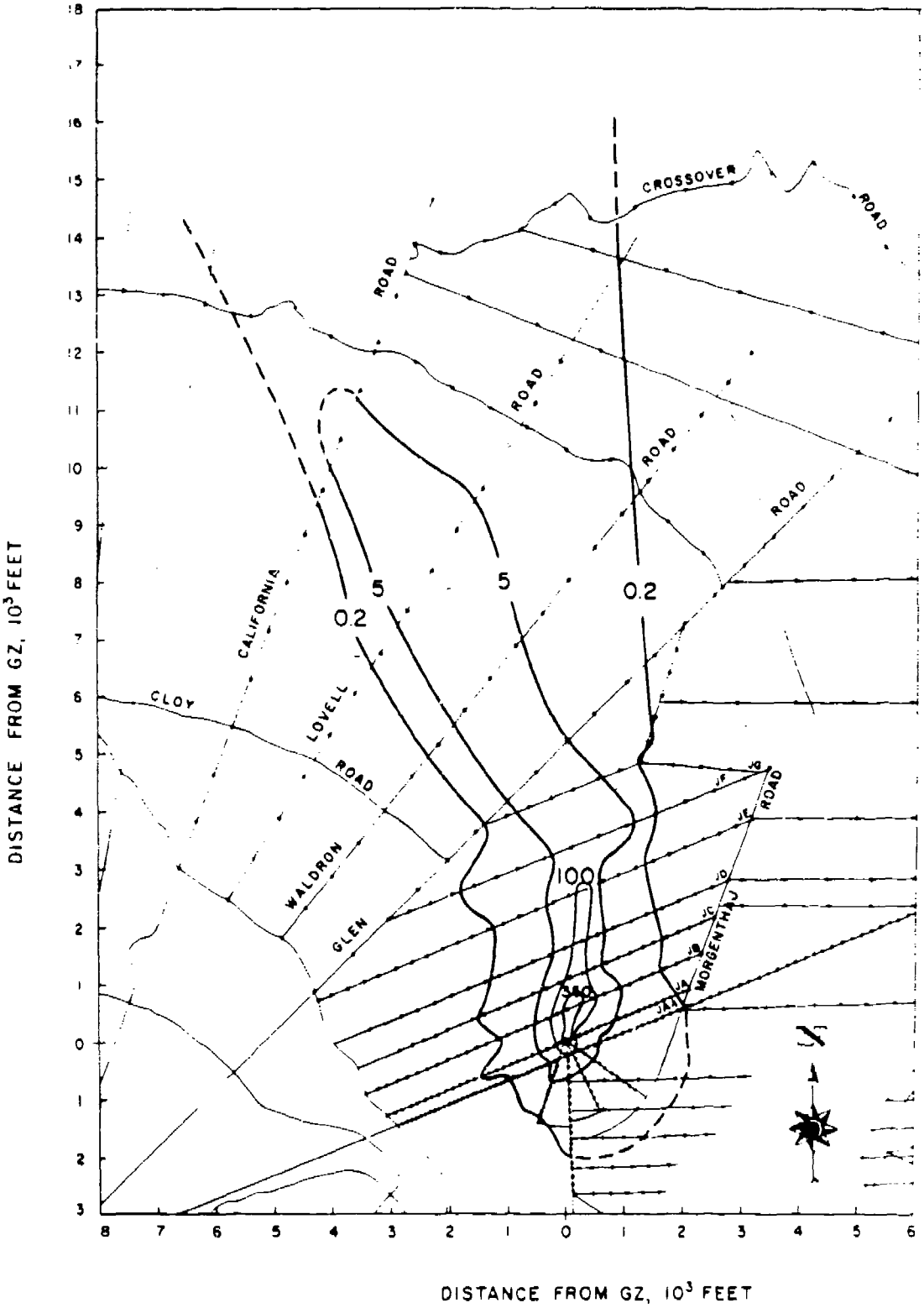


Figure 3.23 Johnie Boy dose-rate contours in milliroentgens per hour at D + 100 days.

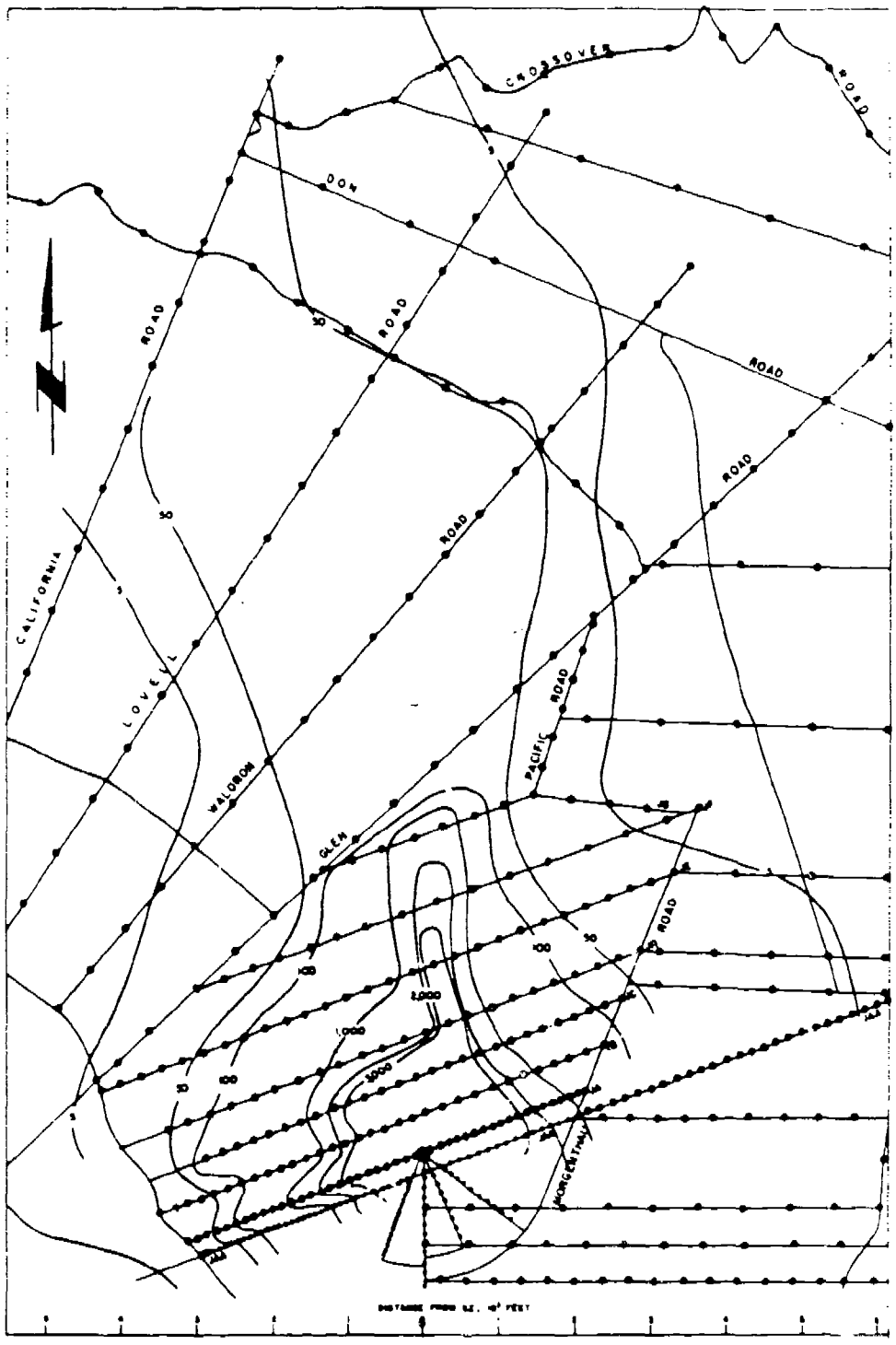


Figure 3.24 Johnie Boy 5-day dose contours in roentgens.

Figure 3.25 Little Feller I cloud formation at H + 30 seconds.

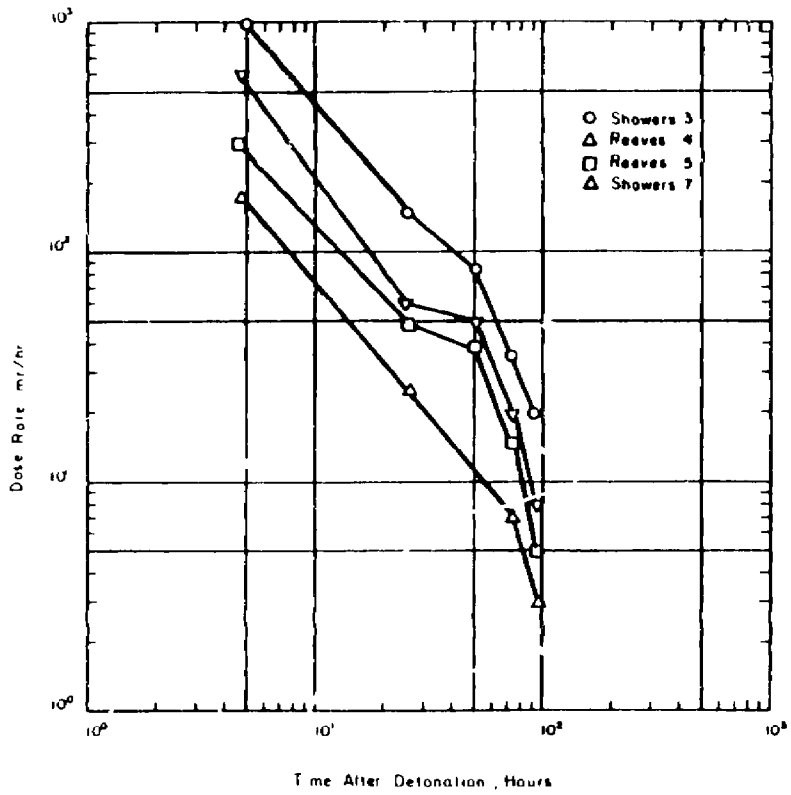


Figure 3.26 Field decay curves for Little Feller I upwind stations

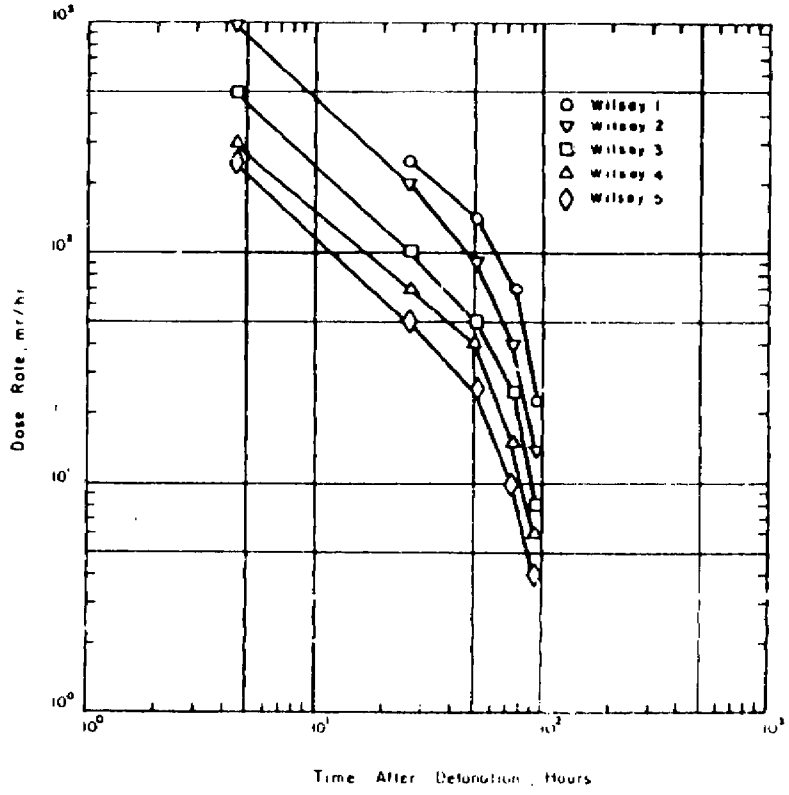


Figure 3.27 Field decay curves for Little Feller I [illegible] stations

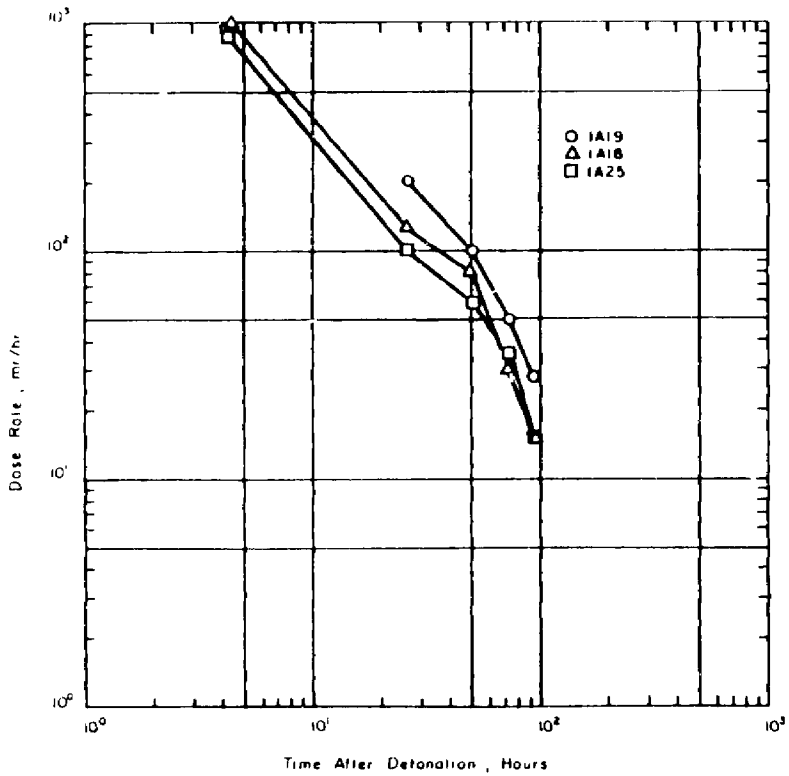


Figure 3.28 Field decay curves for Little Feller I crosswind stations.

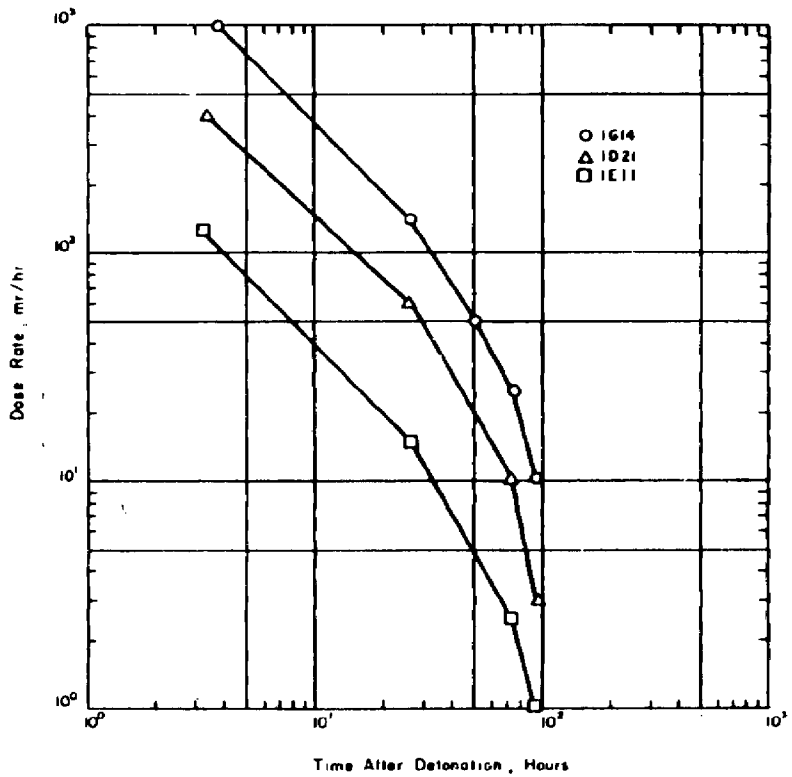


Figure 3.29 Field decay curves for Little Feller I downwind stations

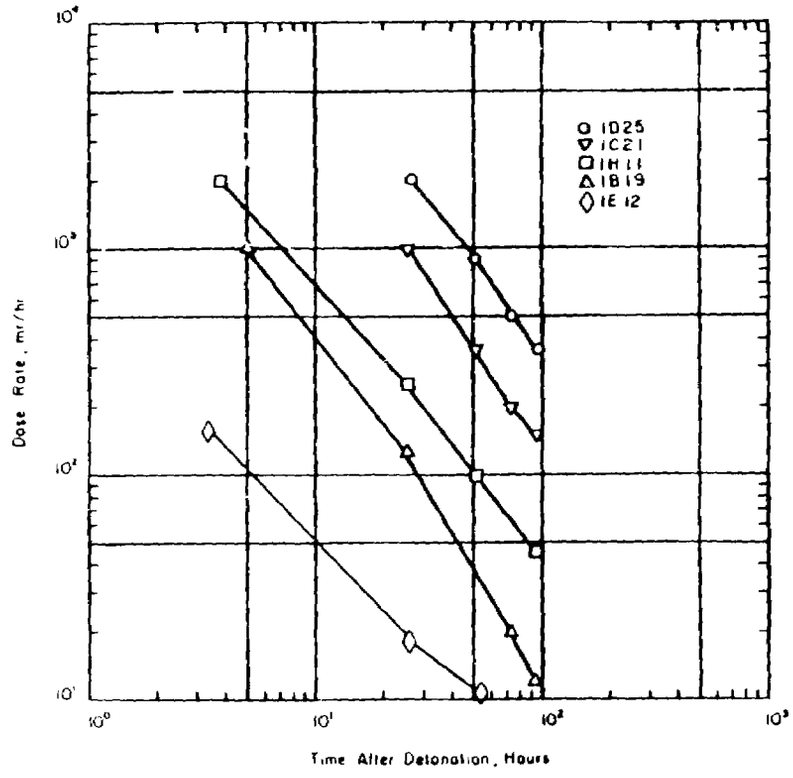


Figure 3.30 Field decay curves for Little Feller I downwind stations.

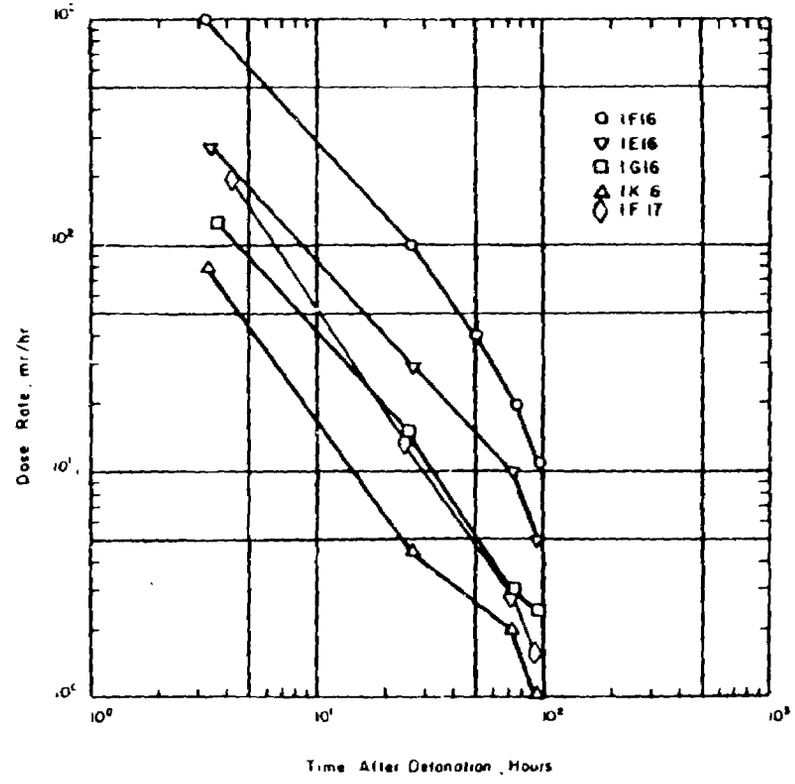


Figure 3.31 Field decay curves for Little Feller I downwind stations

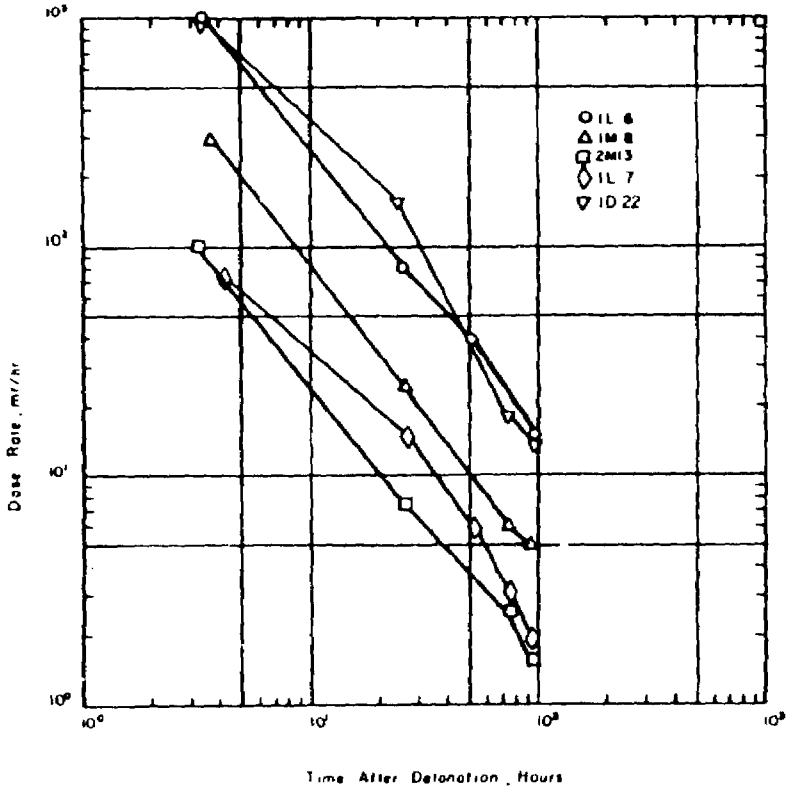


Figure 3.32 Field decay curves for Little Feller I downwind stations

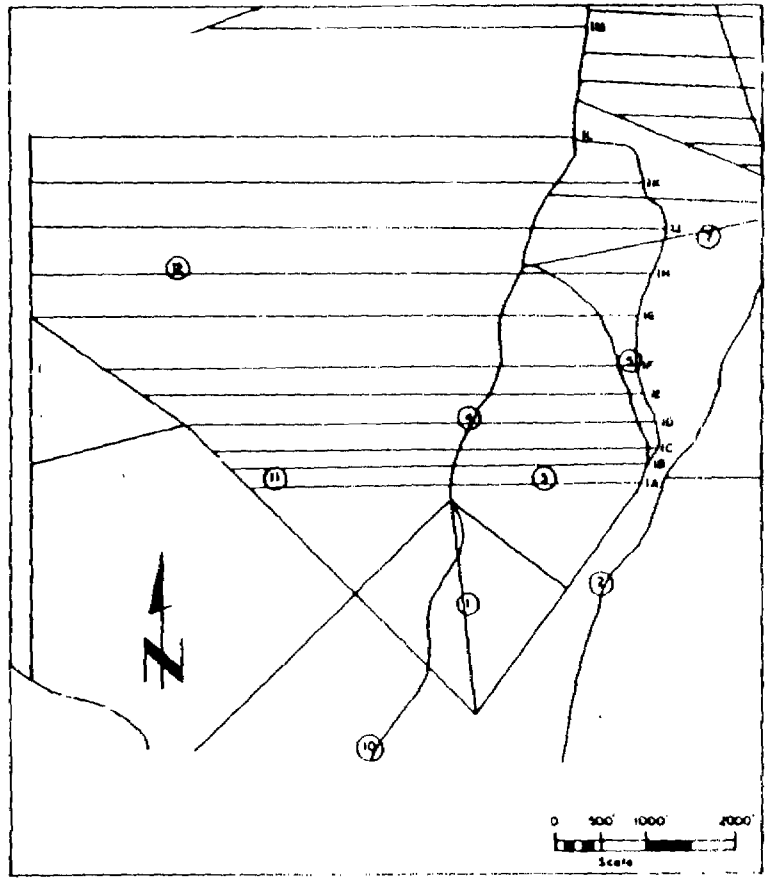


Figure 3.33 Locations of the Little Feller I remote monitoring stations

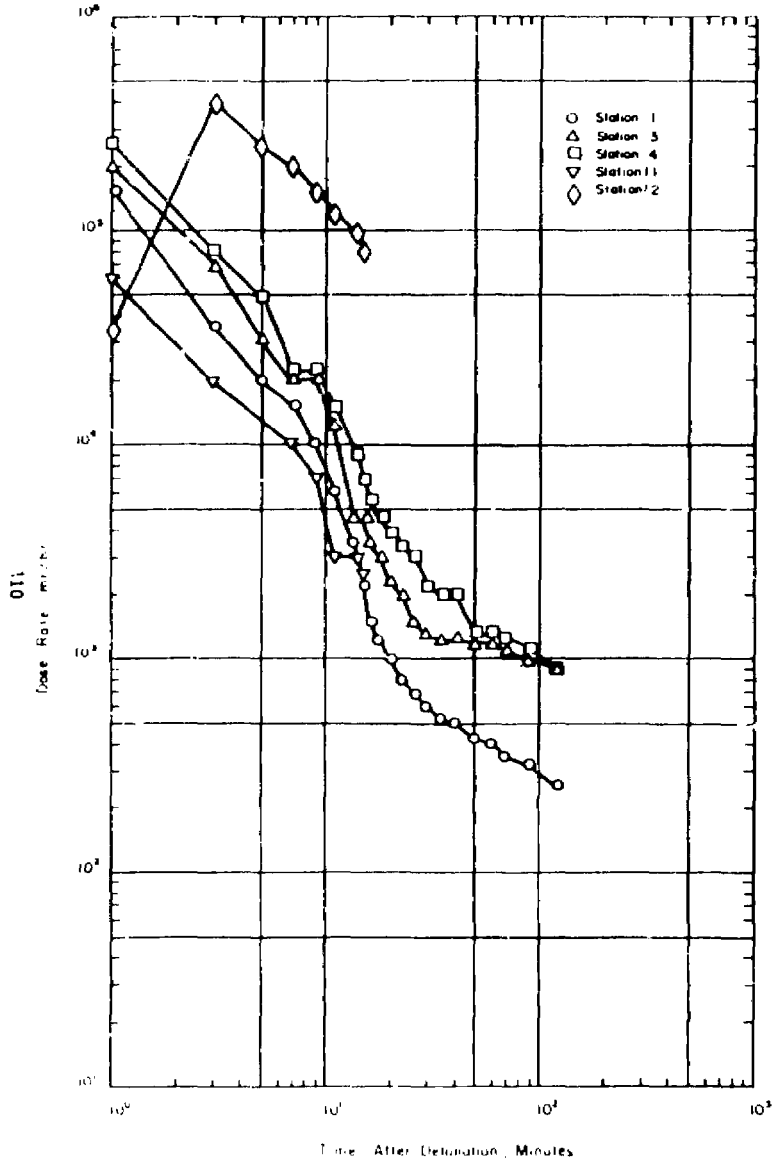


Figure 3.34 Field decay curves for Little Feller I remote monitoring stations

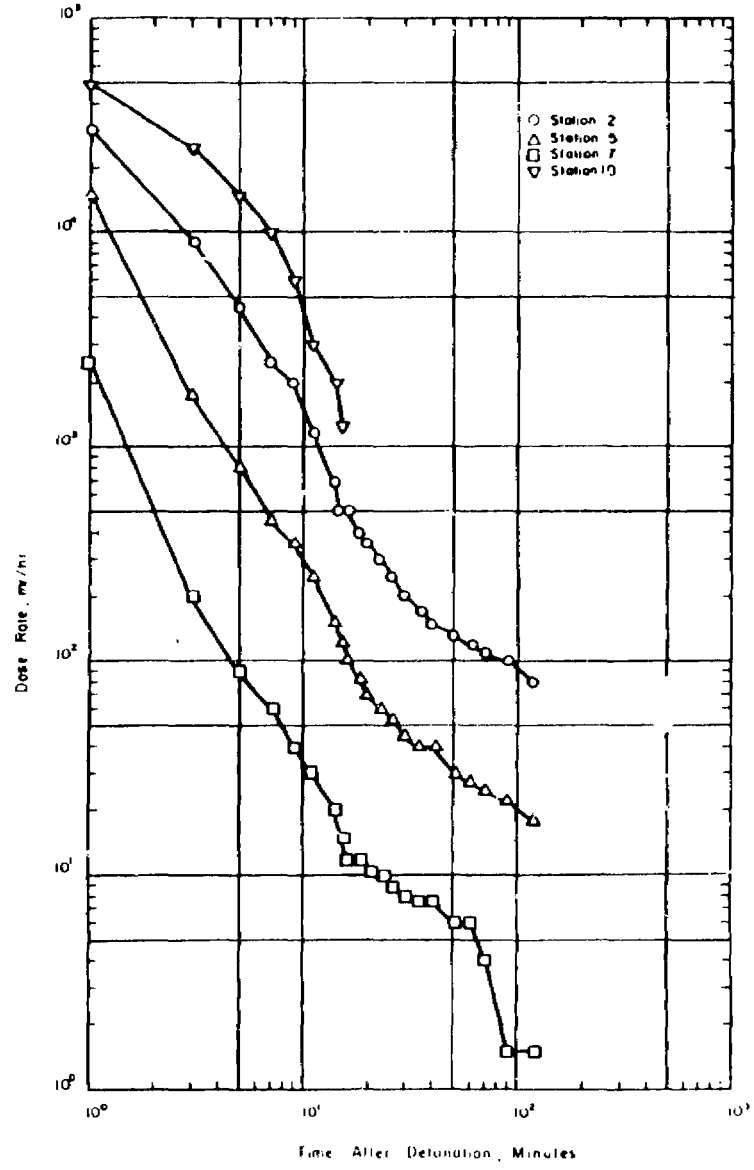


Figure 3.35 Field decay curves for Little Feller I remote monitoring stations

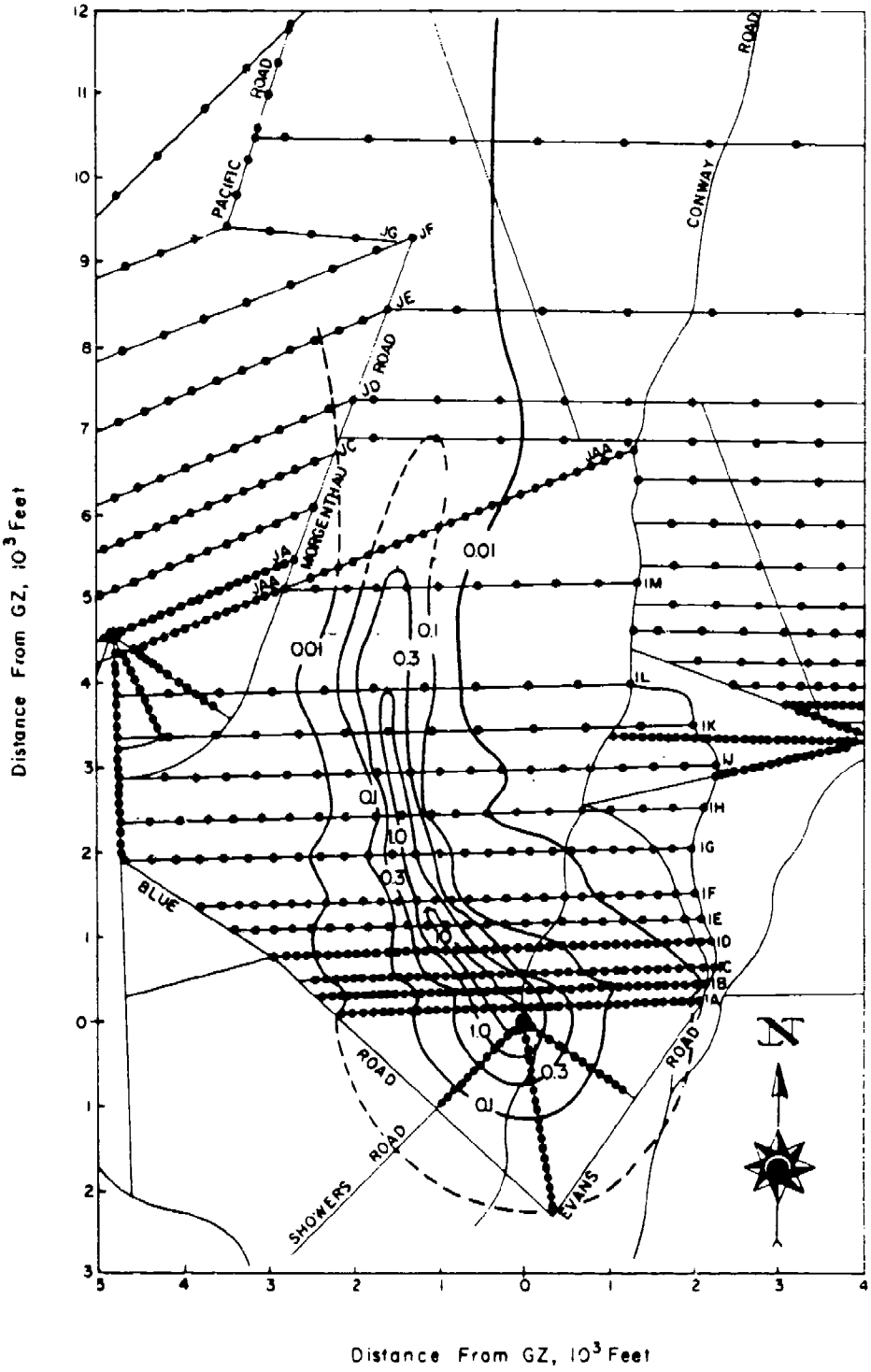


Figure 3.36 Little Feller I dose-rate contours in roentgens per hour at H + 4 hours.

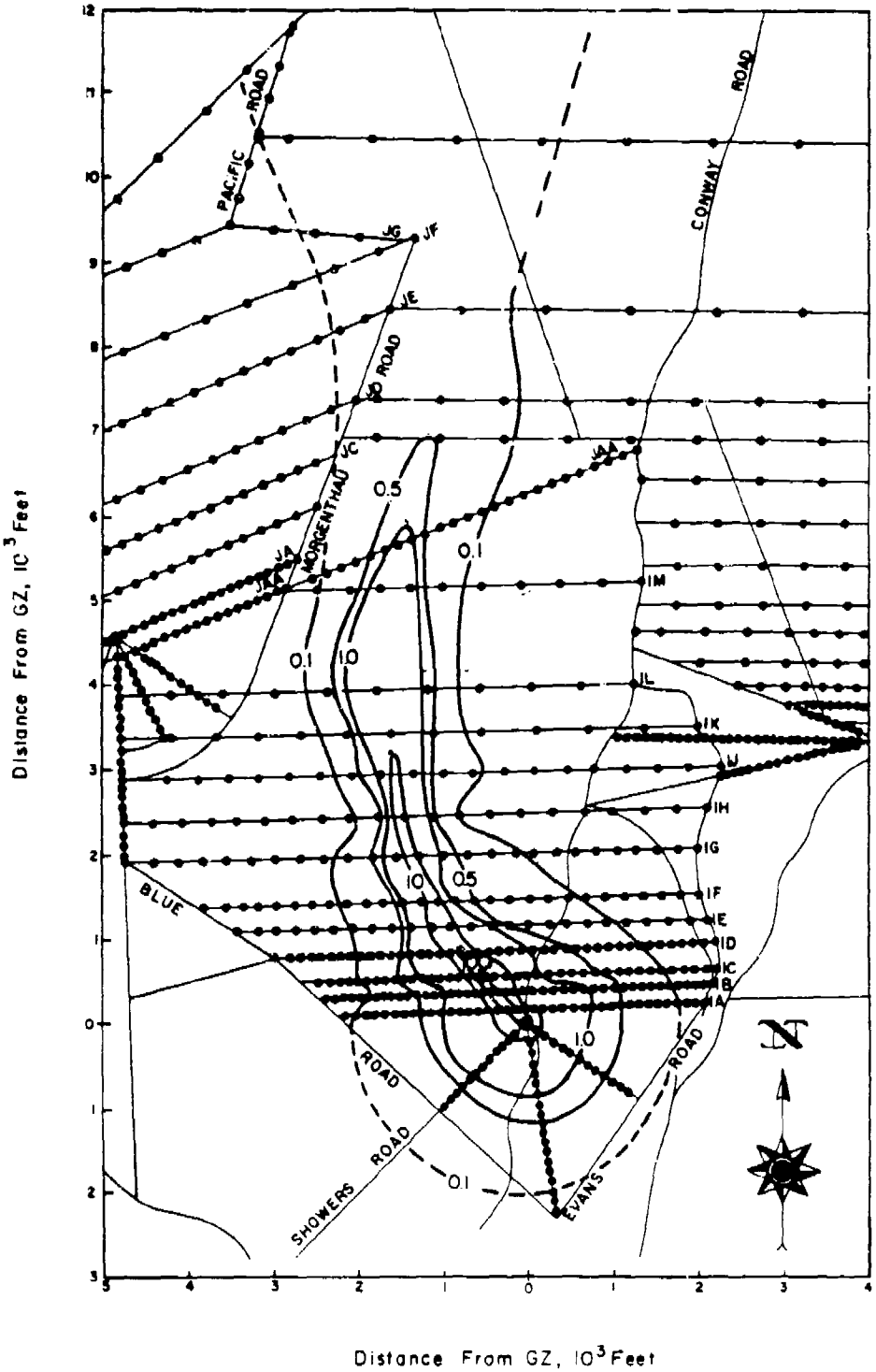


Figure 3.37 Little Feller I dose-rate contours in roentgens per hour at H+1 hour.

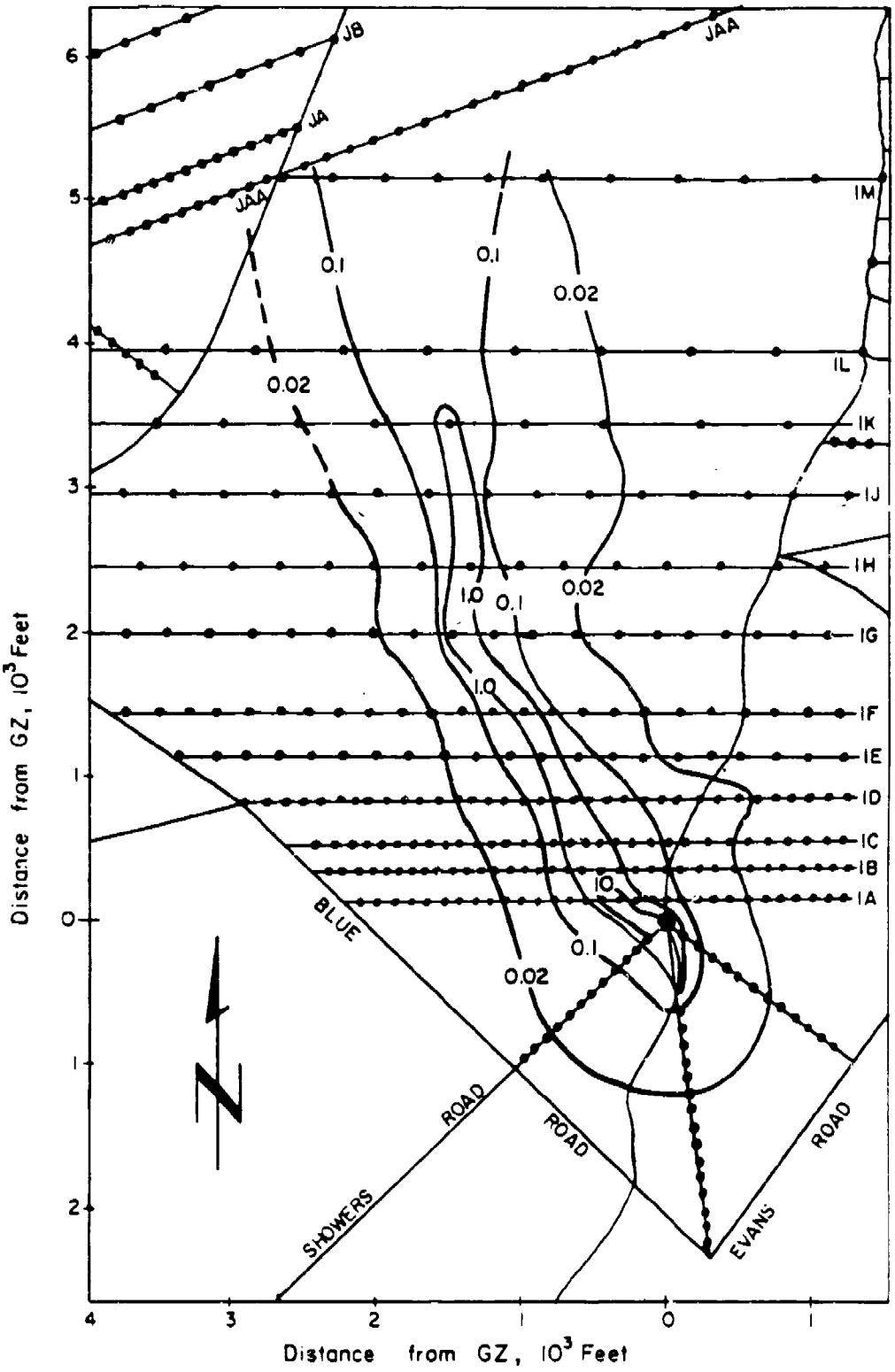


Figure 3.38 Little Feller I dose-rate contours in milliroentgens per hour at D + 98 days.

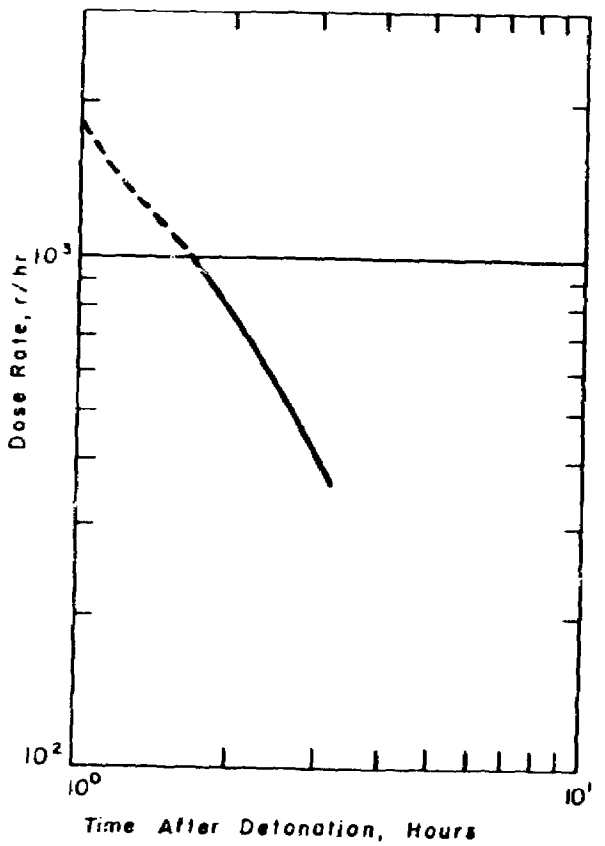


Figure 3.39 Gamma dose-rate decay curve near the Little Feller I crater.

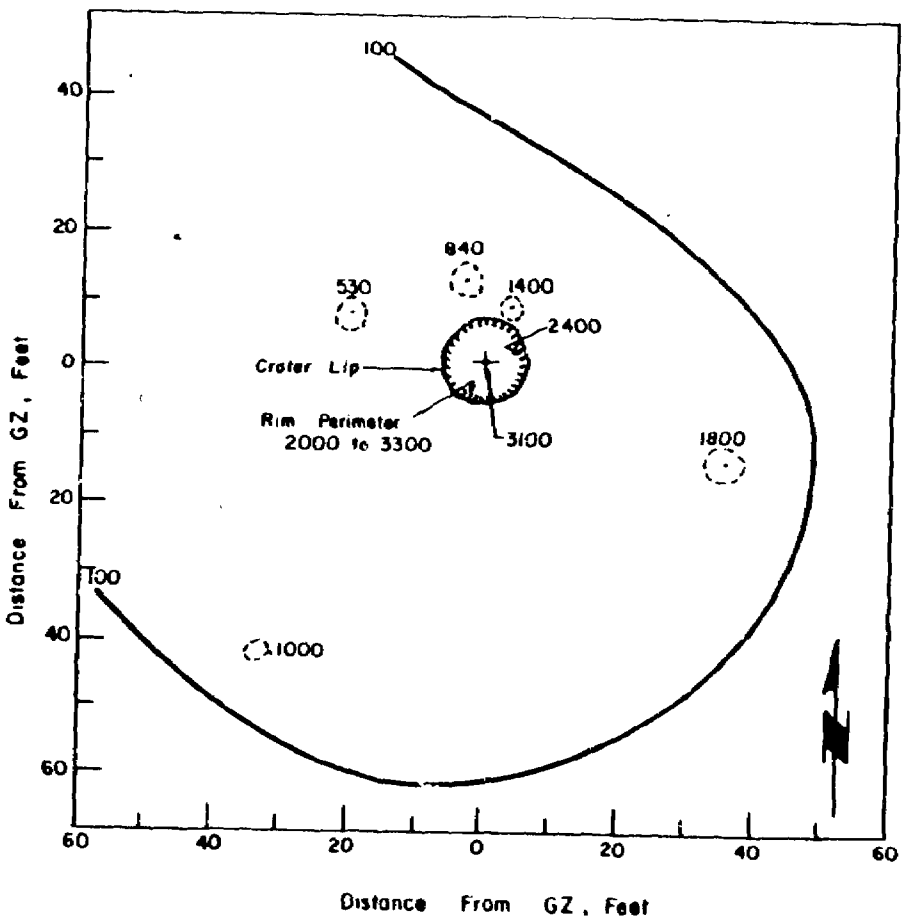


Figure 3.40 Little Feller I ground zero area dose rates in roentgens per hour at H + 1 hour.

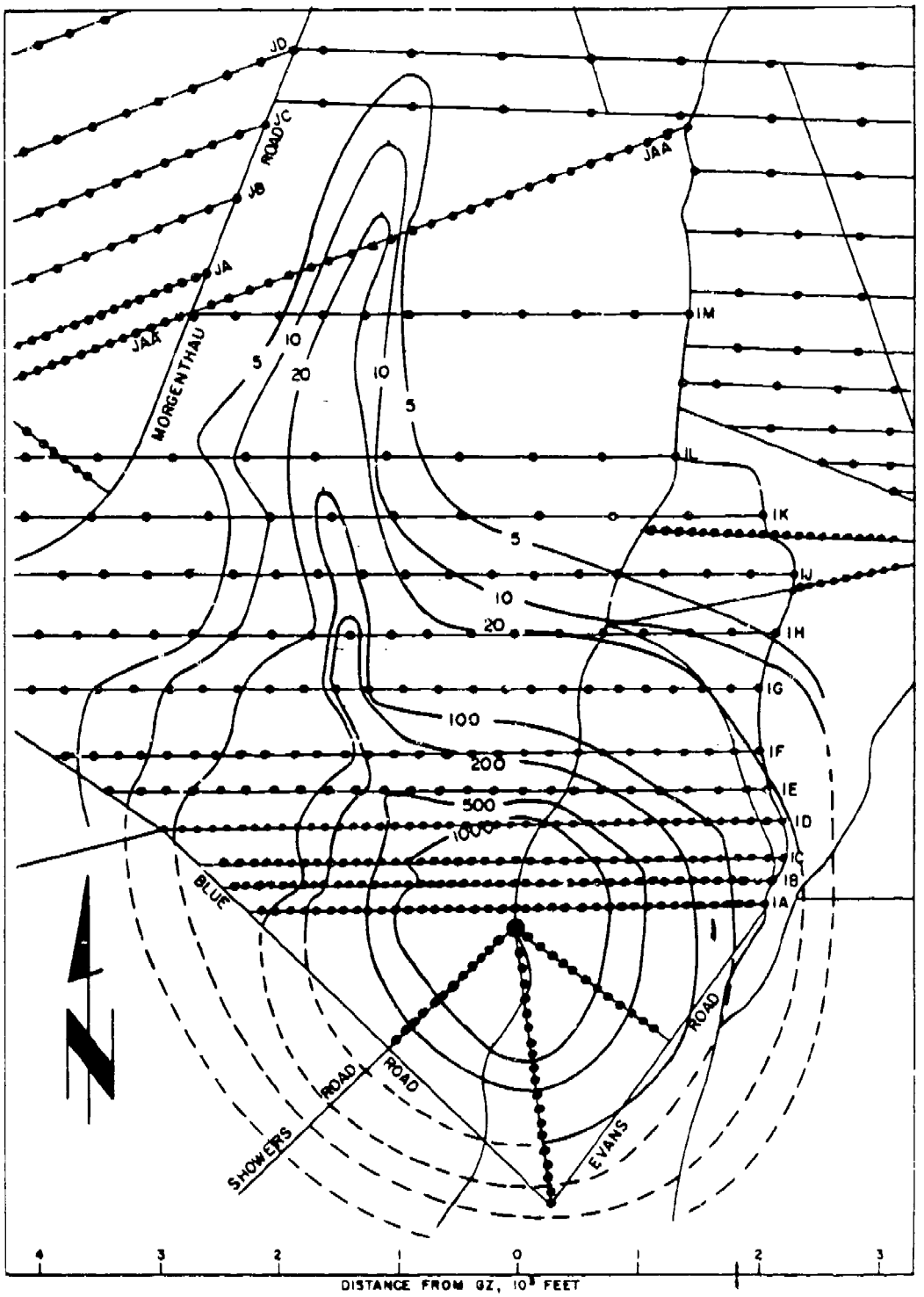


Figure 3.41 Little Feller I 3-day gamma dose contours in roentgens.

Figure 3.42 Small Boy cloud formation at H + 20 seconds

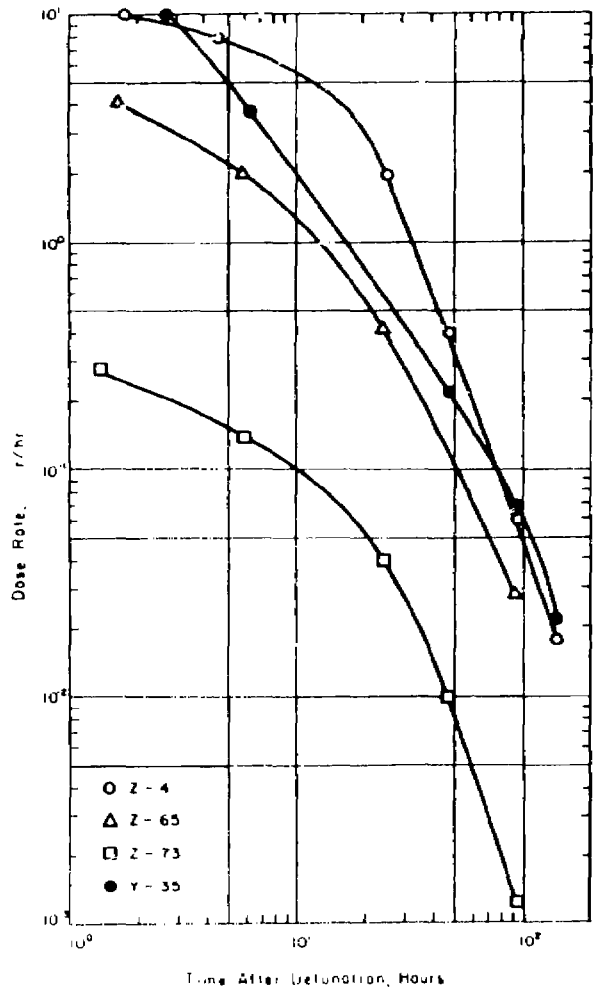


Figure 3.43 Small Boy field decay curves for upwind and crosswind stations

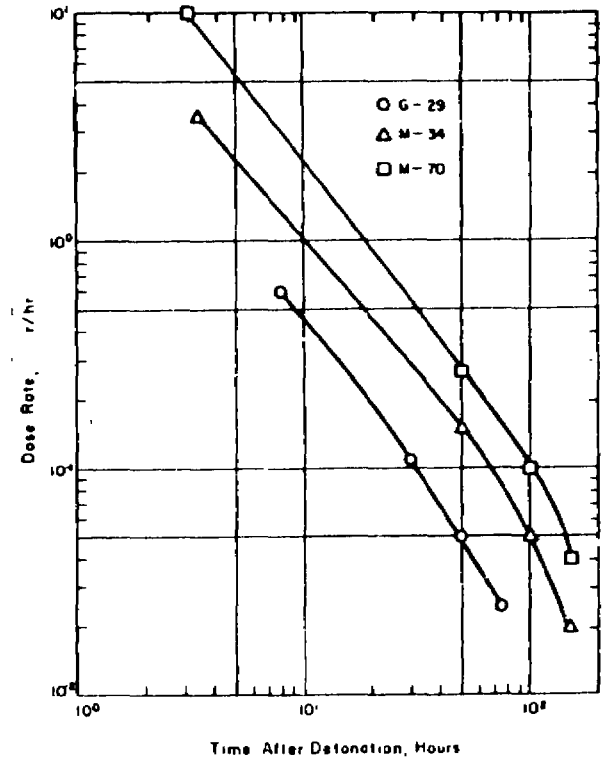


Figure 3.44 Small Boy field decay curves for downwind stations

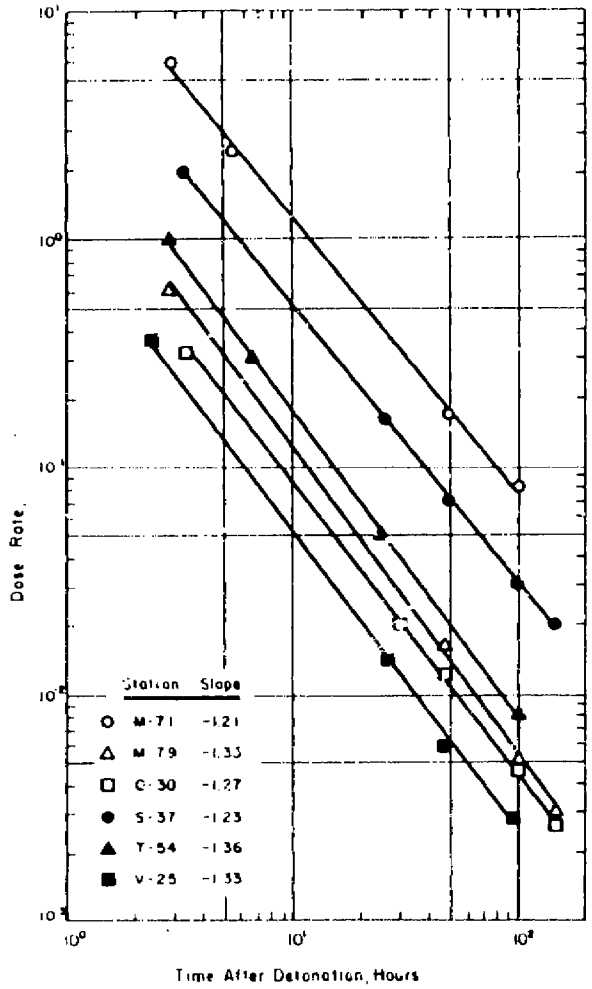


Figure 3.45 Small Boy field decay curves for downwind stations.

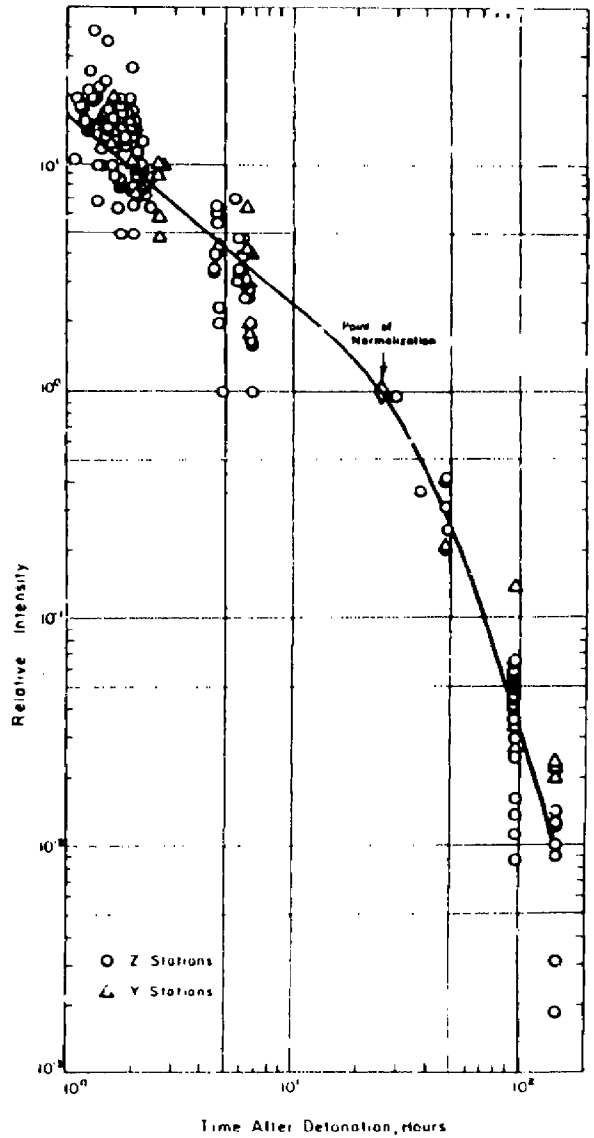


Figure 3.46 Composite field decay curve for Small Boy upwind and crosswind stations.

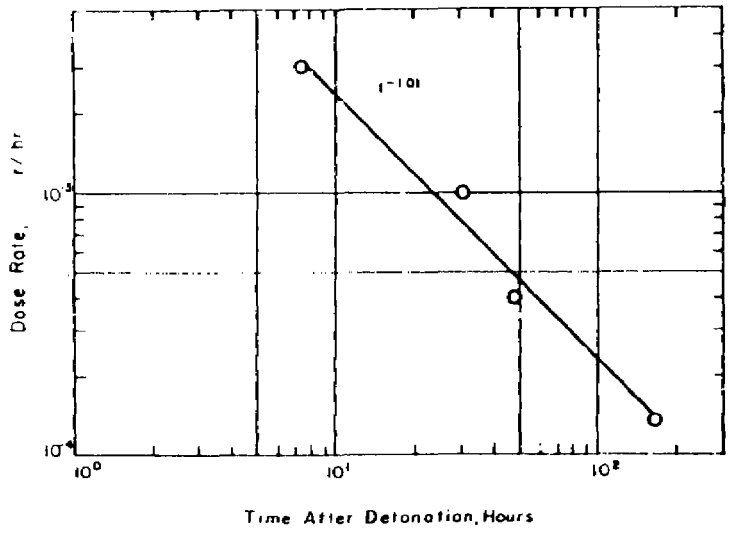


Figure 3.47 Field decay curve for an Indian Springs Valley station for Small Boy

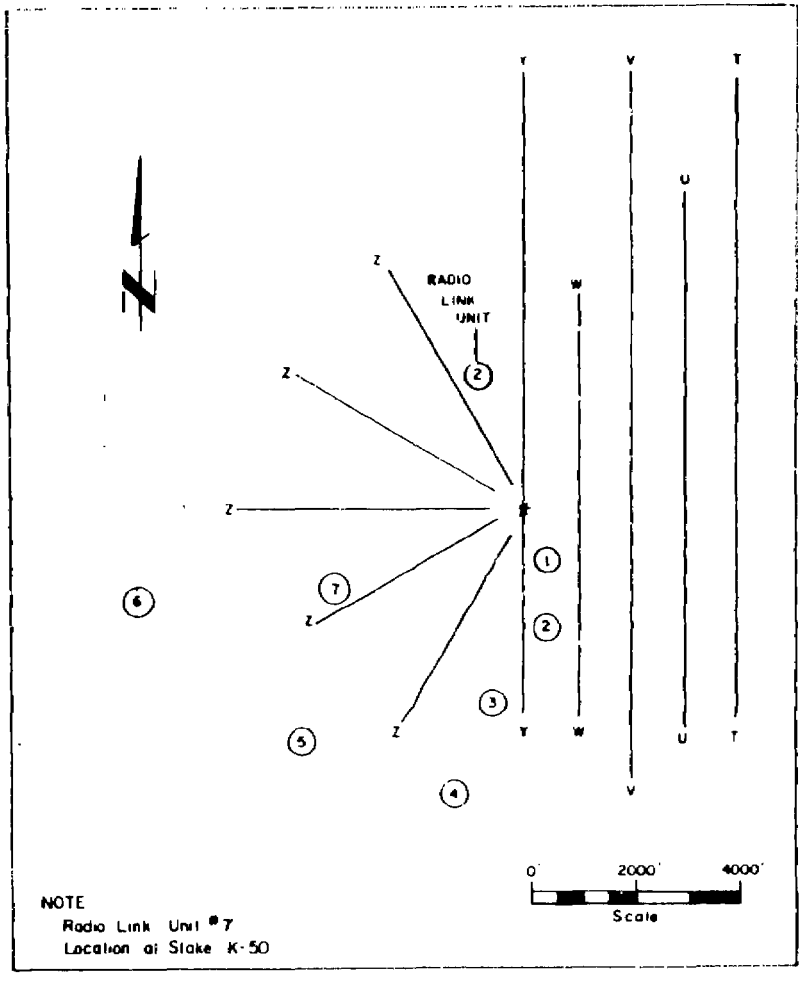


Figure 3.48 Locations of Small Boy remote monitoring stations.

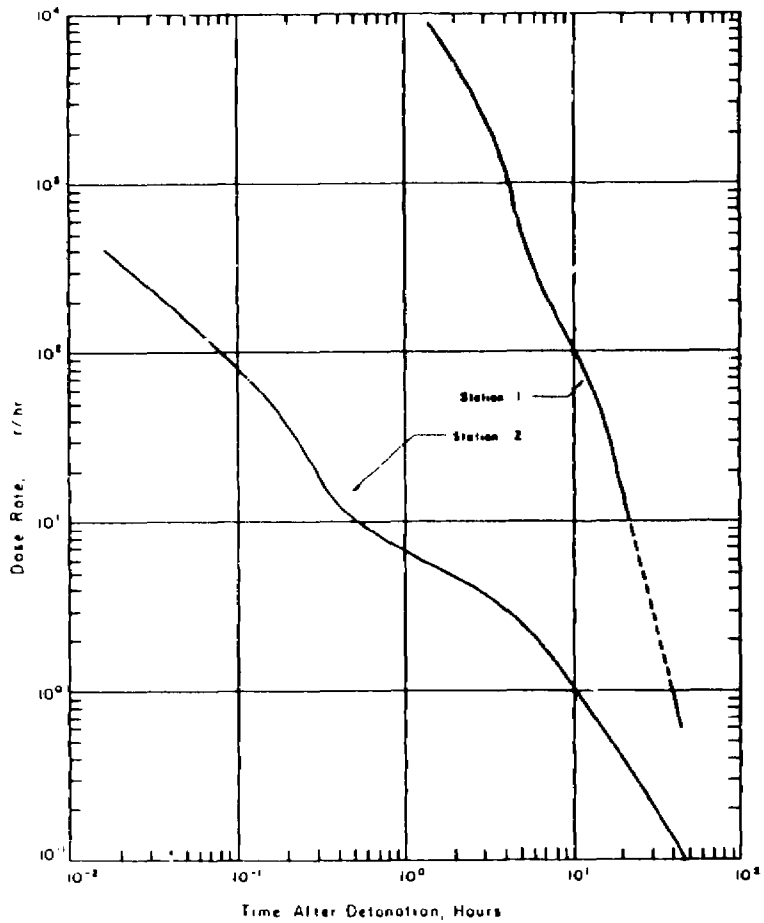


Figure 3.49 Small Boy field gamma decay curves for REECo Radiological Safety Stations 1 and 2.

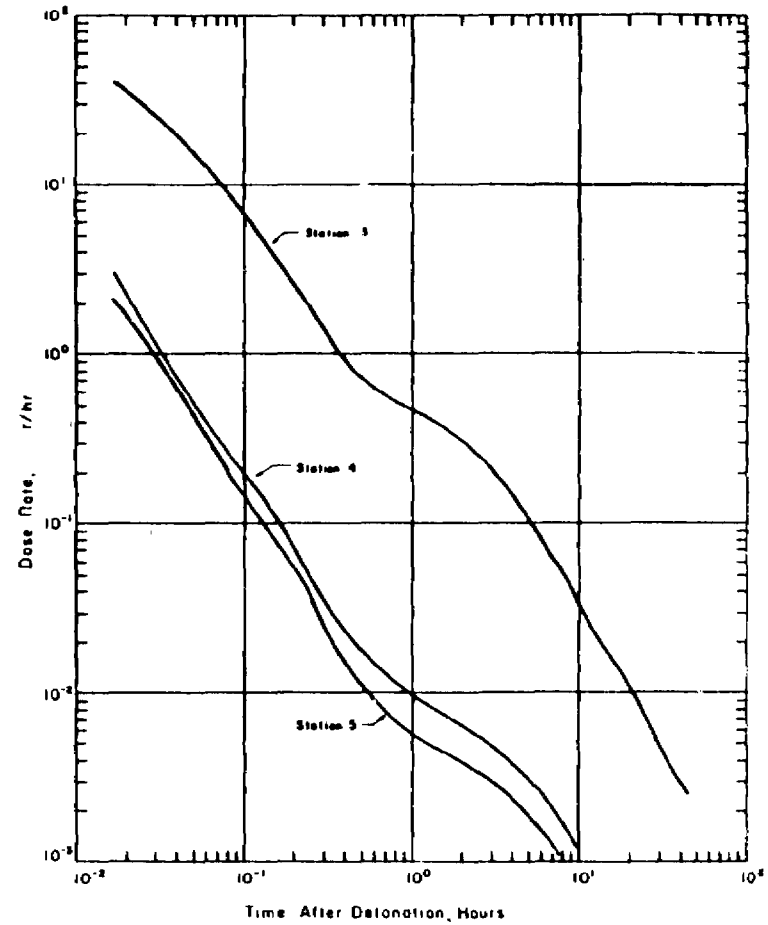


Figure 3.50 Small Boy field decay curves for REECo Radiological Safety Stations 3, 4, and 5.

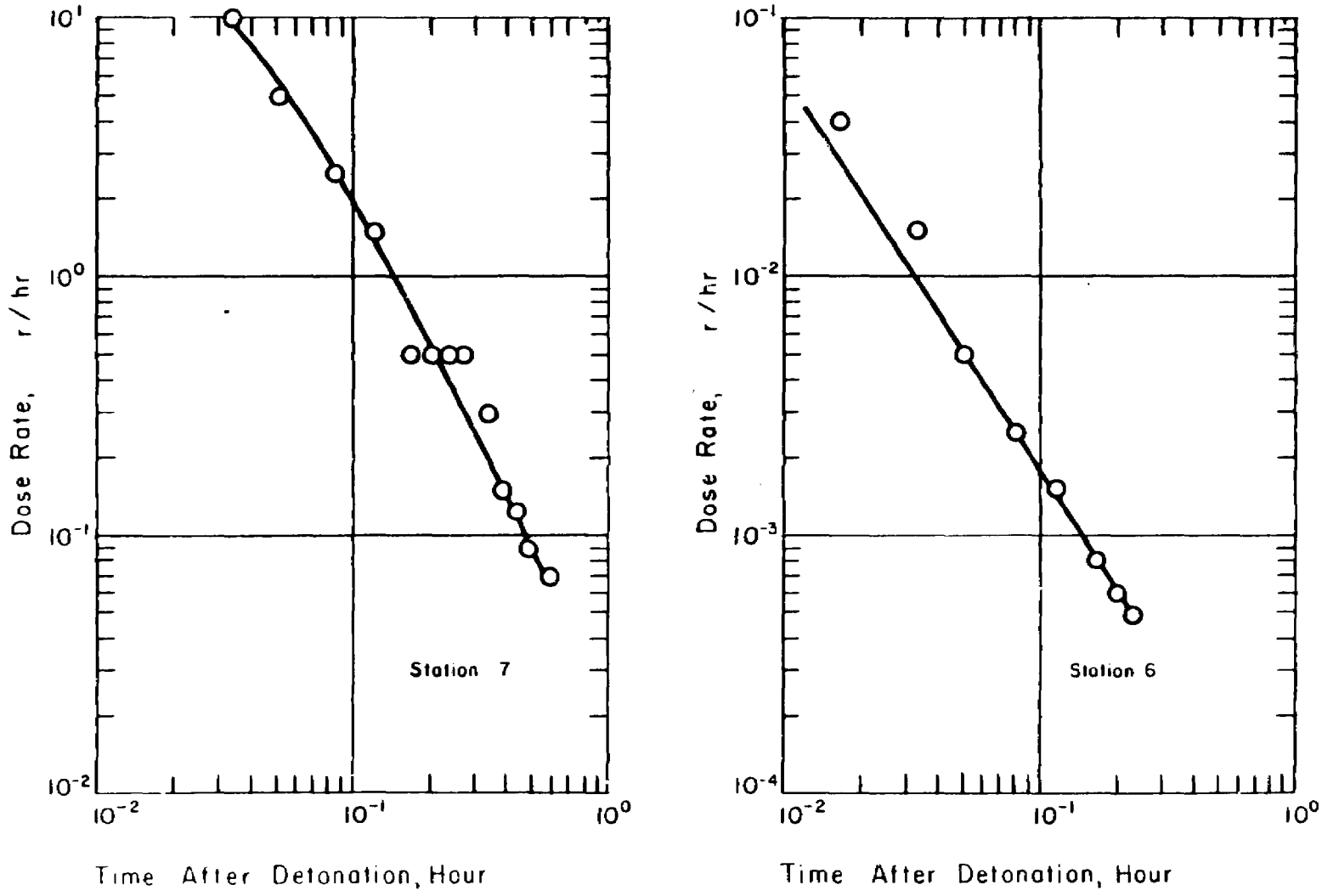


Figure 3.51 Small Boy field gamma decay curves for REECo Radiological Safety Stations 6 and 7.

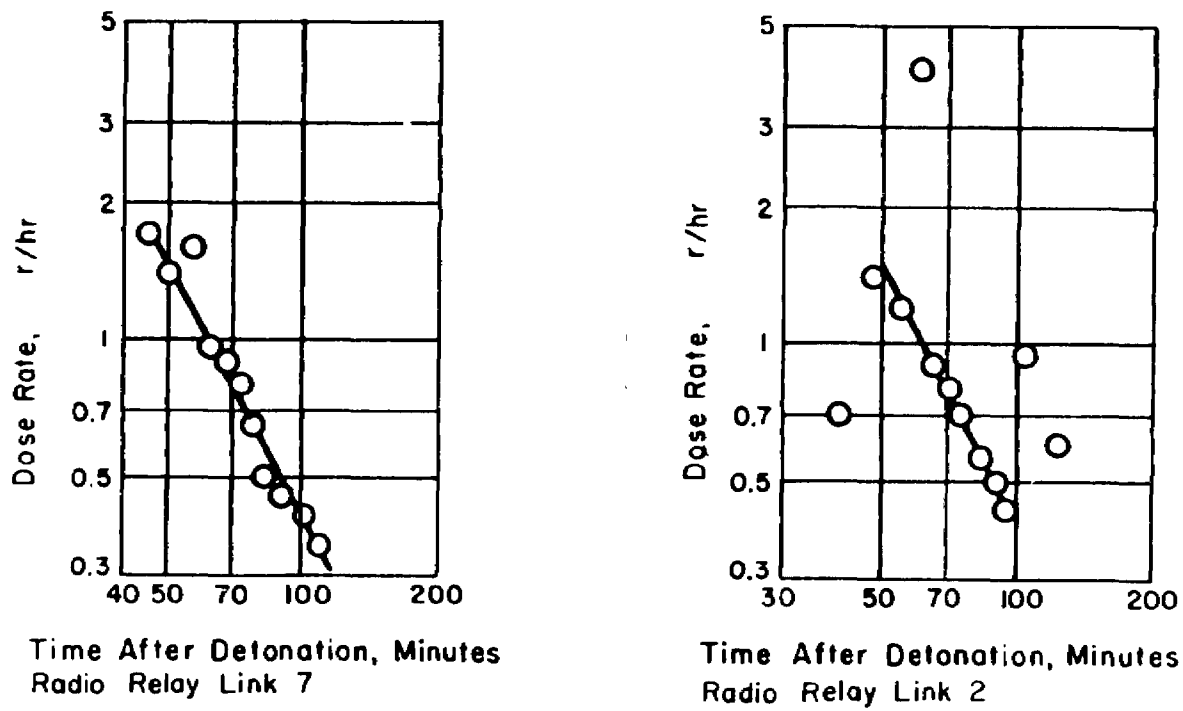


Figure 3.52 Small Boy field gamma decay curves for REECo Radiological Safety radio relay monitoring Stations 2 and 7.

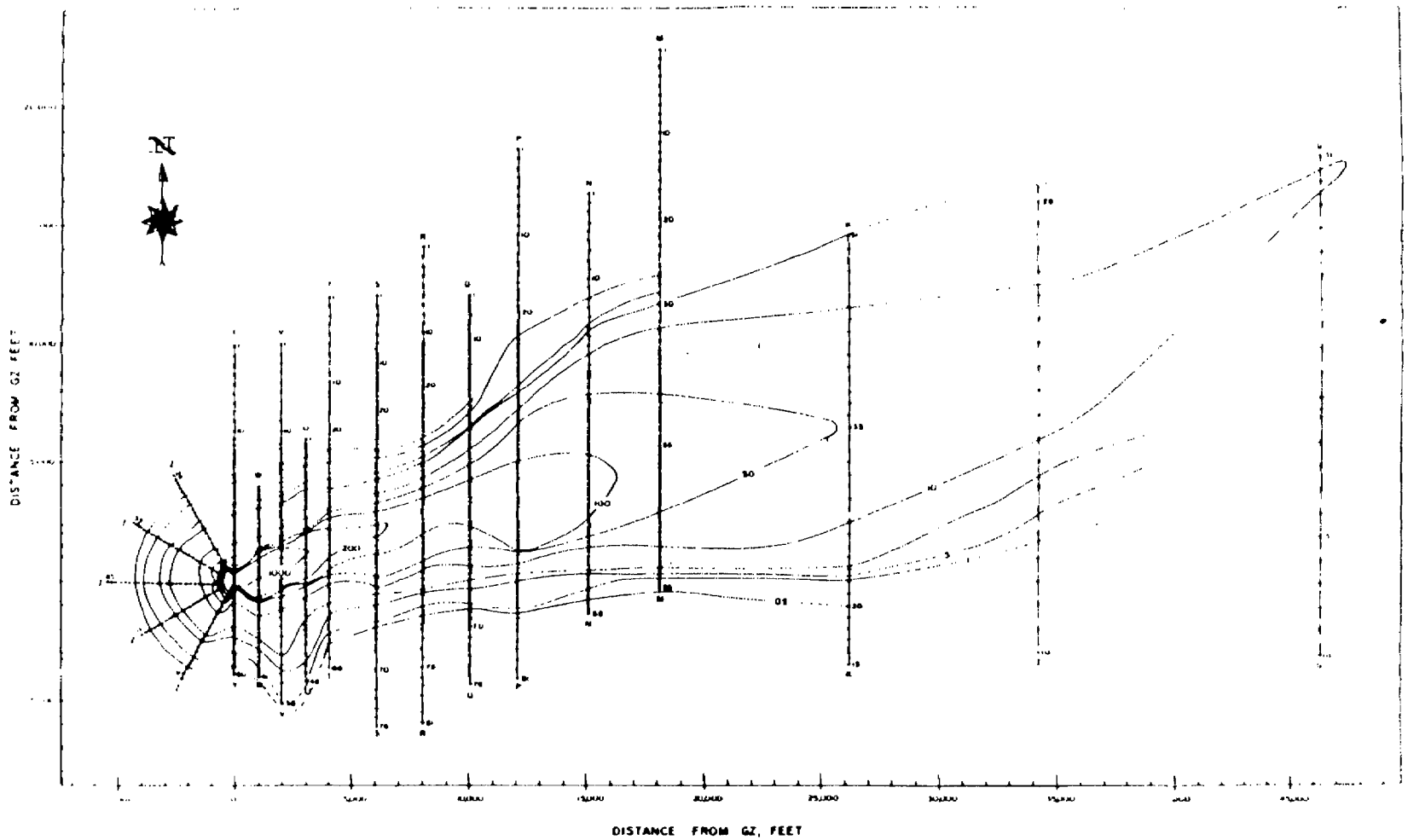


Figure 3.53 Small Boy dose-rate contours in roentgens per hour at H + 1 hour to 9 miles downwind.

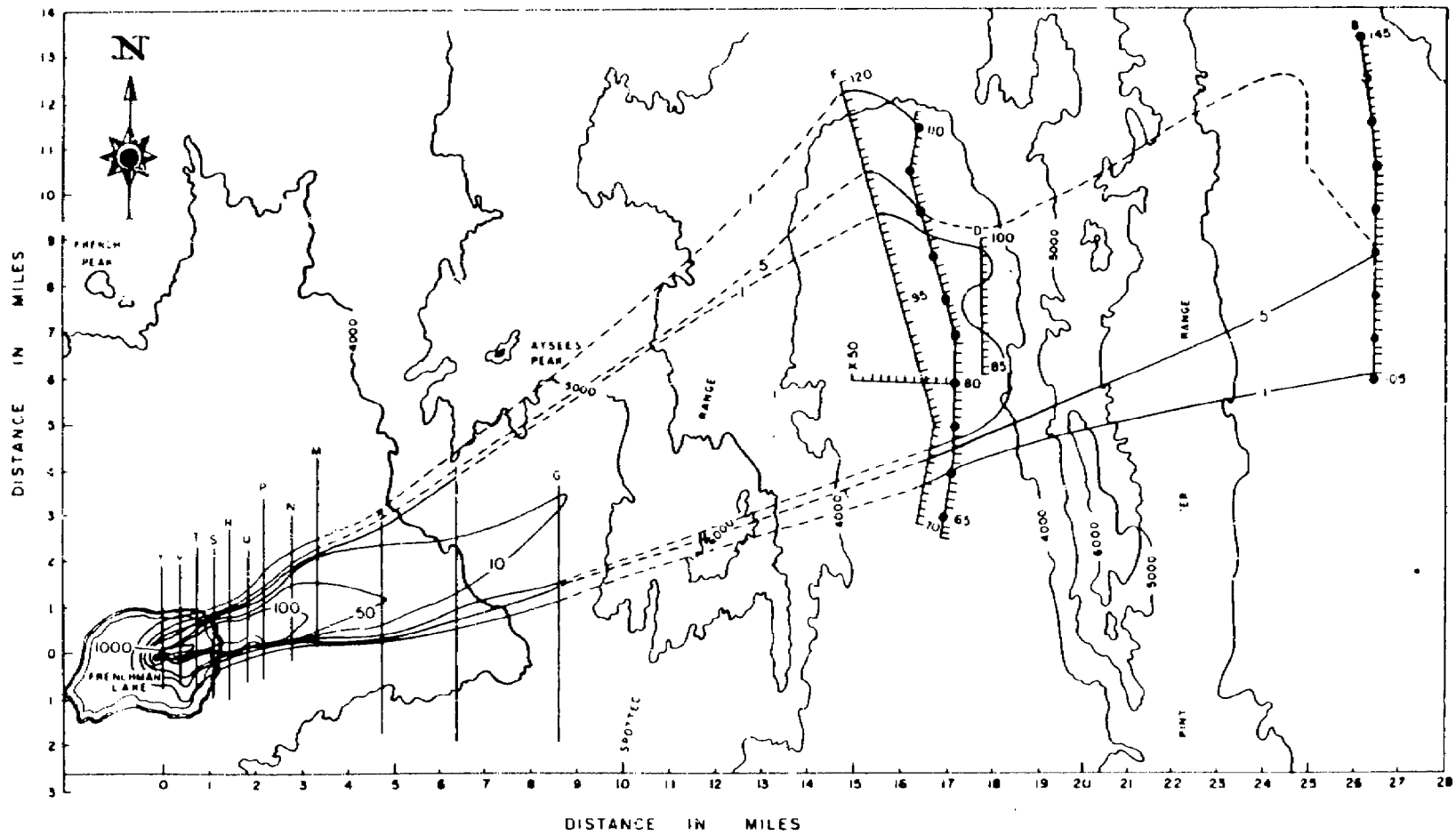
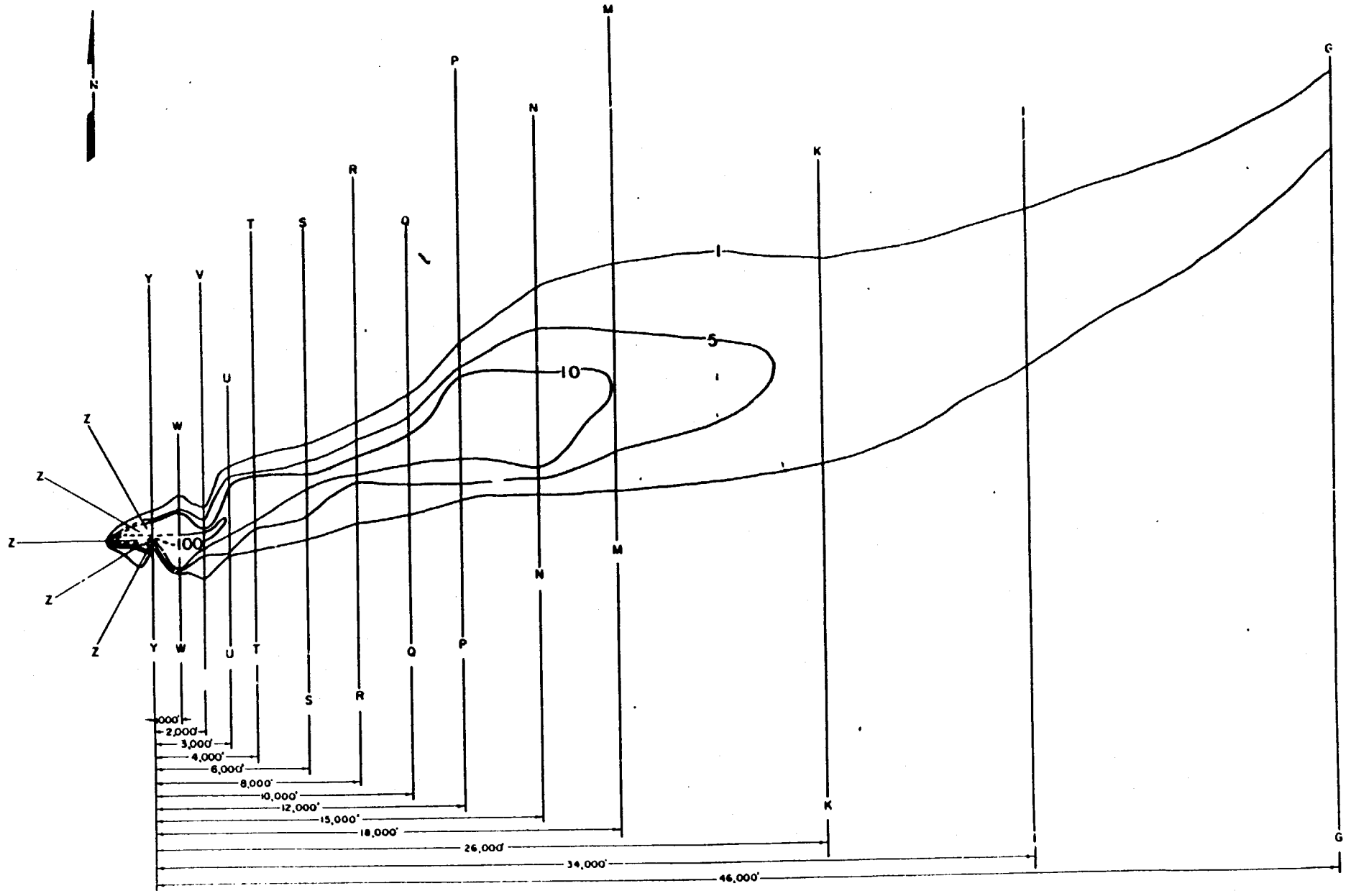


Figure 3.54 Small Boy dose-rate contours in roentgens per hour at H + 1 hour to 27 miles downwind.



Gamma Dose-Rates In mr/hr At D + 96 Days

Figure 3.55 Small Boy dose-rate contours in milliroentgens per hour at D+96 days.

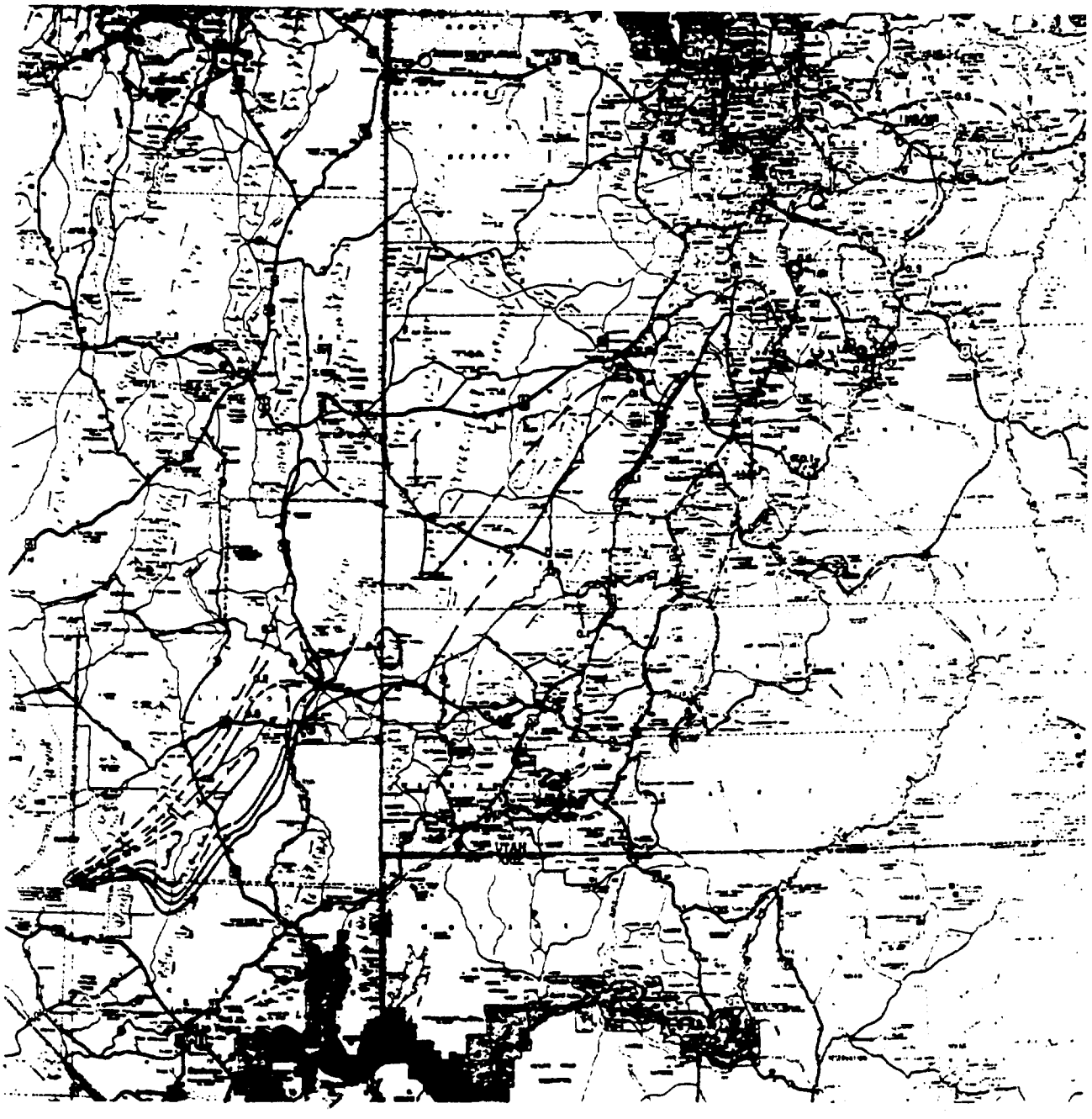
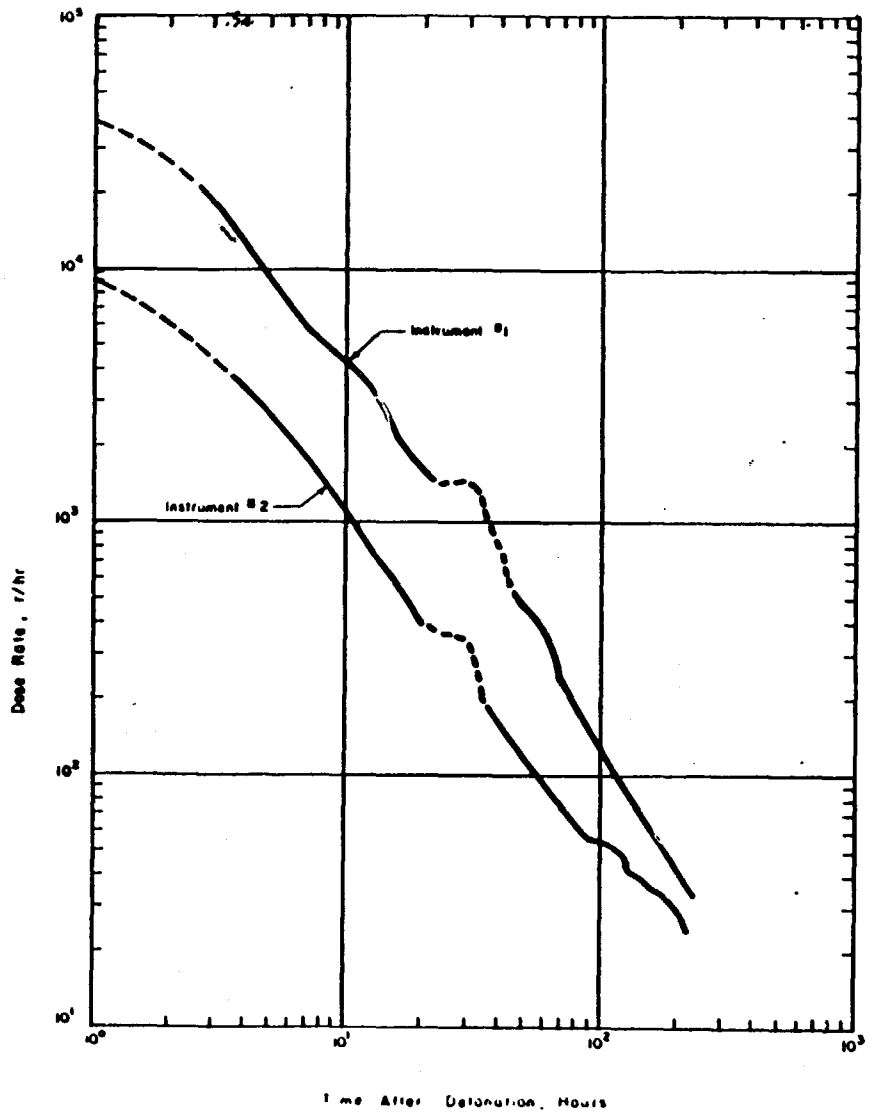


Figure 3.56 Small Boy off-site dose-rate contours in milliroentgens per hour at H + 12 hours.



[illegible] data in roentgens per hour

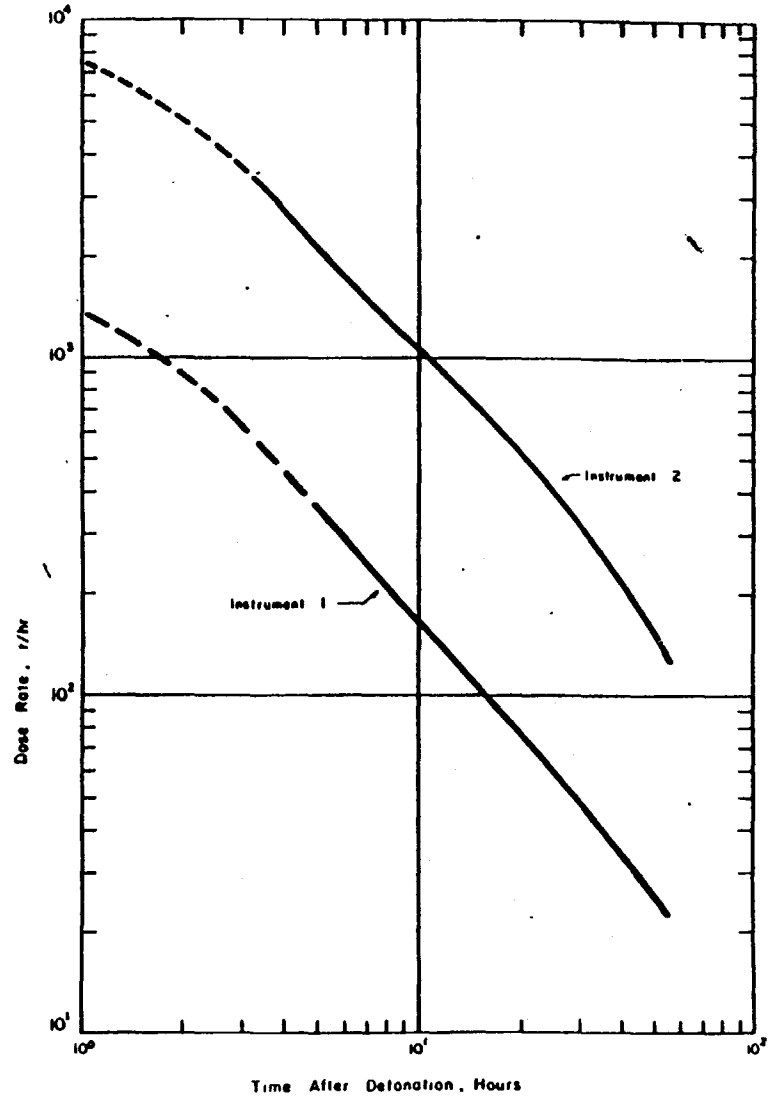


Figure 3.58 USNRDL Small Boy GITR data in roentgens per hour (Reference 16).

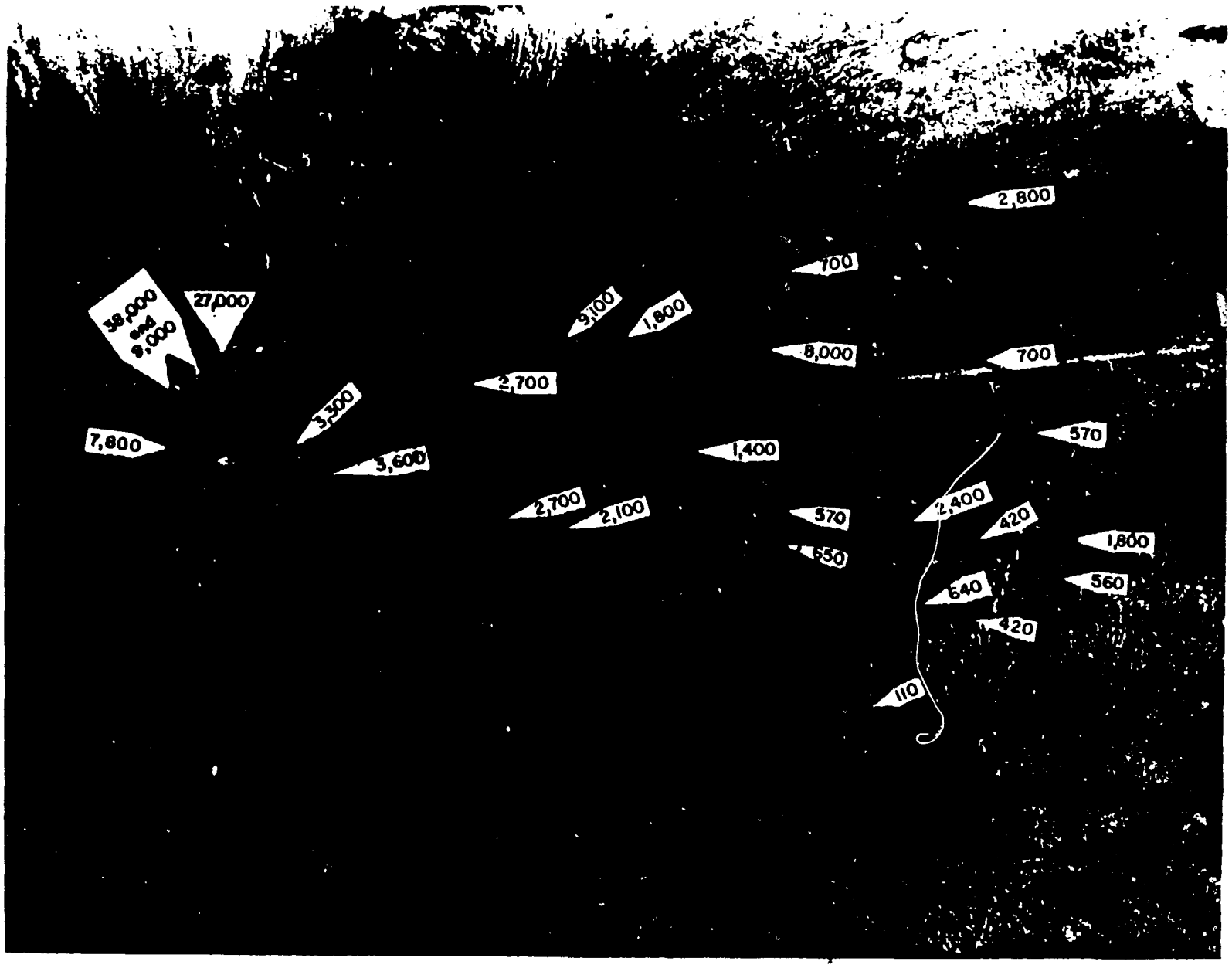


Figure 3.59 Small Boy ground zero area dose rates in roentgens per hour at H+1 hour.

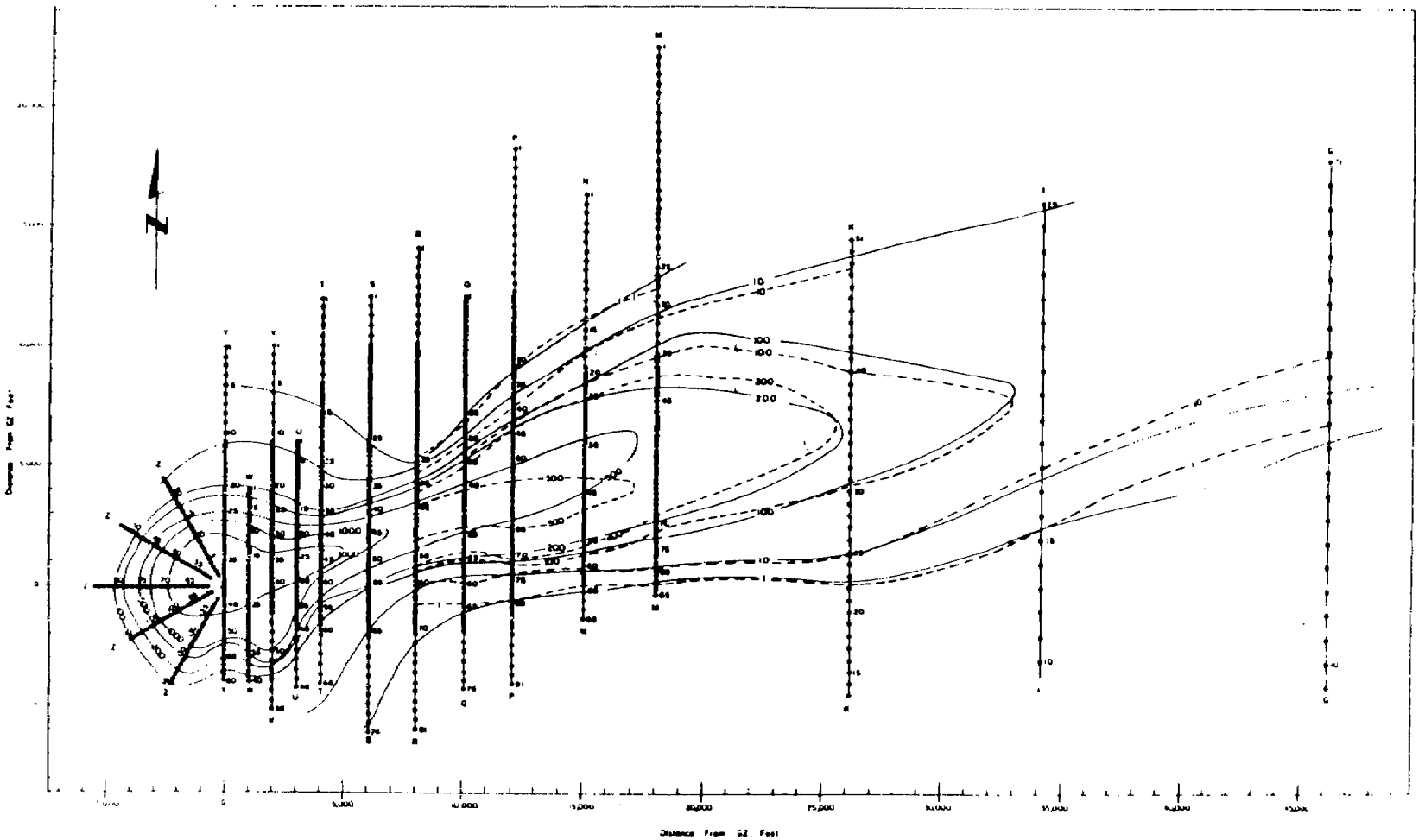


Figure 3.60 Small Boy 4-day gamma dose contours in roentgens to 9 miles downwind.

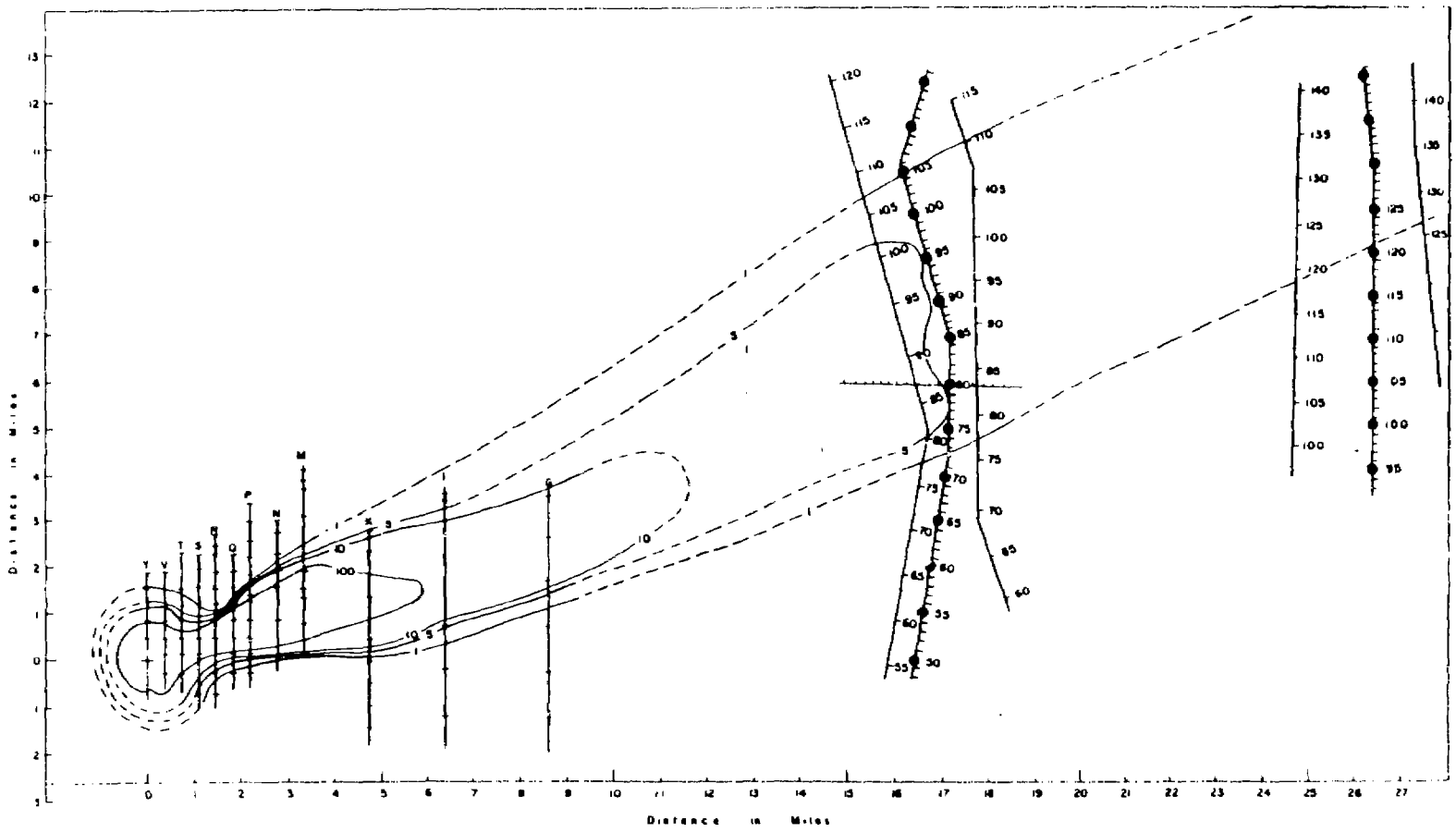


Figure 3.61 Small Boy 4-day gamma dose contours in roentgens to 27 miles downwind

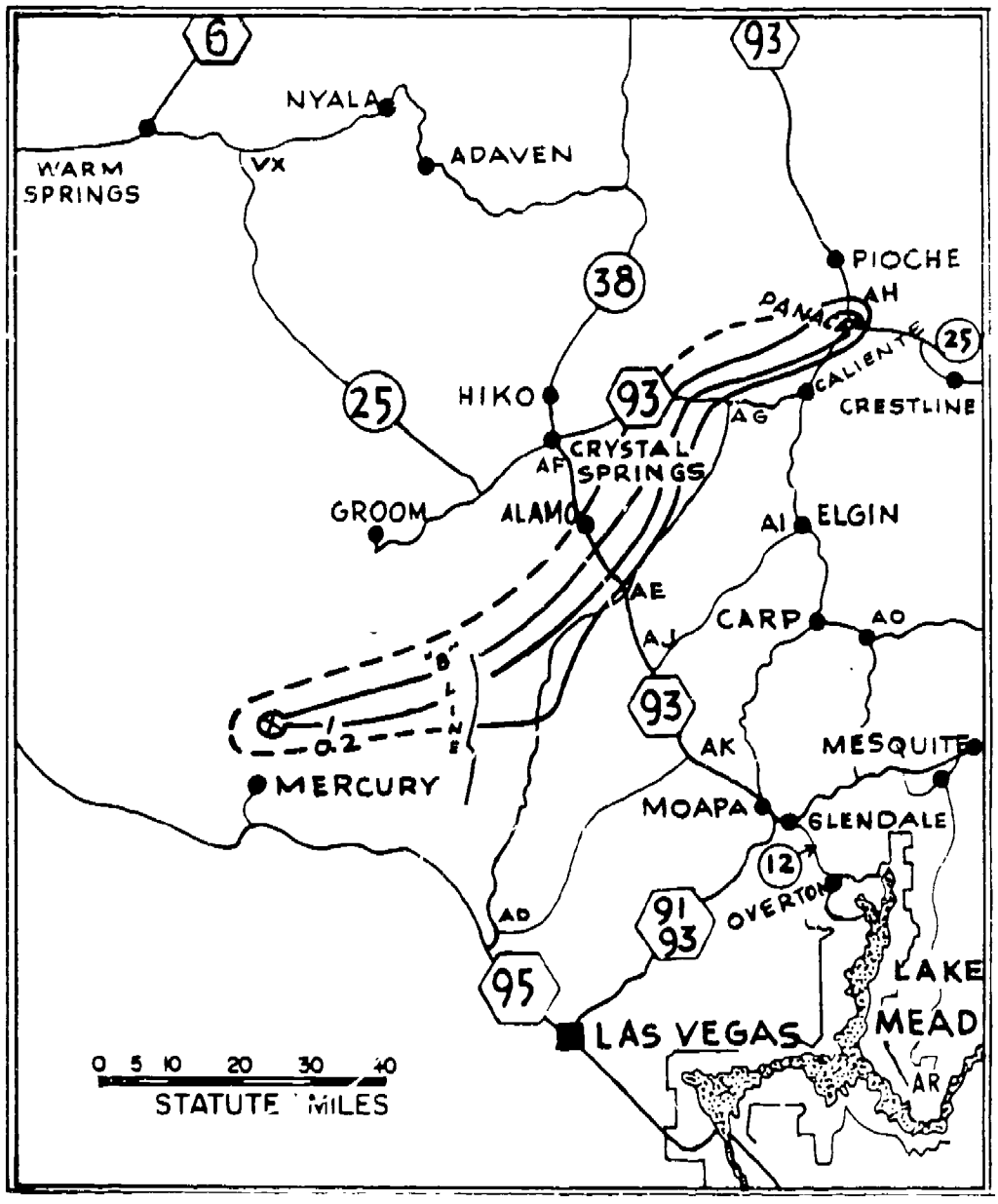


Figure 3.62 Off-site dose contours in roentgens for Small Boy.

CHAPTER 4

DISCUSSION

4.1 EARLY DECAY CHARACTERISTICS

No generally consistent field dose-rate decay exponent could be deduced for all areas within a given fallout pattern or for similar areas within fallout patterns from different shots. However, the Little Feller II and Small Boy decay data did indicate that there were significant differences in decay rates during the first day for the ground zero and downwind areas. For both shots, the apparent values of the decay exponents in the upwind and crosswind directions were in the range 0.9 to 1.0 from a few hours after detonation through D+1 day; average values for downwind stations were about 1.25. The lower values for the close-in stations indicate the probable contribution of neutron-induced activity to the overall gamma dose rates. Failure of the Little Feller I decay data to clearly exhibit the same trends has not been satisfactorily explained (See Section 3.3.1 and Table 3.7).

Although all areas of the Johnie Boy pattern were treated uniformly with respect to the decay rates used for the preparation of the H+1-hour fallout pattern (Section 3.2.1), there is some indication that upwind and crosswind contamination decayed at early times in a manner similar to Little Feller II and Small Boy.

4.2 GROUND ZERO AREA DOSE RATES

The magnitude of the gamma dose rates in the ground zero area showed no consistent variation from point to point in and around the crater. In some instances, dose rates at points relatively close together differed significantly from each other. Although higher dose rates were found within the crater and lip areas than at other locations, individual readings within the crater were sometimes lower than at specific locations away from the crater. All dose rates measured were in areas close enough to ground zero to be influenced by throwout from point of detonation; irregular dose-rate levels could therefore be expected within this area. Although there are indications that crater dose rates increased with yield (within the yield range of the Sun Beam Shots), the different scaled burst heights prevented the determination of definite relationships between crater dose rates and yield.

4.3 PERCENTAGE OF FISSION PRODUCTS DEPOSITED AS CLOSE-IN FALLOUT

The percentage of the fission product activity deposited may be estimated by

$$P = \frac{100S}{D_1 f_s W} \qquad (4.1)$$

where S = the area integral of the 1-hour dose rate over the fallout field being considered

D = the theoretical H+1-hour dose-rate at 3 feet above a

smooth infinite plane if all the activity from a 1-kt weapon were spread over 1 square mile. The assumed value is 3,900 $\frac{r\text{-}mi^3}{hr}$ (Reference 21).

f_1 = the instrument response factor, 0.75 (Reference 21)

f_2 = the assumed terrain shielding factor, 0.7 (Reference 21)

W = yield in kilotons.

S can be calculated as follows:

Let the region $R(I^*)$ be defined as the interior of the I^* r/hr dose-rate contour at H+1 hour. Then the 1-hour dose-rate area integral for $R(I^*)$ is given by

$$S(I^*) = \iint_{R(I^*)} I\,dxdy \tag{4.2}$$

If $A(I)$ denotes the area of $R(I)$ and assuming that in the region $R(I^*)$, $I \geq I^*$, Equation 4.2 can be written

$$S(I^*) = I^*A(I^*) + \int_{I^*}^{I_{max}} A(I)dI \tag{4.3}$$

where $I \geq I^*$.

Upon changing the variable of integration by means of $I = e^u$, the final result for numerical evaluation is

$$\iint_{R(I^*)} I\,dxdy = I^*A(I^*) + \int_{\ln I^*}^{\ln I_{max}} A(u)e^u du \tag{4.4}$$

or

$$S(I^*) = I^*A(I^*) + \int_{\ln I^*}^{\ln I_{max}} AI\,d\ln I \tag{4.5}$$

where $I \geq I^*$.

An approximation for the right side of Equation 4.5 can be obtained by determining A for different values of I in a given fallout pattern (Table 4.1 and Figure 4.1) plotting AI versus lnI linearly, connecting the data points by a smooth curve, and finally measuring the area under this curve. The shape of the curve for high values of I together with recorded measurements in and near the crater provide a basis for estimating contributions near I_{max}.

This procedure was followed for all four events, and the results are given in Table 4.2. The percentage of radioactivity accounted for within the Small Boy 0.5 r/hr dose-rate contour was almost four times the percent found within the 0.5 r/hr contours for the two Little Feller shots. Their scaled heights of burst were almost the same. The percentage accounted for within the Johnie Boy pattern (assuming the rated yield) was about three times that accounted for by the Small Boy pattern even though the lowest Johnie Boy dose-rate contour considered was 1 r/hr. The solid line portion of the graph shown in Figure 4.2 has been reproduced from Reference 22 and represents percent activity deposited close-in versus scaled depth of burst.

When the Johnie Boy rated yield is used, the percent activity deposited agrees quite well with the curve originally presented in Reference 22. These four points should be considered to be lower limits because the very low dose-rate

contours, below 0.5 r/hr at H+1 hour, were not included in the estimation.

TABLE 4.1 AREAS ENCLOSED BY DOSE RATE CONTOURS

Contour Dose Rate, I	Area Within Contour			
	Little Feller I	Little Feller II	Johnie Boy	Small Boy
r/hr	mi^2	mi^2	mi^2	mi^2
0.5	0.33	0.827	-	109.83
1.0	0.208	0.469	33.097	61.63
5.0	-	0.070	-	-
10.0	0.032	0.045	3.924	9.057
20.0	-	0.019	-	-
50.0	-	-	0.536	2.954
100.0	0.00478	0.005	0.214	1.200
200.0	-	-	-	0.285
1,000.0	-	-	0.0917	0.092
2,000.0	-	-	-	0.01665
10,000.0	-	-	0.0161	-
17,000.0	-	-	0.00537	-

4.4 COMPARISON OF OBSERVED AND IDEALIZED CONTOUR PARAMETERS

The observed H+1-hour contour dimensions for each of the four shots were compared with the idealized dose-rate contour parameters as presented in both the 1957 edition and the draft revision of the Department of the Army Technical Manual, TM 23-200, "Capabilities of Atomic Weapons," (References 6 and 23). The draft revision extends the dose-rate contour dimension predictions to lower dose rates and yields than the TM 23-200 now in use. Although none of the four shots was, strictly speaking, a surface shot, no corrections were made since height-of-burst adjustment factors were all close to 1.0. Adjustments of data in the 1957 edition and the draft revision of TM 23-200 for wind velocities were made according to the directions given in each manual. Both the 1957 edition of TM 23-200 and the proposed revision quote reliability values of ±50 percent for all these dimensions.

The dimensions compared are the diameter of the ground zero circle, the downwind distance, and the crosswind distance as defined in the published TM 23-200. The draft revision defined the same dimensions as the ground zero width, the downwind distance, and the maximum width. Shielding factors for terrain roughness were not applied to the draft revision prediction, as suggested in its text. Use of shielding factors generally would have improved the overall predictions of the ground zero widths but not those for the downwind distances of maximum contours widths.

4.4.1 Little Fellers I and II. Ground zero contour widths, downwind distances, and maximum contour widths for the Little Feller shots are shown in Figures 4.3, 4.4, and 4.5.

The effective wind for each of the Little Feller shots was 11.5 knots.

The observed Little Feller I high dose-rate contours (>1 r/hr) extend further downwind but are narrower than the corresponding Little Feller II contours. On the other hand, the observed Little Feller II low-dose-rate contours (≤1 r/hr) extend further downwind and are also wider than the corresponding Little Feller I contours except around the ground zero area. The observed Little Feller I low-dose-rate contours are wider near ground zero. Neither the currently used TM 23-200 nor the draft revision would have correctly predicted the downwind distances of both shots. The areas enclosed by given observed dose-rate contours (Figure 4.1) are slightly greater for Little Feller II than for Little Feller I. This would be expected in view of the slightly higher yield for Little Feller II.

With one exception, the downwind distances of the Little Feller dose-rate contours are greater by factors of 2 to 4 than for the corresponding Fig shot contour distances as shown in Figure 1.1.

4.4.2 Johnie Boy. Observed dose-rate contour dimensions for Johnie Boy are compared with the TM 23-200 data in Figures 4.6 4.7, and 4.8.

Observed and idealized contour widths agree quite well, both in the ground zero area and downwind of ground zero. The observed downwind distances are generally greater than those predicted by either version of TM 23-200. There is some uncertainty about the proper downwind distance to use for the 100-r/hr contour because of the hot spot observed at approximately 1.7 miles from ground zero (See Figure 3.20). If this distance is used, a relatively smooth curve is obtained (Figure 4.8). These downwind distances are outside the 50 percent reliability of the draft revision for the entire range from 1 to 10,000 r/hr and also outside the reliability range for the currently used manual in the 100 to 10,000 r/hr range. It is recognized, however, that a detonation at the Johnie Boy scaled depth would be expected to produce somewhat more local fallout than would a surface shot.

4.4.3 Small Boy. Comparison of the Small Boy observed contour dimensions with TM 23-200 data is shown in Figures 4.9, 4.10, and 4.11. The effective wind for Small Boy was 6 knots over the area of the on-site pattern. The curves in the figures which are based upon the revised TM 23-200 data are for 10-knot winds since no procedure is given for correction to wind speeds lower than 10 knots.

The actual widths of the ground zero contours are smaller than those predicted by TM 23-200 for a surface shot, but the maximum widths of downwind distances agree generally within 50 percent with the revised TM 23-200 data. If correction of the data for scaled burst height and also for the lower effective winds had been made, poorer

agreement would have resulte between the observed and the predicted downwind distances.

4.5 COMPARISON OF JOHNIE BOY AND SMALL BOY FALLOUT PATTERNS WITH FORD INSTRUMENT COMPANY PREDICTIONS

Fallout predictions for Johnie Boy and Small Boy were made by the Ford Instrument Company under a contractual arrangement with USANDL (Reference 24). Project 2.8 personnel relayed shot-time wind data by telephone to Ford Instrument Company offices in Long Island City, New York. These data were processed onto punched cards and the predictions computed. Points describing the contours were converted to Army Map coordinates and relayed back to NTS by telephone.

The Ford Instrument Company fallout model is based on the stabilized cloud concept and covers the yield range from 0.1 to 100 Mt. The stabilized cloud and stem are divided into wafers that are then traced to locations on the ground. Since each wafer has associated with it an H+1-hour dose rate, the summation produced an H+1-hour dose rate for every square of the grid. Contours are then constructed by hand, based upon the dose rates assigned to the grids. A more detailed description of this system may be found in Reference 24.

A comparison of the Johnie Boy prediction with the observed pattern is shown in Figure 4.12. The prediction was based upon winds at shot time, 0945 hours PDT, and the detonation was treated as a surface burst. A yield of 0.5 kt was assumed. The predicted and measured close-in fallout patterns for this shot are in general

agreement both in direction and distance. For distances greater than those shown in Figure 4.12, however, the predicted 1 r/hr contour went much further toward the east than did the observed contour (See Reference 24).

The Small Boy predicted pattern is compared with the observed pattern in Figure 4.13. For this prediction,
and wind data as reported for 1135 PDT (H+4 minutes) were used. In this case, the predicted distances for the high dose-rate contours were too small and, for the lower dose-rate contours, were too large. The general directions of the contours agreed very well.

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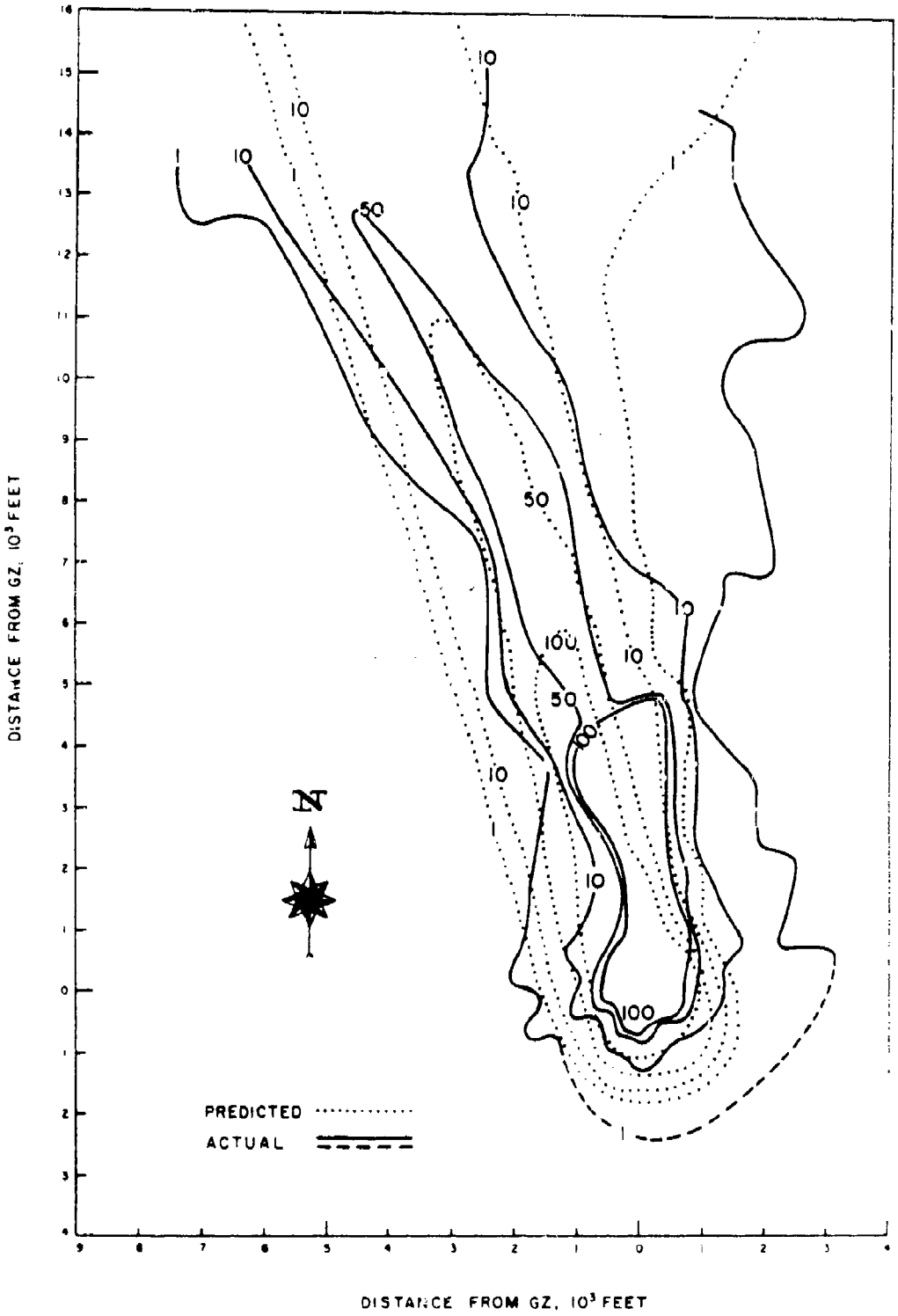

Figure 4.12 Comparison of Ford Instrument Company prediction with observed Johnie Boy pattern.

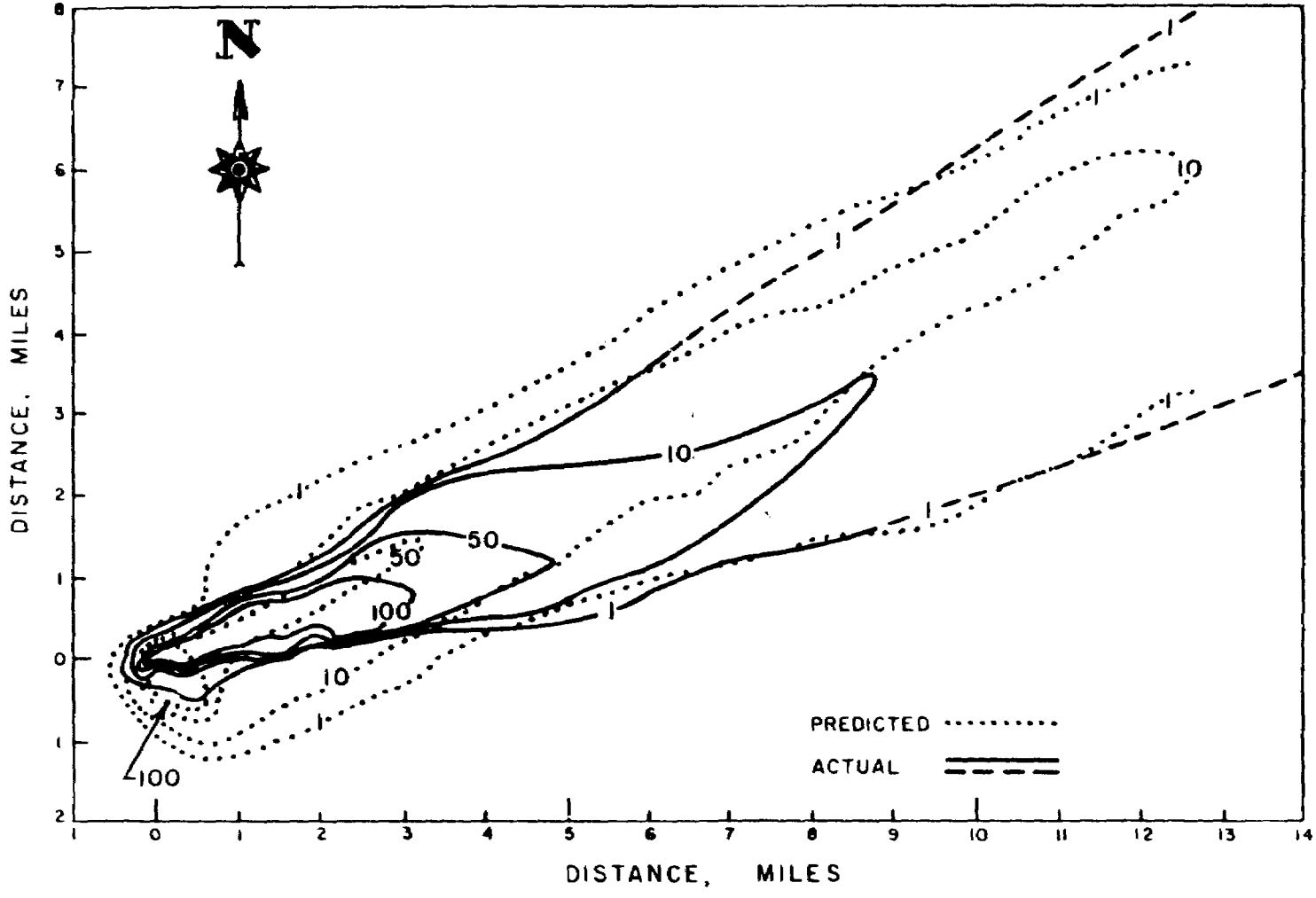

Figure 4.13 Comparison of Ford Instrument Company prediction with observed Small Boy pattern.

CHAPTER 5

CONCLUSIONS

The H+1-hour gamma dose-rate contours for the Little Feller I and II, Johnie Boy, and Small Boy shots are based on ground surveys that were significantly more detailed than surveys at any previous nuclear test. The reliability of the contours presented is limited only by the degree of accessibility of the terrain, the accuracy of the instrumentation used, and the derived field decay rates.

Field gamma dose-rate decays through D+1 day varied considerably from point to point within individual patterns. In general, for the above-ground shots, there were differences between the decay rates near ground zero and those observed in the downwind direction. In the expression $I=I_2t^{-\lambda}$, the average exponent in the upwind and cross-wind directions tended to be appreciably less than 1.2; for stations at significant downwind distances, the decay exponent tended to be near 1.2.

The maximum ground zero dose rates based on measurements extrapolated to H+1 hour ranged from 3,300 r/hr for the Little Feller shots to 38,000 r/hr for Small Boy.

The total gamma dose contours based upon film badge measurements show the influence of initial gamma radiation in the ground zero area. For Small Boy, the close-in downwind total-dose contours beyond the

range of initial gamma radiation compare well with total-dose contours calculated from the H+1-hour dose rates when estimated fallout arrival times are used.

The percent of total activity deposited by Little Feller I, Little Feller II, and Small Boy within the 0.5 r/hr H+1-hour contour was 6.5 percent, 6.6 percent, and 24 percent, respectively. The percent deposited within the Johnie Boy 1 r/hr H+1-hour contour was 69 percent.

APPENDIX A

CALIBRATION PROCEDURES FOR GROUND SURVEY INSTRUMENTS

APPENDIX A

CALIBRATION PROCEDURES FOR GROUND SURVEY INSTRUMENTS

The ground survey instruments were calibrated on the Nevada Test Site Radiological Safety Organization calibration range, which uses a Co^{60} source. Calibration procedures are summarized below.

A.1 RADIAC DEVICE AN/PDR-39A.

1. Each instrument was placed on the calibration rack with the front of the instrument facing the calibration source and the ion chamber of the instrument centered on a mark at a distance representing 40 mr/hr.

2. The calibration potentiometer was then adjusted so that the meter indicated a reading of 40 mr/hr.

3. The accuracy of the other scales was then checked at other dose rates. Any instruments that did not read within ±10 percent at 4/5 scale reading on the 0 to 5, 0 to 50, 0 to 500, and 0 to 5,000 mr/hr scales were rejected.

4. Only the response of the instrument on the 0 to 50,000 mr/hr range was checked.

5. Linearity of the scales was checked at readings between 1/5 and 4/5 of each scale. Instruments not maintaining ±10 percent accuracy between 1/5 and 4/5 scale readings were rejected.

A.2 JORDAN RADECTOR

1. Each instrument was placed on the calibration range with the ion chamber facing the calibration source and centered on successive marks at distances representing the 2 mr/hr, 50 mr/hr, 2 r/hr and 50 r/hr.

2. The calibration potentiometers were adjusted so that the meter indicated the proper readings at their respective positions.

3. Scale accuracy checks were performed using ±10 percent at 4/5 scale readings on each scale as the criteria for use.

The instrument was found to be extremely stable even after 10 days of continuous use in rough terrain.

A.3 RADIAC DEVICE AN/PDR-27J

The 27J's were calibrated in the same manner as the other instruments. Distances representing 0.4 mr/hr, 4 mr/hr, 40 mr/hr, and 400 mr/hr were used. Linearity checks were also made on this instrument. The instrument was found to be extremely stable.

APPENDIX B

LITTLE FELLER II DATA

TABLE B.1 RADIATION SURVEY DATA, LITTLE FELLER II
TABLE B.2 LITTLE FELLER II DOSES

TABLE B.1 RADIATION SURVEY DATA, LITTLE FELLER II

Station	Date (1962)	Time After Shot	Dose Rate Reading Jordan	AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	mr/hr	r/hr
Bouton 1	7 Jul	0.8	15				0.019
	7 Jul	1.4	12	32			
	7 Jul	1.6	10				
	7 Jul	1.7	12	15			
	7 Jul	4.7	5				
	8 Jul	24.0	0.9				
	19 Oct	2,500			0.02	0.02	
Bouton 2	7 Jul	0.9	25	30			0.023
	7 Jul	1.7	15	16			
	7 Jul	4.8	7				
	8 Jul	24.0	1.5				
	19 Oct	2,500			0.02	0.02	
Bouton 3	7 Jul	0.9	35	40			0.032
	7 Jul	1.7	20	21			
	7 Jul	4.8	10				
	8 Jul	24.0	2				
	19 Oct	2,500			0.02	0.02	
Bouton 4	7 Jul	0.9	70	80			0.058
	7 Jul	1.8	25	30			
	7 Jul	4.8	15				
	8 Jul	23.9	3				
	19 Oct	2,500			0.03	0.02	
Bouton 5	7 Jul	0.9	120	120			0.10
	7 Jul	1.8	45	50			
	7 Jul	4.8	20				
	8 Jul	23.9	5				
	19 Oct	2,500			0.03	0.02	
Bouton 6	7 Jul	1.0	200	210			0.2
	7 Jul	1.8	110	105			
	7 Jul	4.8	35				
	8 Jul	23.9	6				
	19 Oct	2,500			0.03	0.02	
Bouton 7	7 Jul	1.0	250	260			0.25
	7 Jul	1.9	120	140			
	7 Jul	4.8	45				
	8 Jul	23.8	7				
	9 Jul	48.3	2.5				
	19 Oct	2,500			0.04	0.03	
Bouton 8	7 Jul	1.0	250	240			0.25
	7 Jul	1.9	160	180			
	7 Jul	4.9	55				
	8 Jul	23.8	13				
	9 Jul	48.3	3.2				
	19 Oct	2,500			0.04	0.03	
Bouton 9	7 Jul	1.0	450	300			0.45
	7 Jul	1.9	200	220			
	7 Jul	4.9	70				
	8 Jul	23.8	18				
	9 Jul	48.4	4.3				
	19 Oct	2,500			0.04	0.03	
Bouton 10	7 Jul	1.0	300	300			0.3
	7 Jul	2.0	200	230			
	7 Jul	4.9	80				
	8 Jul	23.8	20				
	9 Jul	48.4	4.7				
	19 Oct	2,500			0.04	0.03	
Bouton 11	7 Jul	1.1	450	350			0.5
	7 Jul	2.0	250	280			
	7 Jul	4.9	100				
	8 Jul	23.8	23				
	9 Jul	48.4	5.8				
	10 Jul	73.0	2.5				
	11 Jul	102	1.4				
	16 Jul	212	0.15				
	19 Oct	2,500			0.05	0.04	
Bouton 12	7 Jul	1.1	550	450			0.6
	7 Jul	2.0	385	360			
	7 Jul	4.9	150				
	8 Jul	23.8	30				
	9 Jul	48.5	8				
	10 Jul	73.0	2.8				
	11 Jul	102	1.6				
	16 Jul	212	0.25				
	19 Oct	2,500			0.05	0.04	
Bouton 13	7 Jul	2.0	400	430			0.76
	7 Jul	4.9	200				
	8 Jul	23.7	40				
	19 Oct	2,500			0.06	0.05	
Bouton 14	7 Jul	2.1	900	675			1.0
	7 Jul	2.1	1,000				
	7 Jul	4.9	350				
	8 Jul	23.7	90				
	9 Jul	48.6	15				
	10 Jul	73.0	8				
	11 Jul	102	5.4				
	16 Jul	212	0.8				
	19 Oct	2,500			0.12	0.10	
Bouton 15	7 Jul	2.1	1,500	1,400			3.0
	7 Jul	5.0	700				
	8 Jul	23.7	152				
	19 Oct	2,500			0.16	0.15	
Bouton 16	7 Jul	2.2	2,000	2,000			4.0
	7 Jul	5.0	1,000				
	8 Jul	23.7	235				
	19 Oct	2,500			0.6	0.5	
Bouton 17	7 Jul	2.2	2,500	2,800			5.1
	7 Jul	5.0	1,500				
	8 Jul	23.7	215				
	9 Jul	48.6	68				
	10 Jul	72.9	42				
	11 Jul	102	18				
	16 Jul	212	2.5				
	19 Oct	2,500			0.21	0.20	
70 yds W of Bouton 17	7 Jul	2.2	10,000				20
Bouton 18	7 Jul	5.0	3,500			15.0	15
	8 Jul	23.7	500				
	9 Jul	48.7	120				
	10 Jul	73.0	60				
	19 Oct	2,500			0.37	0.35	
100 ft from GZ on Powell Road	7 Jul	6.0	10,000				50
Powell 1	7 Jul	1.0	10,000	10,000			10
	7 Jul	6.0	1,600				
	8 Jul	23.4	300				
	9 Jul	47.1	100				
	10 Jul	73.7	43				
	11 Jul	102	29				
	16 Jul	212	9				
	22 Oct	2,570			0.41	0.40	
Halfway between Powell 1 and 2	7 Jul	1.0	5,000	5,000			5.0
Powell 2	7 Jul	1.0	3,000	3,100			3.0
	7 Jul	5.9	700				
	8 Jul	23.4	180				
	9 Jul	47.0	48				
	10 Jul	73.7	18				
	11 Jul	102	11				
	16 Jul	212	1.2				
	22 Oct	2,570			0.21	0.20	
Powell 3	7 Jul	0.9	2,000	2,100			1.8
	7 Jul	5.9	450				
	8 Jul	23.4	125				
	9 Jul	47.0	30				
	10 Jul	73.7	11				
	11 Jul	102	6				
	16 Jul	212	1.0				
	22 Oct	2,570			0.17	0.16	
Powell 4	7 Jul	0.9	1,500	1,500			[illegible]
	7 Jul	5.9	310				
	8 Jul	23.4	80				
	9 Jul	47.0	18				
	10 Jul	73.6	8				
	11 Jul	102	4.1				
	16 Jul	212	0.8				
	22 Oct	2,570			0.11	0.10	
Powell 5	7 Jul	0.8	1,000	1,000			[illegible]
	7 Jul	5.9	240				
	8 Jul	23.4	60				
	9 Jul	47.0	14				
	10 Jul	73.6	5.5				
	11 Jul	102	2.8				
	16 Jul	212	0.5				
	22 Oct	2,570			0.09	0.08	

TABLE B.1 RADIATION SURVEY DATA, LITTLE FELLER II (Contd)

Station	Date (1962)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-39A	Dose Rate Reading: AN/PDR-27J Shield Open	Dose Rate Reading: AN/PDR-27J Shield Closed	Calculated Hot Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	mr/hr	r/hr
Powell 6	7 Jul	0.8	900	900			0.75
	7 Jul	5.9	170				
	8 Jul	23.3	45				
	9 Jul	48.0	9				
	10 Jul	73.6	2.8				
	11 Jul	102	1.6				
	16 Jul	212	0.35				
	22 Oct	2,570			0.08	0.08	
Powell 7	7 Jul	0.8	560	520			0.48
	7 Jul	5.8	140				
	8 Jul	23.3	32				
	22 Oct	2,570			0.08	0.05	
Powell 8	7 Jul	0.8	500	510			0.41
	7 Jul	5.8	100				
	8 Jul	23.3	25				
	22 Oct	2,570			0.07	0.05	
Powell 9	7 Jul	0.7	475	510			0.34
	7 Jul	5.8	75				
	8 Jul	23.3	20				
	22 Oct	2,570			0.06	0.04	
Powell 10	7 Jul	0.7	400	440			0.27
	7 Jul	5.8	45				
	8 Jul	23.3	17				
	22 Oct	2,570			0.05	0.04	
Powell 11	7 Jul	0.7	350	360			0.23
	7 Jul	5.8	35				
	8 Jul	23.3	14				
	22 Oct	2,570			0.04	0.03	
Powell 12	7 Jul	0.7	300	300			0.20
	7 Jul	5.8	30				
	8 Jul	23.3	14				
	22 Oct	2,570			0.04	0.03	
Powell 13	7 Jul	0.6	250	250			0.16
	7 Jul	5.7	25				
	8 Jul	23.3	10				
	22 Oct	2,570			0.04	0.03	
Powell 14	7 Jul	0.6	200	200			0.12
	7 Jul	5.7	20				
	8 Jul	23.3	6				
	22 Oct	2,570			0.04	0.03	
Powell 15	7 Jul	0.6	200	200			0.11
	7 Jul	5.7	15				
	8 Jul	23.2	5				
	22 Oct	2,570			0.04	0.03	
Powell 16	22 Oct	2,570			0.03	0.03	
Powell 17	22 Oct	2,570			0.03	0.03	
Powell 18	22 Oct	2,570			0.03	0.03	
Intersection	7 Jul	0.5		50			0.026
Powell and	7 Jul	0.5	50	50			
Conway	7 Jul	3.7	8				
35 yds N of Foxhole 3	7 Jul	2.4	10,000				22
Foxhole 3	7 Jul	4.3	2,500				9.5
	8 Jul	23.6	350				
	9 Jul	47.6	100				
	10 Jul	72.9	40				
	11 Jul	102	26				
	16 Jul	212	5				
	22 Oct	2,570			13	12	
Foxhole 4	7 Jul	0.7	6,050	10,000			4.1
	7 Jul	2.4	1,750				
	7 Jul	4.3	1,000				
	8 Jul	23.6	220				
	9 Jul	47.5	52				
	10 Jul	72.9	19				
	11 Jul	102	14				
	16 Jul	212	2.0				
	22 Oct	2,570			5	4	
Foxhole 5	7 Jul	0.6	4,020	4,060			2.[illegible]
	7 Jul	2.4	1,000				
	7 Jul	4.3	700				
	8 Jul	23.6	152				
	9 Jul	47.5	35				
	10 Jul	72.9	14				
	11 Jul	102	7.8				
	16 Jul	212	1.0				
	22 Oct	2,570			0.31	[illegible]	
Foxhole 6	7 Jul	0.6	2,000	2,020			[illegible]
	7 Jul	2.4	700				
	7 Jul	4.4	450				
	8 Jul	23.6	105				
	9 Jul	47.5	22				
	10 Jul	72.9	9				
	11 Jul	102	5.5				
	16 Jul	212	0.5				
	22 Oct	2,570			0.15	[illegible]	
Foxhole 7	7 Jul	0.6	1,500	1,060			[illegible]
	7 Jul	2.5	400				
	7 Jul	4.4	27[illegible]				
	8 Jul	23.5	70				
	9 Jul	47.5	16				
	10 Jul	72.9	6				
	11 Jul	102	3.2				
	16 Jul	212	0.30				
	22 Oct	2,570			0.11	0.1[illegible]	
Foxhole 8	7 Jul	0.6	1,250	1,300			[illegible]
	7 Jul	2.5	350				
	7 Jul	4.4	225				
	8 Jul	23.5	50				
	10 Jul	72.9	6				
	11 Jul	102	2.4				
	16 Jul	212	0.15				
	22 Oct	2,570			0.1	0.1	
Foxhole 9	7 Jul	0.6	1,000	1,000			[illegible]
	7 Jul	2.5	250				
	7 Jul	4.4	150				
	8 Jul	23.5	37				
	22 Oct	2,570			0.07	[illegible]	
Foxhole 10	7 Jul	0.5	960	960			[illegible]
	7 Jul	2.5	160				
	7 Jul	4.4	100				
	8 Jul	23.5	25				
	9 Jul	47.4	6				
	22 Oct	2,570			[illegible]	[illegible]	
400 ft from Foxhole 10	Jul	0.5	445	500			[illegible]
800 ft from Foxhole 10	7 Jul	0.5	450	460			[illegible]
1,000 ft from Foxhole 10 on Access Road	7 Jul	0.4	240	250			
50 ft from GZ on Hardin Road	7 Jul	5.2	10,200				
150 ft from GZ on Hardin Road	7 Jul	5.2	5,000				22
Hardin 1	7 Jul	5.2	1,200				[illegible]
	8 Jul	24.9	200				
	19 Oct	2,500			22	[illegible]	
Halfway between Hardin 1 and 2	7 Jul	1.0	10,000	8,500			
Hardin 2	7 Jul	1.0	9,000	7,000			
	7 Jul	5.1	1,025				
	8 Jul	24.9	200				
	19 Oct	2,500			[illegible]	[illegible]	

TABLE 2.1 RADIATION SURVEY DATA, LITTLE FELLER II (Cont'd)

Station	Date (1968)	Time After Shot hours	Dose Rate Reading: Jordan mr/hr	AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
Hardin 3	7 Jul	0.9	7,000	5,000			6.2
	7 Jul	5.1	900				
	8 Jul	23.0	150				
	19 Oct	2,500			1.1	1.0	
Hardin 4	7 Jul	0.8	3,500	3,300			2.8
	7 Jul	5.1	700				
	8 Jul	23.0	100				
	19 Oct	2,500			0.36	0.35	
Hardin 5	7 Jul	0.8	3,000	2,800			2.4
	7 Jul	5.1	450				
	8 Jul	23.0	70				
	19 Oct	2,500			0.26	0.23	
Hardin 6	7 Jul	0.8	2,500	2,100			2.0
	7 Jul	5.1	400				
	8 Jul	23.1	50				
	19 Oct	2,500			0.15	0.14	
Hardin 7	7 Jul	0.6	1,000	800			0.74
	7 Jul	5.1	275				
	8 Jul	23.1	35				
	19 Oct	2,500			0.15	0.14	
Hardin 8	8 Jul	23.1	25				0.45
	19 Oct	2,500			0.12	0.10	
Hardin 9	8 Jul	23.1	20	20			0.36
	19 Oct	2,500			0.09	0.08	
Hardin 10	19 Oct	2,500			0.09	0.08	
Hardin Road at Conway Road	7 Jul	0.7	10	10			0.007
2A and Drill Ponds	7 Jul	1.5	15				0.021
	8 Jul	23.5	2				
2A 1	7 Jul	0.5	50	38			0.083
	7 Jul	1.5					
	7 Jul	5.2	7				
	22 Oct	2,570			0.03	0.08	
2A 2	7 Jul	0.5	50				0.03
	7 Jul	5.3	9				
	8 Jul	23.5	2				
	22 Oct	2,570			0.03	0.02	
2A 3	7 Jul	0.5	50				0.031
	7 Jul	5.3	10				
	8 Jul	23.5	3				
	22 Oct	2,570			0.03	0.02	
2A 4	7 Jul	0.6	100				0.064
	7 Jul	5.3	15				
	8 Jul	23.6	4				
	22 Oct	2,570			0.03	0.02	
2A 5	7 Jul	0.6	150				0.088
	7 Jul	5.4	16				
	8 Jul	23.6	7				
	22 Oct	2,570			0.03	0.02	
2A 6	7 Jul	0.6	200				0.11
	7 Jul	5.4	20				
	8 Jul	23.6	10				
	22 Oct	2,570			0.03	0.02	
2A 7	7 Jul	0.6	300				0.18
	7 Jul	5.4	35				
	8 Jul	23.6	15				
	22 Oct	2,570			0.04	0.03	
2A 8	7 Jul	0.6	485				0.34
	7 Jul	0.6	500				
	7 Jul	5.4	100				
	8 Jul	23.6	18				
	22 Oct	2,570			0.05	0.04	
2A 9	7 Jul	0.6	600				0.43
	7 Jul	5.5	150				
	8 Jul	23.7	25				
	22 Oct	2,570			0.05	0.04	
2A 10	7 Jul	0.7	750				0.57
	7 Jul	5.5	160				
	8 Jul	23.7	25				
	22 Oct	2,570			0.05	0.04	
2A 11	7 Jul	0.7	1,000				0.81
	7 Jul	0.7	1,200				
	7 Jul	5.6	200				
	8 Jul	23.7	30				
	8 Jul	23.7	40				
	22 Oct	2,570			0.06	0.05	
2A 12	7 Jul	0.7	1,800				1.3
	7 Jul	5.6	250				
	8 Jul	23.7	50				
	22 Oct	2,570			0.06	0.05	
2A 13	7 Jul	0.7	2,500				1.8
	7 Jul	5.6	400				
	8 Jul	23.7	150				
	9 Jul	48.1	13				
	10 Jul	73.1	6.5				
	11 Jul	102	4				
	16 Jul	213	0.6				
	22 Oct	2,570			0.07	0.06	
2A 14	7 Jul	0.7	3,250				2.3
	7 Jul	5.6	500				
	8 Jul	23.7	230				
	9 Jul	48.1	18				
	10 Jul	73.1	12				
	11 Jul	102	6				
	16 Jul	213	0.7				
	22 Oct	2,570			0.10	0.08	
2A 15	7 Jul	0.8	3,850				2.6
	7 Jul	0.8	5,000				
	7 Jul	5.6	600				
	8 Jul	23.7	250				
	9 Jul	48.1	23				
	10 Jul	73.1	13				
	11 Jul	102	6.5				
	16 Jul	213	1.0				
	22 Oct	2,570			0.11	0.10	
20 ft W of 2A 15	7 Jul	5.7	1,000				4.8
2A 16	7 Jul	0.8	10,000				8.0
	7 Jul	5.7	1,500				
	8 Jul	23.7	460				
	9 Jul	48.1	50				
	10 Jul	73.1	30				
	11 Jul	102	17				
	16 Jul	212	1.5				
	22 Oct	2,570			2.1	2.0	
2A 17	7 Jul	1.8	5,000				[illegible]
	7 Jul	5.7	3,000				
	8 Jul	23.8	750				
	22 Oct	2,570			3.5	3.0	
20 ft W of 2A 17	7 Jul	5.7	10,000				[illegible]
2A 18	22 Oct	2,570			9.0	3.0	
2A 19	22 Oct	2,570			46	40	
50 ft E of GE	7 Jul	1.8	10,000				[illegible]
100 ft E of GE	8 Jul	23.8	9,000				[illegible]
2A 20	22 Oct	2,570			31	30	
45 ft E of 2A 21	7 Jul	6.4	10,000				[illegible]
50 ft E of 2A 21	7 Jul	6.4	15,000				[illegible]
2A 21	7 Jul	1.7	10,000	10,000			[illegible]
	7 Jul	6.4	4,300				
	8 Jul	24.9	700				
	22 Oct	2,570			2.3	[illegible]	
2A 22	7 Jul	1.7	5,000	5,000			[illegible]
	7 Jul	6.4	1,500				
	8 Jul	24.8	300				
	22 Oct	2,570			0.45	[illegible]	
2A 23	7 Jul	1.7	2,000	2,000			[illegible]
	7 Jul	6.4	700				
	8 Jul	24.8	150				
	22 Oct	2,570			0.25	[illegible]	

TABLE 3.1 RADIATION SURVEY DATA, LITTLE FELLER II (Cont'd)

Station	Date (1968)	Time After Shot hours	Dose Rate Reading: Jordan mr/hr	Dose Rate Reading: AN/PDR-39A mr/hr	Dose Rate Reading: AN/PDR-27J Shield Open mr/hr	Dose Rate Reading: AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2A 24	7 Jul	1.6	1,100	1,100			1.5
	7 Jul	6.4	450				
	8 Jul	24.8	100				
	22 Oct	2,570			0.18	0.16	
2A 25	7 Jul	1.6	1,000	900			1.5
	7 Jul	6.4	300				
	8 Jul	24.8	70				
	22 Oct	2,570			0.16	0.15	
2A 26	7 Jul	1.5	650	700			0.88
	7 Jul	6.3	285				
	8 Jul	24.8	50				
	22 Oct	2,570			0.14	0.13	
2A 27	7 Jul	1.5	525	600			0.71
	7 Jul	6.3	175				
	8 Jul	24.8	35				
	22 Oct	2,570			0.09	0.08	
2A 28	7 Jul	1.5	375	420			0.49
	7 Jul	6.3	140				
	8 Jul	24.7	28				
	22 Oct	2,570			0.07	0.06	
2A 29	7 Jul	1.5	300	340			0.40
	7 Jul	6.3	100				
	8 Jul	24.7	22				
	22 Oct	2,570			0.06	0.05	
2A 30	7 Jul	1.5	200	260			0.26
	7 Jul	6.3	75				
	8 Jul	24.7	18				
	22 Oct	2,570			0.05	0.04	
2A 31	7 Jul	1.4	180	200			0.24
	7 Jul	6.3	45				
	8 Jul	24.7	15				
	22 Oct	2,570			0.04	0.03	
2A 32	7 Jul	1.4	140	140			0.19
	7 Jul	6.2	35				
	8 Jul	24.7	10				
	22 Oct	2,570			0.04	0.03	
2A 33	7 Jul	1.4	100				0.13
	7 Jul	6.2	26				
	8 Jul	24.7	9				
	22 Oct	2,570			0.04	0.03	
2A 34	7 Jul	1.4	90	90			0.12
	7 Jul	6.2	20				
	8 Jul	24.7	6.5				
	22 Oct	2,570			0.04	0.03	
2A 35	7 Jul	1.3	90	90			0.11
	7 Jul	6.2	90				
	8 Jul	24.7	5				
	22 Oct	2,570			0.03	0.03	
2A 36	7 Jul	1.3	70	80			0.088
	7 Jul	6.2	60				
	8 Jul	24.7	3				
	22 Oct	2,570			0.03	0.02	
2A 37	7 Jul	1.3	40	41			0.048
	7 Jul	6.2	12				
	8 Jul	24.6	2				
	22 Oct	2,570			0.03	0.02	
2A 38	7 Jul	1.2	35	31			0.040
	7 Jul	6.1	9				
	8 Jul	24.6	1.5				
	22 Oct	2,570			0.03	0.02	
2A 39	7 Jul	1.2	30	30			0.035
	7 Jul	6.1	7	7			
	8 Jul	24.6	1.5				
	22 Oct	2,570			0.03	0.02	
2A 40	7 Jul	1.2	16	21			0.018
	7 Jul	6.1	5				
	8 Jul	24.6	1				
	22 Oct	2,570					
	22 Oct	2,570					
2A 41	7 Jul	1.2	15	15			0.017
	7 Jul	6.1	4				
	8 Jul	24.5	0.65				
	22 Oct	2,570			0.03	0.02	
2A 42	7 Jul	1.1	10	10			0.011
	8 Jul	24.5	0.6				
	22 Oct	2,570			0.03	0.02	
2A 43	8 Jul	24.5	0.55				0.010
	22 Oct	2,570			0.03	0.02	
2A 44	8 Jul	24.5	0.4				0.007
	22 Oct	2,570			0.03	0.02	
2A 45	8 Jul	24.5	0.35				0.006
	22 Oct	2,570			0.03	0.02	
2A 46	8 Jul	24.5	0.3				0.006
	22 Oct	2,570			0.03	0.02	
2A 47	8 Jul	24.5	0.3				0.006
	22 Oct	2,570			0.03	0.02	
2A 48	8 Jul	24.5	0.25				0.004
	22 Oct	2,570			0.03	0.02	
2A 49	8 Jul	24.5	0.25				0.004
	22 Oct	2,570			0.03	0.02	
2A 50	8 Jul	24.5	0.2				0.004
	22 Oct	2,570			0.03	0.02	
2B 6 Drill Hole	7 Jul	1.5	14	37			0.020
	8 Jul	23.9	1.5				
2B 1	7 Jul	0.8	10				0.020
	7 Jul	1.4	15				
	7 Jul	6.2	6				
	22 Oct	2,570			0.03	0.02	
2B 2	7 Jul	0.8	30				0.026
	7 Jul	1.5	20				
	7 Jul	1.5		37			
	7 Jul	6.1	6				
	8 Jul	23.9	2				
	22 Oct	2,570			0.03	0.02	
2B 3	7 Jul	0.9	48				0.043
	7 Jul	1.5	30				
	7 Jul	6.1	10				
	8 Jul	23.9	4				
	22 Oct	2,570			0.03	0.02	
2B 4	7 Jul	0.9	60				0.055
	7 Jul	1.5	40				
	7 Jul	6.0	15				
	8 Jul	23.9	6				
	22 Oct	2,570			0.03	0.02	
2B 5	7 Jul	0.9	70				0.095
	7 Jul	0.9	100				
	7 Jul	1.9	75				
	7 Jul	6.0	18				
	8 Jul	24.0	10				
	22 Oct	2,570			0.03	0.02	
2B 6	7 Jul	0.9	250				0.24
	7 Jul	1.5	200				
	7 Jul	5.9	70				
	8 Jul	24.0	15				
	22 Oct	2,570			0.03	0.02	
50 ft W of 2B 6	7 Jul	5.9	100				0.49
2B 7	7 Jul	1.0	400				0.40
	7 Jul	1.5	350				
	7 Jul	5.9	125				
	8 Jul	24.0	20				
	22 Oct	2,570			0.04	0.03	
2B 8	7 Jul	1.0	550				0.55
	7 Jul	1.5	425				
	7 Jul	5.9	150				
	8 Jul	24.0	25				
	22 Oct	2,570			0.04	0.03	
2B 9	7 Jul	1.0	1,000				1.0
	7 Jul	1.0	750				
	7 Jul	1.6	600				
	7 Jul	5.9	250				
	8 Jul	24.0	25				
	22 Oct	2,570			0.05	0.04	

TABLE B.1 RADIATION SURVEY DATA, LITTLE FELLER II (Cont'd)

Station	Date (1962)	Time After Shot hours	Dose Rate Reading: Jordan mr/hr	AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2B 10	7 Jul	1.0	1,200				1.2
	7 Jul	1.6	800				
	7 Jul	5.9	250				
	8 Jul	24.1	50				
	22 Oct	2,570			0.05	0.04	
2B 11	7 Jul	1.0	1,400				1.4
	7 Jul	1.6	900				
	7 Jul	5.9	350				
	8 Jul	24.1	150				
	22 Oct	2,570			0.05	0.04	
2B 12	7 Jul	1.0	1,900				1.9
	7 Jul	1.6	1,025				
	7 Jul	5.9	500				
	8 Jul	24.1	200				
	22 Oct	2,570			0.07	0.06	
2B 13	7 Jul	1.0	3,000				3.0
	7 Jul	1.6	1,050				
	7 Jul	5.8	700				
	8 Jul	24.1	250				
	22 Oct	2,570			0.07	0.06	
2B 14	7 Jul	1.0	5,000				5.0
	7 Jul	1.6	1,150				
	7 Jul	5.8	1,500				
	8 Jul	24.1	450				
	22 Oct	2,570			0.08	0.07	
50 ft W of 2B 14	7 Jul	5.8	1,000				4.9
2B 15	7 Jul	1.0	10,000				10
	7 Jul	1.7	4,000				
	7 Jul	5.8	2,500				
	8 Jul	24.2	600				
	22 Oct	2,570			0.11	0.10	
2B 16	7 Jul	5.8	4,500				22
	8 Jul	24.2	1,000				
	22 Oct	2,570			2.1	1.9	
2B 17	8 Jul	24.2	2,800				49
	22 Oct	2,570			3.3	3.0	
2C and Drill Road	7 Jul	1.5	12				0.027
2C 1	7 Jul	0.7	43				0.083
	7 Jul	1.5		35			
	7 Jul	6.2	4.5				
	8 Jul	24.2	1				
	22 Oct	2,570			0.01	0.01	
2C 2	7 Jul	0.7	50				0.094
	7 Jul	6.2	6				
	8 Jul	24.2	1.5				
	22 Oct	2,570			0.01	0.01	
2C 3	7 Jul	0.7	70				0.051
	7 Jul	6.2	11				
	8 Jul	24.2	4				
	22 Oct	2,570			0.01	0.01	
2C 4	7 Jul	0.8	90				0.073
	7 Jul	6.3	15				
	8 Jul	24.2	6				
	22 Oct	2,570			0.01	0.01	
40 ft W of 2C 4	7 Jul	0.8	100				0.081
2C 5	7 Jul	0.8	125				0.10
	7 Jul	6.3	25				
	8 Jul	24.3	9.5				
	22 Oct	2,570			0.01	0.01	
2C 6	7 Jul	0.9	175				0.16
	7 Jul	6.3	35				
	8 Jul	24.3	14				
	22 Oct	2,570			0.02	0.01	
2C 7	7 Jul	0.9	340				0.32
	7 Jul	6.4	100				
	8 Jul	24.3	20				
	22 Oct	2,570			0.02	0.02	
2C 8	7 Jul	0.9	450				0.42
	7 Jul	6.5	130				
	8 Jul	24.3	25				
	22 Oct	2,570			0.03	0.02	
20 ft E of 2C 9	7 Jul	0.9	500				0.45
2C 9	7 Jul	6.5	180				1.0
	9 Jul	24.3	35				
	22 Oct	2,570			0.03	0.02	
Between 2C 9 and 2C 10	7 Jul	1.0	1,000				1.0
2C 10	7 Jul	1.0	1,500				1.5
	7 Jul	6.5	220				
	8 Jul	24.3	45				
	22 Oct	2,570			0.03	0.02	
2C 11	7 Jul	1.0	1,500				1.5
	7 Jul	6.5	280				
	8 Jul	24.3	100				
	22 Oct	2,570			0.03	0.03	
2C 12	7 Jul	1.1	2,200				2.9
	7 Jul	6.6	350				
	8 Jul	24.3	145				
	22 Oct	2,570			0.06	0.05	
2C 13	7 Jul	1.1	2,750				3.0
	7 Jul	6.6	500				
	8 Jul	24.3	190				
	22 Oct	2,570			0.05	0.05	
2C 14	7 Jul	1.1	4,000				4.4
	7 Jul	6.6	650				
	8 Jul	24.3	240				
	22 Oct	2,570			0.06	0.06	
2C 15	7 Jul	1.1	5,000				5.5
	7 Jul	6.6	850				
	8 Jul	24.3	310				
	22 Oct	2,570			0.07	0.06	
50 ft W of 2C 15	7 Jul	6.7	1,000				[illegible]
2C 16	7 Jul	1.1	10,000				11
	7 Jul	6.7	2,000				
	8 Jul	24.3	500				
	22 Oct	2,570			0.10	0.0[illegible]	
2C 17	7 Jul	6.7	2,500				14
	8 Jul	23.6	600				
	8 Jul	24.3	900				
	22 Oct	2,570			4.0	4.0	
2C 18	7 Jul	6.7	6,000				33
	8 Jul	23.6	1,000				
	22 Oct	2,57[illegible]			0.10	0.08	
2C 19	7 Jul	6.7	20,000				110
	8 Jul	23.6	3,000				
	22 Oct				3.0	3.0	
30 ft W of 2C 19	8 Jul	23.6	5,000				85
2C 20	8 Jul	23.6	1,000				18
	22 Oct	2,570			11	11	
2C 21	8 Jul	23.7	125				4.2
	22 Oct	2,570			2.0	1.9	
2C 22	8 Jul	23.7	80				2.8
	22 Oct	2,570			0.1[illegible]	0.14	
2C 23	8 Jul	23.7	50				1.8
	22 Oct				0.1[illegible]	0.09	
2C 24	8 Jul	23.7	48				1.8
	22 Oct	2,570			0.06	0.06	
2C 25	7 Jul	1.2	1,500	1,200			1.75
	8 Jul	23.7	40		0.09	0.09	
	22 Oct	2,570					
2C 26	7 Jul	1.2	1,500	1,200			1.75
	8 Jul	23.7	30				
	22 Oct	2,570			0.09	0.09	
2C 27	7 Jul	1.1	1,000	800			1.09
	7 Jul	5.1	200				
	8 Jul	23.8	20				
	8 Jul	23.1	20				
	22 Oct	2,570			0.04	0.04	
2D and Drill Road	7 Jul	1.6	10				0.015
2D 1	7 Jul	1.2	17				0.024
	7 Jul	1.6		30			
	7 Jul	4.9	4				
	8 Jul	24.5	0.9				
	22 Oct	2,570			0.02	0.01	

TABLE B.1 RADIATION DATA, LITTLE FELLER II (Cont'd)

Station	Date (1962)	Time After Shot hours	Dose Rate Reading: Jordan mr/hr	AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2D 2	7 Jul	1.2	25				0.028
	7 Jul	5.0	9				
	8 Jul	24.3	1.8				
	22 Oct	2,570			0.02	0.01	
60 ft W of 2D 2	7 Jul	5.0	10				0.042
2D 3	7 Jul	1.3	52				0.068
	7 Jul	5.0	14				
	8 Jul	24.5	4				
	22 Oct	2,570			0.04	0.03	
50 ft E of 2D 4	7 Jul	1.3	100				0.11
2D 4	7 Jul	1.3	95				0.11
	7 Jul	5.0	34				
	8 Jul	24.5	10				
	22 Oct	2,570			0.02	0.02	
110 ft W of 2D 4	7 Jul	5.0	100				0.43
2D 5	7 Jul	1.3	250				0.27
	7 Jul	5.0	150				
	8 Jul	24.4	18				
	22 Oct	2,570			0.02	0.02	
2D 6	7 Jul	1.4	330				0.32
	7 Jul	5.1	210				
	8 Jul	24.4	25				
	22 Oct	2,570			0.03	0.02	
2D 7	7 Jul	1.4	400				0.44
	7 Jul	5.1	260				
	8 Jul	24.4	40				
	22 Oct	2,570			0.02	0.02	
75 ft W of 2D 7	7 Jul	1.4	500				0.68
2D 8	7 Jul	1.5	1,400				2.1
	7 Jul	5.1	410				
	8 Jul	24.4	110				
	22 Oct	2,570			0.02	0.02	
50 ft W of 2D 8	7 Jul	1.5	1,000				1.4
80 ft E of 2D 9	7 Jul	1.5	5,000				7.2
2D 9	7 Jul	1.5	2,250				3.3
	7 Jul	5.1	600				
	8 Jul	24.4	200				
	22 Oct	2,570			0.08	0.07	
50 ft W of 2D 9	7 Jul	5.1	1,000				4.3
2D 10	7 Jul	1.5	10,000				19
	7 Jul	5.1	1,150				
	8 Jul	23.6	400				
	8 Jul	24.4	590				
	22 Oct	2,570			0.42	0.38	
40 ft W of 2D 10	7 Jul	5.1	5,000				22
2D 11	7 Jul	5.1	10,000				44
	22 Oct	2,570			3.4	3.2	
10 ft W of 2D 11	8 Jul	23.5	1,000				17
2D 12	8 Jul	23.5	400				6.9
	22 Oct	2,570			0.9	0.8	
2D 13	8 Jul	23.5	65				1.2
	22 Oct	2,570			0.05	0.05	
2D 14	8 Jul	23.5	22				0.38
	22 Oct	2,570			0.04	0.04	
2D 15	8 Jul	23.5	17				0.31
	22 Oct	2,570			0.04	0.04	
2D 16	8 Jul	23.3	6				0.15
	22 Oct	2,570			0.02	0.02	
2D 17	7 Jul	5.0	30				0.15
	8 Jul	25.2	6				
	22 Oct	2,570			0.02	0.02	

Station	Date (1962)	Time After Shot hours	Dose Rate Reading: Jordan mr/hr	AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2E and Brill Road	7 Jul	1.6	5	24			0.008
	7 Jul	[illegible]	2				
2E 1	7 Jul	1.7	10				0.016
	7 Jul	5.3	3.5				
	8 Jul	23.4	0.8				
	22 Oct	2,570			0.01	0.01	
2E 2	7 Jul	1.7	20				0.027
	7 Jul	5.3	10				
	8 Jul	23.4	3.1				
	22 Oct	2,570			0.02	0.02	
2E 3	7 Jul	1.7	100				0.15
	7 Jul	5.3	38				
	8 Jul	23.4	13				
	22 Oct	2,570			0.02	0.02	
60 ft E of 2E 4	7 Jul	5.4	100				0.46
2E 4	7 Jul	1.8	123				0.21
	7 Jul	5.4	110				
	8 Jul	23.5					
	22 Oct	2,570			0.03	0.03	
2E 5	7 Jul	1.8	185				0.32
	7 Jul	5.4	180				
	8 Jul	23.5	30				
	22 Oct	2,570			0.04	0.04	
2E 6	7 Jul	1.8	350				0.61
	7 Jul	5.5	300				
	8 Jul	23.6	45				
	22 Oct	2,570			0.5	0.4	
2E 7	7 Jul	1.9	1,015				1.8
	7 Jul	5.5	1,000				
	8 Jul	23.6	120				
	8 Jul	23.9	300				
	22 Oct	2,570			0.5	0.4	
80 ft W of 2E 7	7 Jul	5.5	5,000				23
2E 8	7 Jul	5.3	10,000				45
	7 Jul	5.5	8,000				
	8 Jul	23.8	1,200				
	22 Oct	2,570			4.1	3.9	
Between 2E 8 and 2E 9	8 Jul	23.8	1,000				17
50 ft E of 2E 9	7 Jul	1.3	10,000	10,000			13
2E 9	7 Jul	1.2	1,000	1,000			1.2
	7 Jul	5.2	250				
	8 Jul	23.7	60				
	22 Oct	2,570			0.08	0.07	
2E 10	7 Jul	1.1	475	500			0.52
	7 Jul	5.2	100				
	8 Jul	23.7	20				
	22 Oct	2,570			0.04	0.04	
2E 11	7 Jul	1.1	400	400			0.45
	7 Jul	5.2	50				
	8 Jul	23.6	10.2				
	22 Oct	2,570			0.04	0.03	
2E 12	7 Jul	1.0	100	100			0.10
	7 Jul	5.2	15				
	8 Jul	23.5	4				
	22 Oct	2,570			0.02	0.02	
2E 13	7 Jul	0.9	40				0.036
	7 Jul	5.0	7				
	7 Jul	5.1	6				
	8 Jul	23.2	1				
	8 Jul	23.6	1				
	22 Oct	2,570			0.02	0.02	
2F and Brill Road	7 Jul	0.6	2				0.001
2F 1	7 Jul	0.6		21			0.010
	7 Jul	2.1	5				
	8 Jul	23.9	0.8				
	22 Oct	2,570			0.02	0.02	
2F 2	7 Jul	2.1	14				0.027
	8 Jul	23.8	3				
	22 Oct	2,570			0.02	0.02	

TABLE B.1 RADIATION DATA, LITTLE FELLER II (Contd)

Station	Date (1962)	Time After Shot hours	Dose Rate Reading Jordan mr/hr	AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2F 3	7 Jul	2.2	60				3.12
	8 Jul	23.9	10				
	22 Oct	2,570			0.02	0.02	
2F 4	7 Jul	2.2	70				0.14
	8 Jul	23.7	12.5				
	22 Oct	2,570			0.03	0.03	
2F 5	7 Jul	1.9	125				0.22
	8 Jul	23.7	17.5				
	22 Oct	2,570			0.04	0.03	
2F 6	7 Jul	1.9	215				0.38
	8 Jul	23.7	26				
	22 Oct	2,570			0.06	0.05	
East of 2F 7	7 Jul	1.9		7,000			13
	7 Jul	2.0	7,000				
2F 7	7 Jul	2.0	1,000				1.8
	7 Jul	5.6	800				
	8 Jul	24.2	150				
	22 Oct	2,570			0.08	0.06	
2F 8	7 Jul	1.9	7,000	7,000			22
	7 Jul	5.6	4,500				
	8 Jul	24.2	600				
	22 Oct	2,570			2.0	1.5	
2F 9	7 Jul	1.8	5,000	5,000			8.5
	7 Jul	5.6	4,500				
	8 Jul	24.2	1,000				
	22 Oct	2,570			1.4	1.2	
2F 10	7 Jul	1.7	300	275			0.49
	7 Jul	5.5	100				
	8 Jul	24.1	20				
	22 Oct	2,570			0.05	0.05	
2F 11	7 Jul	1.7	150	100			0.25
	7 Jul	5.5	50				
	8 Jul	24.1	10				
	22 Oct	2,570			0.04	0.03	
2F 12	7 Jul	1.6	35	35			0.049
	7 Jul	5.5	15				
	8 Jul	24.0	2.5				
	22 Oct	2,570			0.03	0.03	
2F 13	7 Jul	1.5	12	10			0.015
	7 Jul	5.5	5				
	8 Jul	24.0	0.8				
	22 Oct	2,570			0.03	0.03	
2F 14	7 Jul	1.5	7	7			0.009
	7 Jul	5.4	3				
	8 Jul	24.0	0.25				
	22 Oct	2,570			0.03	0.03	
2F 15	7 Jul	3.6	1.5				0.007
	7 Jul	5.4	2				
	7 Jul	5.6	1.5				
	8 Jul	24.0	0.5				
	22 Oct	2,570			0.02	0.02	
2G 1	7 Jul	0.7	4	5			0.003
	7 Jul	1.6	1.5				
	8 Jul	24.0	0.2				
	22 Oct	2,570	.16		0.01	0.01	
2G 2	7 Jul	0.8	6	8			0.004
	8 Jul	24.0	0.25				
	22 Oct	2,570	0.16		0.01	0.01	
50 ft E of 2G 3	7 Jul	0.8	10				0.008
2G 3	7 Jul	0.8	15	20			0.011
	8 Jul	24.0	0.85				
2G 4	7 Jul	5.5	15				0.12
	8 Jul	24.0	2.6				
[illegible] 5	7 Jul	5.9	18				0.16
	8 Jul	24.5	0.7				
2G 6	7 Jul	5.2	35				0.27
	7 Jul	5.9	32				
	8 Jul	24.5	15				
	10 Jul	73.2	1				
	16 Jul	213.0	0.08				
	22 Oct	2,570			0.03	0.02	

Station	Date (1962)	Time After Shot hours	Dose Rate Reading Jordan mr/hr	AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2G 7	7 Jul	5.1	150				1.2
	7 Jul	5.9	175				
	8 Jul	24.6	45				
	8 Jul	24.7	50				
	22 Oct	2,570			0.03	0.03	
2G 8	7 Jul	0.9	10,000	10,000			8.9
	7 Jul	5.0	1,500				
	8 Jul	24.6	500				
	22 Oct	2,570			0.04	0.04	
2G 9	7 Jul	0.9	1,000	1,000			0.8
	7 Jul	5.0	45				
	8 Jul	24.5	10.5				
	22 Oct	2,570			1.2	0.44	
2G 10	7 Jul	0.8	150	180			0.10
	7 Jul	4.9	10				
	8 Jul	24.5	4				
	22 Oct	2,570			0.1	0.1	
2G 11	7 Jul	0.8	60	100			0.044
	7 Jul	4.9	4				
	8 Jul	24.4	1				
	22 Oct	2,570			0.03	0.02	
2G 12	7 Jul	0.7	30				0.017
	7 Jul	4.8	1.5				
	8 Jul	24.4	0.4				
	22 Oct	2,570			0.2	0.1	
2G 13	7 Jul	0.7	20	25			0.013
	7 Jul	3.6	3				
	7 Jul	4.8	1.5				
	7 Jul	5.5	2				
	9 Jul	24.4	0.07				
2N 1	7 Jul	0.9	2.0	2.5			0.002
	7 Jul	1.7	0.75	17			
	8 Jul	24.2	0.13				
	22 Oct	2,570			0.01	0.01	
2N 2	7 Jul	1.0	2.5	3			0.002
	8 Jul	24.2	0.15				
	22 Oct	2,570			0.01	0.01	
2N 3	8 Jul	24.2	0.4				0.021
2N 4	8 Jul	24.2	1				[illegible]
2N 5	7 Jul	6.1	7				[illegible]
	8 Jul	24.3	2				
2N 6	7 Jul	5.5	15				[illegible]
	7 Jul	6.0	14				
	8 Jul	24.4	6				
	8 Jul	24.9	5				
	22 Oct	2,570			0.03	0.02	
2N 7	7 Jul	5.5	100				[illegible]
	7 Jul	6.0	105				
	8 Jul	24.9	20				
	22 Oct	2,570			0.05	0.03	
Between 2N 7 and 2N 8	7 Jul	1.3	10,000				[illegible]
2N 8	7 Jul	1.3		10,000			[illegible]
	7 Jul	1.3	6,000				
	7 Jul	5.5	700				
	8 Jul	24.8	150				
	22 Oct	2,570			0.11	0.10	
2N 9	7 Jul	1.2	350				[illegible]
	7 Jul	1.2		400			
	7 Jul	5.4	35				
	8 Jul	24.8	9				
	22 Oct	2,570			0.033	0.028	
2N 10	7 Jul	1.2	80	120			[illegible]
	7 Jul	5.9	10				
	8 Jul	24.8	2				
	22 Oct	2,570			0.04	0.03	
2N 11	7 Jul	1.1	30	36			[illegible]
	7 Jul	5.4	2.5				
	8 Jul	24.8	0.6				
	22 Oct	2,570			0.03	0.03	
2N 12	7 Jul	1.1	20	20			[illegible]
	7 Jul	5.3	1.75				
	8 Jul	24.7	0.5				
	22 Oct	2,570			0.03	0.03	

TABLE 3.1 RADIATION DATA, LITTLE FELLER II (Cont'd)

Station	Date (1968)	Time After Shot hours	Dose Rate Reading Jordan mr/hr	AN/PDR-59A mr/hr	AN/PDR-27A Shield Open mr/hr	AN/PDR-27A Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2H and Conway Road	7 Jul	3.5	4				0.018
	7 Jul	5.5	2				
2J 1	7 Jul	1.1	1.5	1.0			0.008
	8 Jul	23.5	0.4				
	22 Oct	2,570			0.01	0.01	
2J 2	7 Jul	1.1	4.5	5.5			0.005
	8 Jul	23.6	0.8				
	22 Oct	2,570			0.02	0.01	
2J 3	7 Jul	1.1	5	8			0.006
	8 Jul	23.6	0.35				
	22 Oct	2,570			0.01	0.01	
2J 4	7 Jul	1.2	10	14			0.012
	8 Jul	23.7	0.5				
	22 Oct	2,570			0.01	0.01	
2J 5	7 Jul	1.2	30	36			0.036
	7 Jul	5.7	6				
	8 Jul	23.7	1				
	22 Oct	2,570			0.01	0.01	
50 ft E of 2J 6	7 Jul	1.3	100				0.13
2J 6	7 Jul	1.3		360			0.29
	7 Jul	1.3	200				
	7 Jul	5.8	25				
	8 Jul	23.8	7				
	9 Jul	46.7	2				
	22 Oct	2,570			0.02	0.02	
2J 7	7 Jul	2.1	600	2,100			1.5
	7 Jul	5.8	300				
	7 Jul	5.8	100				
	8 Jul	23.7	25				
	22 Oct	2,570			0.06	0.05	
50 ft E of 2J 8	7 Jul	2.1	1,000				2.6
2J 8	7 Jul	2.1	1,200	4,000			3.0
	7 Jul	5.8	1,200				
	8 Jul	23.8	70				
	22 Oct	2,570			0.12	0.12	
2J 9	7 Jul	2.0	1,500	4,000			11
	7 Jul	5.8	2,500				
	8 Jul	23.8	250				
	22 Oct	2,570			0.27	0.25	
20 ft W of 2J 9	7 Jul	0.8	21,000	28,000			16
	7 Jul	2.0	1,000	3,800			
2J 10	7 Jul	0.7	265	280			0.13
	7 Jul	2.0	35	200			
	7 Jul	5.7	12				
	8 Jul	23.9	1.3				
	22 Oct	2,570			0.02	0.02	
2J 11	7 Jul	0.7	115	128			0.05
	7 Jul	1.9	12	30			
	7 Jul	5.7	4				
	8 Jul	23.9	0.6				
	22 Oct	2,570			0.02	0.02	
2J 12	7 Jul	0.6	19	31			0.012
	7 Jul	3.5	4				
	7 Jul	5.7	2				
	8 Jul	23.9	0.35				
	22 Oct	2,570			0.02	0.02	
2J and Conway Road	7 Jul	5.5	1.5				0.012
2K 1	7 Jul	24.2	0.14				0.008
	22 Oct	2,570			0.01	0.02	
2K 2	7 Jul	24.2	0.16				0.009
	22 Oct	2,570			0.02	0.02	
2K 3	7 Jul	0.9	5				0.004
	7 Jul	6.2	6.0				
	7 Jul	24.2	0.23				
	22 Oct	2,570			0.02	0.02	
100 ft W of 2K 3	7 Jul	0.9	10				0.009
2K 4	7 Jul	0.9	15				0.013
	7 Jul	6.2	0				
	8 Jul	24.1	0.4				
	22 Oct	2,570			0.02	0.02	
100 ft W of 2K 4	7 Jul	0.9	100				0.086
2K 5	7 Jul	0.9	350				0.33
	7 Jul	6.2	14				
	8 Jul	24.1	3.5				
	22 Oct	2,570			0.03	0.02	
100 ft W of 2K 5	7 Jul	1.0	500				0.5
2K 6	7 Jul	1.0	1,050	2,000			1.0
	7 Jul	6.0	200				
	7 Jul	6.2	98				
	8 Jul	24.1	20				
	9 Jul	46.9	6				
	16 Jul	213.0	0.7				
	22 Oct	2,570			0.05	0.05	
125 ft W of 2K 6	10 Jul	73.3	2.6				0.55
500 ft W of 2K 6	7 Jul	1.1	5,000				5.6
250 ft E of 2K 7	10 Jul	73.3	6				0.11
2K 7	7 Jul	1.0	2,400	4,000			2.4
	7 Jul	6.0	700				
	8 Jul	24.0	35				
	9 Jul	46.5	11				
	16 Jul	213.0	2				
	22 Oct	2,570			0.1	0.09	
2K 8	7 Jul	1.0	250	300			0.25
	7 Jul	6.0	17				
	8 Jul	24.0	1.7				
	22 Oct	2,570			0.02	0.02	
200 ft W of 2K 8	7 Jul	0.9	100	180			0.086
2K and Conway Road	7 Jul	1.0	1,000	2,400			1.0
2K 9	7 Jul	0.8	12	22			0.009
	7 Jul	5.9	1.5				
	8 Jul	24.0	0.22				
	22 Oct	2,570			0.01	0.01	
2K 10	7 Jul	2.2	2.0	5.0			[illegible]
	7 Jul	5.5	1.0				
	7 Jul	5.9	1.5				
	8 Jul	24.0	0.26				
	22 Oct	2,570			0.01	0.01	
2L 1	7 Jul	5.2	1.25				[illegible]
	8 Jul	24.3	0.15				
	22 Oct	2,570			0.01	0.01	
2L 2	7 Jul	5.2	0.6				[illegible]
	8 Jul	24.3	0.14				
	22 Oct	2,570			0.01	0.01	
2L 3	7 Jul	5.3	1.0				[illegible]
	8 Jul	24.3	0.15				
	22 Oct	2,570			0.01	0.01	
2L 4	7 Jul	1.1	10				[illegible]
	7 Jul	5.3	1.75				
	8 Jul	24.4	0.25				
	22 Oct	2,570			0.02	0.01	
100 ft W of 2L 4	7 Jul	1.1	100				
2L 5	7 Jul	1.2	500				
	7 Jul	5.3	100				
	8 Jul	24.4	14				
	22 Oct	2,570			0.04	0.04	
2L 6	7 Jul	0.9	1,200				
	7 Jul	1.2	1,000				
	7 Jul	5.4	125				
	8 Jul	24.4	17				
	22 Oct	2,570			0.06	0.04	

TABLE 8.1 RADIATION DATA, LITTLE FELLER II (Cont'd)

Station	Date (1968)	Time After Shot hours	Dose Rate Reading Jordan mr/hr	AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2L 7	7 Jul	0.9	1,000				0.87
	7 Jul	6.4	100				
	8 Jul	24.5	20				
	22 Oct	2,570			0.06	0.05	
2L 8	7 Jul	0.8	100				0.071
	7 Jul	6.4	5				
	8 Jul	24.5	1.5				
	22 Oct	2,570			0.01	0.01	
2L 9	7 Jul	0.8	10				0.007
	7 Jul	6.5	1.25				
	8 Jul	24.5	0.3				
	22 Oct	2,570			0.02	0.02	
2L and Conway Road	7 Jul	2.2	2.0	12			0.006
	7 Jul	3.4	4.0				
	7 Jul	5.5	1.5				
2L 10	7 Jul	0.7	2				0.023
	7 Jul	6.5	0.6				
	8 Jul	24.5	0.2				
2L 11	8 Jul	24.6	0.15				0.008
2L 12	8 Jul	24.6	0.13				0.006
2L 13	8 Jul	24.7	0.13				0.006
2L 14	7 Jul	2.9	1.2				0.004
	7 Jul	2.9	0.3				
	8 Jul	24.7	0.1				
1N 1	7 Jul	1.4	1.0	1.0			0.001
	7 Jul	5.6	1.5				
1N 2	7 Jul	1.5	1.5	0.8			0.002
	7 Jul	5.7	1.0				
1N 3	7 Jul	1.5	1.0	1.0			0.001
	7 Jul	5.7	0.5				
1N 4	7 Jul	1.6	1.0	1.0			0.001
	7 Jul	5.7	0.5				
1N 5	7 Jul	1.6	0.8	0.8			0.001
	7 Jul	5.7	Negligible	0.9			
1N 6	7 Jul	1.6	1.2	0.6			0.002
	7 Jul	5.8	Negligible	0.9			
1N 7	7 Jul	1.6	1.5	0.9			0.002
	7 Jul	5.8	Negligible				
1N 8	7 Jul	1.7	1.1	0.8			0.002
	7 Jul	5.8	Negligible				
2N 1	7 Jul	5.7	0.6				0.006
	8 Jul	25.3	0.10				
	22 Oct	2,570			0.01	0.01	
2N 2	7 Jul	5.7	0.75				0.007
	8 Jul	25.3	0.13				
	22 Oct	2,570			0.02	0.02	
2N 3	7 Jul	5.6	1.25				0.011
	8 Jul	25.2	0.17				
	22 Oct	2,570					
2N 4	7 Jul	5.6	4.5				0.4
	8 Jul	25.0	1.0				
	22 Oct	2,570			0.01	0.01	
2N 5	7 Jul	5.5	80				0.68
	8 Jul	25.0	14				
	22 Oct	2,570			0.01	0.01	
2N 6	7 Jul	1.2	1,000				1.2
	7 Jul	5.3	100				
	7 Jul	5.5	150				
	8 Jul	24.9	20				
	22 Oct	2,570			0.04	0.04	
[illegible] ft E of 2N 7	7 Jul	1.2	1,000				1.3
2N 7	7 Jul	1.2	800				1.0
	7 Jul	5.3	80				
	7 Jul	6.2	50				
	8 Jul	24.8	10				
	22 Oct	2,570			0.05	0.05	

Station	Date (1968)	Time After Shot hours	Dose Rate Reading Jordan mr/hr	AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
2N 8	7 Jul	1.1	100				0.21
	7 Jul	5.2	10				
	7 Jul	6.2	6				
	8 Jul	24.8	1.5				
	22 Oct	2,570			0.03	0.03	
2N 9	7 Jul	1.1	5.0				0.006
	7 Jul	5.2	1.0				
	7 Jul	6.2	1.5				
	8 Jul	24.8	0.14				
	22 Oct	2,570			0.01	0.01	
Between 2N 9 and 2N 10	7 Jul	1.0	2.0				0.002
2N and Conway Road	7 Jul	2.2	4.0	16			0.010
	7 Jul	3.3	4.0				
2N 10	7 Jul	6.3	0.7				0.008
	8 Jul	24.8	0.12				
2N 11	8 Jul	24.7	0.08				0.004
2N 12	8 Jul	24.7	0.1				0.005
2N 13	8 Jul	24.7	0.1				0.005
2N 14	7 Jul	5.1	Negligible				0.004
	8 Jul	24.7	0.1				
2W 1	7 Jul	5.8	0.55				0.005
	8 Jul	23.3	0.1				
	22 Oct	2,570			0.03	0.03	
2W 2	7 Jul	5.8	0.8				0.007
	8 Jul	23.4	0.1				
	22 Oct	2,570			0.03	0.03	
2W 3	7 Jul	2.3	7.0				0.019
	7 Jul	5.9	1.5				
	8 Jul	23.3	0.25				
	22 Oct	2,570			0.04	0.04	
130 ft W of 2W 3	7 Jul	2.4	10				0.029
650 ft W of 2W 3	8 Jul	23.4	10				0.53
2W 4	7 Jul	2.5	750				1.6
	7 Jul	6.0	150				
	8 Jul	23.5	25				
	22 Oct	2,570			0.1	0.1	
15 ft W of 2W 4	7 Jul	2.6	1,000				3.3
2W 5	7 Jul	1.2	2,000				2.4
	7 Jul	2.7	1,050				
	7 Jul	6.0	250				
	8 Jul	23.5	100				
	22 Oct	2,570			0.17	0.17	
300 ft W of 2W 5	7 Jul	2.7	1,000				3.4
800 ft W of 2W 5	8 Jul	23.6	10				0.54
120 ft E of 2W 6	7 Jul	2.8	100				0.35
East of Stake	7 Jul	3.0	80				[illegible]
2W 6	7 Jul	1.2	200				[illegible]
	7 Jul	2.8	30				
	7 Jul	6.0	15				
	22 Oct	2,570			0.03	0.03	
100 ft W of 2W 6	7 Jul	1.1	1,000				[illegible]
200 ft W of 2W 6	7 Jul	1.0	100				[illegible]
West of Stake	7 Jul	3.0	45				[illegible]
2W 7	7 Jul	0.9	15				[illegible]
	7 Jul	6.1	1.5				
	8 Jul	23.7	0.4				
	22 Oct	2,570			0.03	0.03	

TABLE B.1 RADIATION DATA, LITTLE FELLER II (Contd)

Station	Date (1968)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-39A	Dose Rate Reading: AN/PDR-27J Shield Open	Dose Rate Reading: AN/PDR-27J Shield Closed	Calculated Hrl Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	mr/hr	r/hr
2R and Conway Road	7 Jul	2.3	6.0				0.017
	7 Jul	3.1	5.0				
	7 Jul	3.3	5.0				
2R 8	7 Jul	0.9	1				0.001
	7 Jul	6.1	0.6				
	8 Jul	23.7	0.18				
	22 Oct	2,570			0.03	0.03	
2R 9	7 Jul	0.8	0.2				
	8 Jul	23.7	0.12				
	22 Oct	2,570			0.03	0.03	
2R 10	7 Jul	0.8	0.15				
	8 Jul	23.8	0.1				
	22 Oct	2,570			0.05	0.03	
2R 11	7 Jul	0.7	0.1				
	8 Jul	23.8	0.1				
	22 Oct	2,570			0.05	0.03	
2P 1	8 Jul	24.3	0.12				0.006
	22 Oct	2,570			0.03	0.03	
2P 2	8 Jul	24.3	0.12				0.006
	22 Oct	2,570			0.03	0.03	
2P 3	8 Jul	24.3	0.15				0.008
	22 Oct	2,570			0.03	0.03	
2P 4	7 Jul	3.6	10				0.05
	8 Jul	24.2	0.5				
	22 Oct	2,570			0.09	0.09	
650 ft W of 2P 4	8 Jul	24.0	10				0.54
350 ft E of 2P 5	7 Jul	3.6	100				0.49
2P 5	7 Jul	3.5	600				2.8
	8 Jul	24.1	25				
	22 Oct	2,570			0.09	0.09	
2P 6	7 Jul	1.6	700				0.97
	7 Jul	3.5	400				
	8 Jul	24.1	20				
	22 Oct	2,570			0.08	0.08	
300 ft W of 2P 6	8 Jul	24.1	10				0.54
2P 7	7 Jul	1.5	200				0.31
	7 Jul	3.4	75				
	8 Jul	24.0	5				
	22 Oct	2,570			0.03	0.08	
250 ft W of 2P 7	7 Jul	3.4	100				0.45
2P and Conway Road	7 Jul	2.3	160				0.45
	7 Jul	3.2	30				
	7 Jul	3.6	5				
2P 8	7 Jul	1.4	100				0.11
	7 Jul	3.3	80				
	7 Jul	5.0	15				
	7 Jul	6.8	15				
	8 Jul	24.0	1.8				
100 ft W of 2P 8	7 Jul	1.4	10				0.015
2P 9	7 Jul	1.4	4				0.06
	7 Jul	5.0	1.5				
	8 Jul	24.0	0.12				
2P 10	7 Jul	1.3	0.7				0.010
	7 Jul	5.0	1.0				
	8 Jul	23.9	0.1				
2P 11	7 Jul	5.1	0.7				0.005
	8 Jul	23.9	0.1				
2P 12	7 Jul	5.1	0.8				0.006
	8 Jul	23.9	0.1				
2P 13	7 Jul	5.1	0.9				0.003
	8 Jul	23.8	0.1				
2Q 1	7 Jul	2.4	0.6				0.005
	8 Jul	24.4	0.1				
	22 Oct	2,570			0.03	0.03	
2Q 2	7 Jul	4.1	2.0				0.011
	8 Jul	24.4	0.1				
	22 Oct	2,570					
2Q 3	7 Jul	4.2	2.2				0.013
	8 Jul	24.5	0.1				
	22 Oct	2,570			0.03	0.03	
2Q 4	7 Jul	4.2	3.0				0.018
	8 Jul	24.5	0.11				
	22 Oct	2,570			0.03	0.03	
2Q 5	7 Jul	1.7	40				0.07
	7 Jul	4.3	15				
	8 Jul	24.4	1				
	22 Oct	2,750			0.03	0.03	
400 ft W of 2Q 5	8 Jul	24.6	10				0.54
2Q 6	7 Jul	1.6	450	400			0.55
	7 Jul	4.3	300				
	8 Jul	24.6	20				
	9 Jul	46.2	5				
	22 Oct	2,570			0.08	0.08	
975 ft W of 2Q 6	8 Jul	24.7	10				0.54
2Q 7	7 Jul	1.5	350	280			0.56
	7 Jul	4.4	100				
	8 Jul	24.7	9.5				
	9 Jul	46.2	2.3				
	22 Oct	2,570			0.05	0.08	
2Q 8	7 Jul	1.4	100	60			0.16
	7 Jul	5.3	14				
	7 Jul	6.8	5				
	8 Jul	24.7	1.9				
	22 Oct	2,570			0.04	0.04	
2Q and Conway Road	7 Jul	2.3	20	41			0.056
	7 Jul	3.1	20	20			
	7 Jul	4.4	15				
2Q 9	7 Jul	5.3	3.8				0.03
	8 Jul	24.7	0.55				
2Q 10	7 Jul	5.3	1.5				0.012
	8 Jul	24.8	0.25				
2Q 11	7 Jul	5.2	1.0				0.008
	8 Jul	24.8	0.17				
2Q 12	7 Jul	5.2	0.9				0.007
	8 Jul	24.8	0.13				
2Q 13	7 Jul	5.2	0.8				0.006
	8 Jul	24.9	0.12				
2R and Brill Road	8 Jul	25.5	0.15				0.009
2R 1	7 Jul	2.6	0.15				
	7 Jul	5.7	0.12				
	8 Jul	23.9	0.15				
	22 Oct	2,570			0.03	0.03	
2R 2	7 Jul	2.6	0.15				
	7 Jul	5.6	0.12				
	8 Jul	23.9	0.15				
	22 Oct	2,570			0.03	0.03	
2R 3	7 Jul	2.7	0.15				
	7 Jul	5.6	0.15				
	8 Jul	24.0	0.15				
	22 Oct	2,570			0.03	0.03	
2R 4	7 Jul	2.7	0.2				0.001
	7 Jul	5.5	0.2				
	8 Jul	24.1	0.15				
	22 Oct	2,570			0.03	0.03	
2R 5	7 Jul	2.8	5				0.015
	7 Jul	5.5	1				
	8 Jul	24.1	0.13				
	22 Oct	2,570			0.02	0.02	
2R 6	7 Jul	2.8	45				0.16
	7 Jul	5.5	20				
	8 Jul	24.1	3				
	22 Oct	2,570			0.04	0.04	

TABLE B.1 RADIATION DATA, LITTLE FELLER II (Cont'd)

Station	Date (1962)	Time After Shot	Dose Rate Reading: Jordan	AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	mr/hr	r/hr
2R 7	7 Jul	2.9	125				0.47
	7 Jul	5.4	100				
	8 Jul	24.2	12				
	22 Oct	2,570			0.06	0.06	
2R and Conway Road	7 Jul	2.5	39	125			0.12
	7 Jul	3.0	20	20			
2R 8	7 Jul	3.0	45				0.17
	7 Jul	5.4	25				
	8 Jul	24.3	4				
	22 Oct	2,570			0.05	0.05	
2R 9	7 Jul	3.0	25				0.12
	7 Jul	5.3	16				
	8 Jul	24.3	2				
	22 Oct	2,570			0.03	0.03	
2S 1	7 Jul	3.6	0.3				0.002
	8 Jul	24.6	0.15				
	8 Jul	25.6	2.0				
2S 2	7 Jul	3.6	0.1				
	8 Jul	24.7	0.15				
2S 3	7 Jul	3.5	0.4				0.002
	8 Jul	24.7	0.15				
2S 4	7 Jul	3.3	5				0.022
	7 Jul	5.8	25				
	8 Jul	24.8	0.5				
2S 5	7 Jul	3.4	45				0.20
	7 Jul	5.9	30				
	8 Jul	24.8	6				
2S 6	7 Jul	3.3	30				0.13
	7 Jul	6.0	15				
	8 Jul	24.9	4				
2S 7	7 Jul	3.3	18				0.08
	7 Jul	6.0	14				
	8 Jul	25.0	2				
2S 8	7 Jul	2.5	29	44			0.09
	7 Jul	2.5	25				
	7 Jul	5.8	0.12				
	7 Jul	6.0	10				
	7 Jul	6.8	8				
	8 Jul	25.1	2				
2T 1	7 Jul	2.4	25	46			0.073
	7 Jul	5.4	11				
	7 Jul	6.8	6.5				
	8 Jul	25.2	15				
2T 2	7 Jul	5.4	14				0.11
	8 Jul	25.3	15				
2T 3	7 Jul	5.4	5				0.041
	8 Jul	25.3	0.5				
2T 4	7 Jul	5.4	1.8				0.015
	8 Jul	25.4	0.25				
2T 5	7 Jul	2.6	3.0	12			0.01
	7 Jul	5.5	2.0				
	8 Jul	25.4	0.25				
Drill 1	7 Jul	2.8	10.0	10.0			0.078
	8 Jul	25.6	1.5				
	8 Jul	25.6	2.0				
Drill 2	7 Jul	6.1	12				0.11
	8 Jul	25.6	1				
Drill 3	7 Jul	6.1	9				0.064
	8 Jul	25.6	1.5				
Drill 4	7 Jul	6.2	20				0.19
	8 Jul	25.7	2.5				
Drill 5	7 Jul	6.2	25				0.24
	8 Jul	25.7	9				
Drill 6	7 Jul	6.2	35				0.34
	8 Jul	25.7	9				
Drill 7	7 Jul	6.3	8				0.08
	8 Jul	25.7	1.5				
Drill 8	7 Jul	6.3	0.8				0.008
	8 Jul	25.8	0.2				
Drill 9	7 Jul	6.3	0.2				0.002
	8 Jul	25.9	0.2				
Drill 10	7 Jul	6.4	0.6				0.006
	8 Jul	25.9	0.15				
Drill 11	7 Jul	6.4	0.2				0.002
2L and Morgenthau	7 Jul	2.9	0.3	1.2			0.001
2M and Morgenthau	7 Jul	2.9	0.25	1.0			0.001
2N and Morgenthau	7 Jul	2.9	0.25	1.4			0.001
J7 and Morgenthau	7 Jul	2.8	0.2	1.0			0.001
Pacific and J6	7 Jul	2.8	0.2	1.0			0.001
Pacific and 2P	7 Jul	2.8	0.27	1.0			0.001
Pacific and Glen	7 Jul	2.7	0.3	1.0			0.001
2Q at Glen	7 Jul	2.7	0.25	1.0			0.001
Glen 16	7 Jul	2.7	1.0	1.0			0.003
Glen 21	7 Jul	2.6	13	28			0.004
Glen 23	7 Jul	2.6	25.0	46			0.082
	8 Jul	25.5	1.5				
2C 13[a]	7 Jul	1.2	6,000				
2D 7[a]	7 Jul	1.1	2,500				
2L 4[a]	7 Jul	0.9	30				
2L 5[a]	7 Jul	0.9	3,000				
2L 6[a]	7 Jul	0.9	6,000				
2L 8[a]	7 Jul	0.7	200				
2M 4[a]	7 Jul	0.5	300				
2M 5[a]	7 Jul	0.5	100				
2M 6[a]	7 Jul	0.5	3,000				
2M 7[a]	7 Jul	0.5	4,000				
A-1[b]	7 Jul	3.2	0				0
	8 Jul	21.4	0				
A-2[b]	7 Jul	3.3	3.3				0.015
	8 Jul	21.5	0				
A-4[b]	7 Jul	3.4	5.0				0.023
	8 Jul	21.6	0.6				
A-5[b]	7 Jul	3.5	0.9				0.004
	8 Jul	21.7	0				
A-6[b]	7 Jul	3.5	0				0
A-7[b]	7 Jul	3.6	0				0
A-8[b]	7 Jul	3.7	0				0
I[b]	7 Jul	4.2	0				0
II[b]	7 Jul	4.1	0				
	8 Jul	21.9	0				
III[b]	7 Jul	4.1	2.5				
	8 Jul	21.9	0.5				
IV[b]	7 Jul	4.0	8.5				
	8 Jul	21.8	0.8				
V[b]	7 Jul	3.9	4.0				
	8 Jul	21.7	0.5				
VI[b]	7 Jul	3.8	0.6				
VII[b]	7 Jul	3.7	0.5				

[a] Dropping probe measurement.
[b] Pahute Mesa station reached by helicopter

TABLE 3.2 LITTLE FELLOW II DOSES.

All films recovered on D+3 days.

Station	LSD Beta	LSD Gamma	REMBL Gamma	PFMCo Gamma	PFMCo Corrected* Gamma
	r	r	r	r	r
Mardin 1			> 2,500	> 1,100	
Mardin 2			> 2,500	> 1,000	
Mardin 3				> 1,000	
Mardin 4		1,800	1,200	> 1,000	
Mardin 5			750	> 1,000	
Mardin 6			550	520	
Mardin 7			440	290	
Mardin 8					
Mardin 9			230	180	
Mardin 10					
Powell 1				> 1,070	
Powell 2			> 2,500	> 1,000	
Powell 3			1,600	> 1,000	
Powell 4		1,400	940	650	
Powell 5			600	420	
Powell 6			450	310	
Powell 7	13	560	360	200	
Powell 8				182	
Powell 9				140	
Powell 10				120	170
Powell 11					
Powell 12				76	103
Powell 13				67	94
Powell 14				53	74
Powell 15					
Powell 16					
Powell 17					
Powell 18					
Foxhole 3			> 2,500	> 1,000	
Foxhole 4			> 2,500	> 1,000	
Foxhole 5		2,500	2,500	> 1,000	
Foxhole 6			1,330	> 1,000	
Foxhole 7			690	400	
Foxhole 8			500	350	
Foxhole 9				250	
Foxhole 10			340	190	
Foxhole 11					
Foxhole 12					
Bouton 1			440	140	
Bouton 2			21	17	
Bouton 3			35	21	
Bouton 4			30	28	
Bouton 5			48	46	
Bouton 6			74	69	
Bouton 7			150	98	
Bouton 8			190	120	
Bouton 9			230	160	
Bouton 10			290	180	
Bouton 11			350	200	
Bouton 12			411	280	
Bouton 13			500	370	
Bouton 14		1,400	1,200	> 1,000	
Bouton 15			> 2,500	> 1,170	
Bouton 16			> 2,500	> 1,000	
Bouton 17			> 2,500		
Bouton 18					
2A 1			25	17	
2A 2			31	20	
2A 3			38	25	
2A 4			51	33	
2A 5		90	66	42	
2A 6			81	54	
2A 7			110	71	
2A 8			150	96	
2A 9			190	140	
2A 10			260	180	
2A 11			350	200	
2A 12			530	370	
2A 13			770	> 1,000	
2A 14			1,300	> 1,000	
2A 15		2,400	2,000	> 1,000	
2A 16			> 2,500	> 1,000	
2A 17					
2A 21			> 2,500		
2A 22			> 2,500	1,000	
2A 23			> 2,500	1,000	
2A 24			2,000	1,000	
2A 25		1,450	1,050	1,000	
2A 26			670	520	
2A 27			470	290	
2A 28			380	200	
2A 29			300	170	
2A 30			230	140	
2A 31			190	110	
2A 32			150	87	
2A 33			120	70	
2A 34			81	50	
2A 35			77	47	
2A 36			64	38	

Station	LSD Beta	LSD Gamma	REMBL Gamma	PFMCo Gamma	PFMCo Corrected* Gamma
	r	r	r	r	r
2A 37			40	29	
2A 38			28	20	
2A 39			26	17	
2A 40			21	14	
2A 41			15	11	
2A 42			15	10	
2A 43				8	12
2A 44				8	10
2A 45				6	8.4
2A 46				[illegible]	[illegible]
2A 47				4	6.6
2A 48				4	6.1
2A 49				4	5.6
2A 50				4	4.7
2B 1			23	16	
2B 2			28	17	
2B 3			38	28	
2B 4			62	40	
2B 5			74	46	
2B 6			160	110	
2B 7			280	190	
2B 8			360	2	
2B 9			440	330	
2B 10			720	600	
2B 11			1,150	1,000	
2B 12			2,300	1,000	
2B 13			2,300		
2B 14			> 2,500	> 1,000	
2B 15			> 2,500		
2B 16					
2B 17					
2C 1		23	18	15	
2C 2			23	19	
2C 3			40	25	
2C 4			58	38	
2C 5			93	59	
2C 6			140	92	
2C 7			270	150	
2C 8			340	210	
2C 9			430	290	
2C 10	120	800	600	390	
2C 11			680	540	
2C 12			960	540	
2C 13			1,550	> 1,000	
2C 14			> 2,500	> 1,000	
2C 15			> 2,500	> 1,000	
2C 16			> 2,500	> 1,000	
2C 17			> 2,500	> 1,000	
2C 18			> 2,500	> 1,000	
2C 19			> 2,500	> 1,000	
2C 20			> 2,500	> 1,000	
2C 21			1,650	> 1,000	
2C 22			1,100	> 1,000	
2C 23			680	620	
2C 24			540	470	
2C 25			440	320	
2C 26			350	270	
2C 27			290	200	
2D 1			19	14	
2D 2		34	28	22	
2D 3			45	36	
2D 4		150	100	76	
2D 5			230	170	
2D 6			330	220	
2D 7			440	300	
2D 8			790	> 1,000	
2D 9			1,900	> 1,000	
2D 10	250	2,440	> 2,500	> 1,000	
2D 11				> 1,000	
2D 12				> 1,000	
2D 13				780	
2D 14	12	470	320	> 1,000	
2D 15			220	168	
2D 16			110	76	
2D 17			60	50	
2E 1		17	13	11	
2E 2			32	27	
2E 3			92	85	
2E 4			150	150	
2E 5			230	200	
2E 6		610	320	310	
2E 7			430	670	
2E 8				> 1,000	
2E 9			260	270	
2E 10			160	140	
2E 11			85	73	
2E 12		52.4	32	280	
2E 13				11	

* See Section 3.1.4

TABLE 3.2 LITTLE FELLER II DOSES (Contd)

All films recovered on D+3 days.

Station	LAD Beta	LAD Gamma	NLMRL Gamma	NLMCo Gamma	NLMCo Corrected Gamma*
	r	r	r	r	r
2F 1				85	
2F 2			26	24	
2F 3			74	64	
2F 4			98	92	
2F 5			130	130	
2F 6			180	160	
2F 7			250	250	
2F 8			360	430	
2F 9			330	270	
2F 10			100	78	
2F 11			68	50	
2F 12				21	30
2F 13				10	14
2F 15				4	5.6
2G 1				4	
2G 2		5.7		5	
2G 3				11	
2G 4			32	28	
2G 5			53	24	
2G 6			85	68	
2G 7	53	180	120	99	
2G 8			180	200	
2G 9			54	46	
2G 10		42	25	21	
2G 11			16	11	
2G 12			10	6	
2G 13			7.4	4	
2H 1			4.2	2	
2H 2			4.6		
2H 3			11	6	
2H 4			16	10	
2H 5			22	21	
2H 6		64	36	32	
2H 7			52	47	
2H 8			92	85	
2H 9		35	22	23	
2H 10			15	12	
2H 11			11	6	
2H 12		5.7		4	
2J 1			3.8	1.5	
2J 2			6.8	3.5	
2J 3			7.6	4.7	
2J 4			12	8	
2J 5			17	13	
2J 6			21	20	
2J 7	54	14	31	29	
2J 8			35	41	
2J 9			73	87	
2J 10			13	8	
2J 11			9.2	4.7	
2J 12			7.2	2.8	
2K 1			1.8	0.81	
2K 2			2.1	1.7	
2K 3			6.3	2.5	
2K 4			7.4	5	
2K 5			15	11	
2K 6			21	21	
2K 7			25	27	
2K 8		9.7	8.6	5.8	
2K 9			3.9	1.8	
2K 10			3.9	1.8	
2L 1			3.5	0.48	
2L 2			2.9	0.84	
2L 3			2.1	1.9	
2L 4			6.3	3.7	
2L 5			15	14	
2L 6			15	18	
2L 7			15	16	
2L 8			6.3	3.2	
2L 9			4.2	1.4	
2L 10			2.9	0.5	
2L 11			0.7	0.24	
2L 13			0.3	0.90	

Station	LAD Beta	LAD Gamma	NLMRL Gamma	NLMCo Gamma	NLMCo Corrected Gamma*
	r	r	r	r	r
2M 1			1.2	0.31	
2M 2			1.2	0.7	
2M 3			5.4	1.6	
2M 4	1	5	5.4	3.1	
2M 5			13	12	
2M 6			17	16	
2M 7	11	13	11	9.3	
2M 8			5.6	2.6	
2M 9			2.9	0.83	
2M 10		0.49	3.1		
2M 11			0.7	0.18	
2M 12			0.7	0.11	
2N 2			0.1	0.46	
2N 3			3.3		
2N 4			15	15	
2N 6			5.8	3	
2N 7			1.8	0.69	
2N 8			3.1	2.3	
2P 4			2.7	2.1	
2P 5			14	14	
2P 6	16	15	14	14	
2P 7			6.8	3.4	
2P 8			3.5	1.5	
2Q 5	1.4	1.6	2		
2Q 6			12.0	5.5	
2Q 7			8.5	4.7	
2Q 8			3.8	2	
2Q 9			2	0.01	
2R 5	0.31	0.49	1.9	0.34	
2R 6			5.6	2.7	
2R 7			8.8	4.8	
2R 8			5.3	6.8	
2R 9	2.6	1.8	3.5	2.3	
2S 5			6.3	3.2	
2S 6			5.0	2.5	
2S 7			4.7	2	
2S 8			2.9	1.7	
2T 1				1.9	2.7
2T 2				1.7	2.4
2T 3				1.1	1.5
2T 4				0.47	<5
2T 5				0.42	<8
Brill 1			2.5	1.6	
Brill 2			5.4	1.6	
Brill 3			3.8	1.4	
Brill 4			3.7	2.1	
Brill 5			5.3	3.4	
Brill 6			6.8	3.3	
Brill 7			2.4	0.92	
Brill 8			1.6	0.46	
Brill 9			0.9	0.03	
Brill 10			5.0	0.33	
Brill 11			2.1	0.03	

* See Section 3.1.4

APPENDIX C

JOHNIE BOY DATA

TABLE C.1 RADIATION SURVEY DATA, JOHNIE BOY
TABLE C.2 JOHNIE BOY DOSES

TABLE C.1 RADIATION SURVEY DATA, JOHNIE BOY

Station	Date (1968)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading AN/PDR-27J Shield Open	Dose Rate Reading AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Wayne 1	23 Oct	2,500		120	120	
Wayne 2	23 Oct	2,500		40	40	
Wayne 3	23 Oct	2,500		11	11	
Wayne 4	11 Jul	6.9	10,000			110
	26 Jul	361	20			
	23 Oct	2,500		9.0	9.0	
Wayne 5	11 Jul	6.9	7,000			77
	26 Jul	361	15			
	23 Oct	2,500		3.8	3.8	
Wayne 6	11 Jul	6.9	4,600			51
	23 Oct	2,500		2.2	2.2	
Wayne 7	11 Jul	6.9	3,000			33
	23 Oct	2,500		1.7	1.7	
Wayne 8	11 Jul	6.9	2,100			23
	23 Oct	2,500		1.0	1.0	
Wayne 9	11 Jul	6.9	1,400			15
	23 Oct	2,500		0.8	0.8	
Wayne 10	11 Jul	6.9	1,000			10
	23 Oct	2,500		0.6	0.6	
Wayne 11	11 Jul	0.98	9,000			7.7
	11 Jul	6.9	740			
	23 Oct	2,500		0.85	0.70	
Wayne 12	11 Jul	0.90	8,000			7.0
	11 Jul	6.9	600			
	23 Oct	2,500		0.30	0.30	
Wayne 13	11 Jul	0.88	5,000			4.4
	11 Jul	6.9	490			
	23 Oct	2,500		0.24	0.24	
Wayne 14	11 Jul	0.88	4,500			4.0
	11 Jul	6.9	400			
	23 Oct	2,500		0.19	0.19	
Wayne 15	11 Jul	0.83	3,500			2.7
	11 Jul	6.8	330			
	23 Oct	2,500		0.13	0.13	
Access 1	23 Oct	2,500		100	100	
Access 2	23 Oct	2,500		47	47	
Access 3	23 Oct	2,500		27	27	
Access 4	23 Oct	2,500		12	12	
½ way between Access 4 & 5	11 Jul	6.8	10,000			110
Access 5	11 Jul	6.8	7,000			77
	23 Oct	2,500		4.4	4.4	
150 ft from Ground Zero	13 Jul	54.8	6,000			710
Access 6	11 Jul	6.8	4,800			53
	23 Oct	2,500		4.2	4.1	
Access 7	11 Jul	3.9	7,500			39
	11 Jul	6.8	3,000			
	23 Oct	2,500		1.6	1.6	
40 ft south of Access 7	11 Jul	3.9	10,000			58
Access 8	11 Jul	3.9	4,500			23
	11 Jul	6.8	2,000			
	23 Oct	2,500		1.4	1.4	
Access 9	11 Jul	3.9	3,000			16
	11 Jul	6.8	1,400			
	23 Oct	2,500		0.9	0.8	
Access 10	11 Jul	3.9	2,000			10
	11 Jul	6.8	1,000			
	23 Oct	2,500		0.44	0.44	
Access 11	11 Jul	3.9	1,600			8.3
	11 Jul	6.7	800			
	23 Oct	2,500		0.39	0.39	
Access 12	11 Jul	3.8	1,400			7.0
	11 Jul	6.7	520			
	23 Oct	2,500		0.36	0.35	
Access 13	11 Jul	0.68	10,000			5.4
	11 Jul	3.8	1,000			
	11 Jul	6.7	500			
	12 Jul	29.5	200			
	13 Jul	57.1	23			
	16 Jul	118	9			
	18 Jul	171	4			
	26 Jul	360	1.0			
	23 Oct	2,500		0.29	0.29	
Access 14	11 Jul	0.58	7,000			3.8
	11 Jul	3.8	700			
	12 Jul	29.5	100			
	13 Jul	57.1	21			
	16 Jul	118	6			
	18 Jul	171	1.5			
	26 Jul	360	0.6			
	23 Oct	2,500		0.27	0.26	
Access 15	11 Jul	0.56	6,500			3.8
	11 Jul	3.8	600			
	11 Jul	6.7	300			
	12 Jul	29.5	80			
	13 Jul	50.1	20			
	16 Jul	118	5			
	18 Jul	171	1.8			
	26 Jul	360	0.5			
	23 Oct	2,500		0.24	0.24	
Access 16	11 Jul	0.55	5,500			2.6
	11 Jul	3.8	500			
	11 Jul	6.7	400			
	12 Jul	29.4	60			
	13 Jul	57.1	20			
	16 Jul	118	5			
	18 Jul	171	1.4			
	26 Jul	360	<0.5			
	23 Oct	2,500		0.13	0.13	
Access 17	11 Jul	0.53	4,600			2.0
	11 Jul	3.8	450			
	11 Jul	6.7	250			
	18 Jul	171	1			
	23 Oct	2,500		0.11	0.11	
Access 18	11 Jul	0.52	4,500			1.9
	11 Jul	3.8	300			
	11 Jul	6.7	200			
	23 Oct	2,500		0.12	0.10	
Access 19	11 Jul	0.50	2,500			1.1
	11 Jul	3.8	250			
	11 Jul	6.7	110			
	23 Oct	2,500		0.07	0.06	
Access 20	11 Jul	0.48	2,000			0.9
	11 Jul	3.7	220			
	11 Jul	3.7	100			
300 ft south of Access 20	11 Jul	6.7	90			0.8
Betty 2	26 Jul	361	50			420
Betty 3	11 Jul	7.1	10,000			110
	25 Jul	361	20			
Betty 4	11 Jul	7.1	4,900			54
	26 Jul	361	10			
Betty 5	11 Jul	7.1	3,000			33
	26 Jul	361	6.5			
Betty 6	11 Jul	7.1	2,000			22
Betty 7	11 Jul	7.1	1,500			16
Betty 8	11 Jul	7.1	900			9.9
Betty 9	11 Jul	7.1	690			7.6
Betty 10	11 Jul	7.0	500			5.5
Betty 11	11 Jul	7.0	450			5.0
Betty 12	11 Jul	7.0	390			4.3
Betty 13	11 Jul	7.0	260			2.9
Betty 14	11 Jul	7.0	180			2.0
Betty 15	11 Jul	7.0	160			1.8
Joyce 3	26 Jul	361	40			340
Joyce 4	26 Jul	361	17			140
Joyce 5	11 Jul	4.2	10,000			56
	26 Jul	361	13			
Joyce 6	11 Jul	4.1	6,000			34
Joyce 7	11 Jul	4.2	4,000			23
Joyce 8	11 Jul	4.1	2,500			14
Joyce 9	11 Jul	4.1	1,500			8.2
Joyce 10	11 Jul	4.1	1,500			8.2
Joyce 11	11 Jul	4.1	1,500			8.2
Joyce 12	11 Jul	4.1	1,000			5.5
Joyce 13	11 Jul	4.1	600			3.3
Joyce 14	11 Jul	4.1	500			2.8
Joyce 15	11 Jul	4.1	400			2.2
JAA 1	23 Oct	2,500		8.0	7.5	
JAA 2	23 Oct	2,500		4.5	4.4	
JAA 3	11 Jul	7.2	10,000			110
	23 Oct	2,500		3.3	3.3	
JAA 4	11 Jul	7.2	5,000			55
	18 Jul	171	12			
	23 Oct	2,500		1.9	1.9	
JAA 5	11 Jul	7.2	3,000			33
	18 Jul	171	12			
	23 Oct	2,500		1.5	1.5	

TABLE C.1 RADIATION SURVEY DATA, JOHNSTON ATOLL (Contd)

Station	Date (1968)	Time After Shot	Dose Rate Readings Jordan	Dose Rate Readings 4/PDR-27 Shield Open	Dose Rate Readings 4/PDR-27 Shield Closed	Calculated 8-1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
JAA 6	18 Jul	171	8			120
	23 Oct	2,500		1.0	1.0	
JAA 7	18 Jul	171	4.5			6.9
	23 Oct	2,500		0.70	0.60	
JAA 8	11 Jul	7.8	875			9.6
	18 Jul	171	3			
	23 Oct	2,500		0.35	0.35	
JAA 9	11 Jul	0.8	10,000			7.6
	11 Jul	7.1	800			
	12 Jul	29.5	350			
	13 Jul	57.9	50			
	16 Jul	118	12			
	18 Jul	171	2.5			
	26 Jul	361	1.5			
	23 Oct	2,500		0.28	0.28	
JAA 10	11 Jul	0.78	8,000			6.1
	11 Jul	7.1	500			
	12 Jul	29.5	300			
	13 Jul	57.8	45			
	16 Jul	118	9			
	18 Jul	171	2			
	26 Jul	361	1.3			
	23 Oct	2,500		0.2	0.2	
JAA 11	11 Jul	0.78	5,750			4.4
	11 Jul	7.1	460			
	12 Jul	29.5	230			
	13 Jul	57.8	49			
	16 Jul	118	6			
	18 Jul	171	1.5			
	26 Jul	361	0.7			
	19 Oct	2,400		0.26	0.25	
JAA 12	11 Jul	0.79	4,500			3.4
	11 Jul	7.1	385			
	18 Jul	171	1			
	19 Oct	2,400		0.22	0.21	
JAA 13	11 Jul	0.77	3,500			2.7
	11 Jul	6.6	350			
	18 Jul	171	0.9			
	19 Oct	2,400		0.13	0.12	
JAA 14	11 Jul	0.75	2,500			1.9
	11 Jul	6.6	250			
	18 Jul	171	0.7			
	19 Oct	2,400		0.11	0.10	
JAA 15	11 Jul	0.75	2,000			1.5
	11 Jul	6.6	240			
	18 Jul	171	0.5			
	19 Oct	2,400		0.10	0.09	
JAA 16	11 Jul	0.73	1,750			1.1
	11 Jul	6.6	219			
	18 Jul	171	0.4			
	19 Oct	2,400		0.07	0.06	
JAA 17	11 Jul	0.72	1,500			0.97
	11 Jul	6.6	150			
	18 Jul	171	0.4			
	19 Oct	2,400		0.06	0.05	
JAA 18	11 Jul	0.72	1,000			0.65
	11 Jul	6.6	132			
	18 Jul	171	0			
	19 Oct	2,400		0.05	0.05	
JAA 19	11 Jul	0.67	950			0.61
	11 Jul	6.6	90			
	18 Jul	171	0			
	19 Oct	2,400		0.05	0.04	
JA 20	11 Jul	0.67	600			0.39
	18 Jul	171	0			
	19 Oct	2,400		0.05	0.04	
JAA 21	11 Jul	0.67	550			0.36
	11 Jul	6.6	50			
	18 Jul	171	0			
	19 Oct	2,400		0.04	0.03	
JAA 22	11 Jul	0.65	440			0.29
	11 Jul	6.5	45			
	18 Jul	171	0			
	19 Oct	2,400		0.04	0.03	
JAA 23	11 Jul	0.88	390			0.24
	11 Jul	6.5	40			
	18 Jul	171	0			
	19 Oct	2,400		0.04	0.03	
JAA 24	11 Jul	0.61	400			0.21
	11 Jul	6.5	35			
	18 Jul	171	0			
	19 Oct	2,400		0.04	0.03	
JAA 25	11 Jul	0.60	350			0.19
	11 Jul	6.5	26			
	18 Jul	171	0			
	19 Oct	2,400		0.04	0.03	
JAA 26	11 Jul	0.58	3,300			0.16
	11 Jul	6.5	25			
	18 Jul	171	0			
	19 Oct	2,400		0.04	0.03	
JAA 27	11 Jul	0.60	250			0.13
	11 Jul	6.5	22			
JAA 27	18 Jul	171	0			
	19 Oct	2,400		0.03	0.02	
JAA 28	11 Jul	0.58	250			0.13
	11 Jul	6.5	20			
	18 Jul	171	0			
	19 Oct	2,400		0.03	0.02	
JAA 29	11 Jul	0.56	200			0.11
	11 Jul	6.5	20			
	18 Jul	171	0			
	19 Oct	2,400		0.03	0.02	
JAA 30	11 Jul	0.56	150			0.08
	11 Jul	6.5	16			
	18 Jul	171	0			
	19 Oct	2,400		0.03	0.02	
JAA 31	11 Jul	0.54	150			0.07
	11 Jul	6.5	10			
	19 Oct	2,400		0.03	0.02	
JAA 32	11 Jul	0.52	45			0.02
	11 Jul	6.8	6.7			
	18 Jul	171	0			
	19 Oct	2,400		0.03	0.02	
JAA 33	11 Jul	0.52	30			0.013
	11 Jul	6.4	4.5			
	18 Jul	171	0			
	19 Oct	2,400		0.03	0.02	
JAA 34	11 Jul	0.49	30			0.013
	11 Jul	6.4	4.5			
	18 Jul	171	0			
	19 Oct	2,400		0.03	0.02	
JAA 35	11 Jul	0.50	30			0.013
	11 Jul	6.4	4.5			
	18 Jul	171	0			
	19 Oct	2,400		0.03	0.02	
JAA 4 Gmr	11 Jul	0.48	20			0.009
	19 Oct	2,400		0.03	0.02	
JAA 37	11 Jul	3.4	1,100			4.8
	19 Oct	2,400		0.03	0.29	
JAA 38	11 Jul	3.4	1,300			5.7
	18 Jul	171	2.5			
	19 Oct	2,400		0.47	0.46	
JAA 39	18 Jul	171	2.5			3.8
	19 Oct	2,400		0.6	0.5	
JAA 40	11 Jul	1.10	3,000			3.4
	11 Jul	3.4	2,000			
	18 Jul	171	4			
	19 Oct	2,400		0.7	0.6	
JAA 41	11 Jul	1.13	4,000			4.5
	11 Jul	3.5	3,000			
	18 Jul	171	4.5			
	19 Oct	2,400		1.0	1.0	
JAA 42	11 Jul	1.16	6,000			6.7
	11 Jul	3.5	4,000			
	18 Jul	171	8			
	19 Oct	2,400		1.5	1.0	
JAA 43	11 Jul	1.19	8,000			10
	11 Jul	3.5	5,100			
	19 Oct	2,400		1.5	1.0	
JAA 44	11 Jul	1.20	10,000			12
	11 Jul	3.5	6,800			
	18 Jul	171	14			
	19 Oct	2,400		1.5	1.0	
JAA 45	11 Jul	3.5	8,500			38
	18 Jul	171	18			
	19 Oct	2,400		1.5	1.0	
JAA 46	11 Jul	3.5	10,000			45
	18 Jul	171	21			
	19 Oct	2,400		1.5	1.0	
JAA 47	18 Jul	171	38			49
	19 Oct	2,400		2.0	2.0	
JAA 48	18 Jul	171	58			59
	19 Oct	2,400		4.0	3.0	
JAA 49	18 Jul	171	75			110
	19 Oct	2,400		4.5	4.5	
JAA 50	19 Oct	2,400		8.0	7.0	
	19 Oct	2,400		11	10	
JAA 51	19 Oct	2,400		11	10	
JAA 52	19 Oct	2,400		25	24	
JAA 37A	11 Jul	1.06	2,000			2.1
	11 Jul	3.4	1,100			
	18 Jul	171	2.5			
	19 Oct	2,400		0.30	0.30	
JAA 38A	11 Jul	1.05	1,000			1.1
	18 Jul	170	1.5			
	19 Oct	2,400		0.18	0.17	
JAA 39A	11 Jul	1.03	400			0.41
	18 Jul	170	3.5			
	19 Oct	2,400		0.15	0.14	

TABLE C-1 RADIATION SURVEY DATA, JOHNSTON ATOLL (Cont'd)

Station	Date (1968)	Time After Shot (hours)	Dose Rate Reading Jordan (mr/hr)	Dose Rate Reading AN/PDR-27J Shield Open (mr/hr)	Dose Rate Reading AN/PDR-27J Shield Closed (mr/hr)	Calculated 8-1 Hour Dose Rate (r/hr)
JAA 40A	11 Jul	1.08	150			0.15
	18 Jul	170	3.5			
	19 Oct	2,400		0.09	0.08	
JAA 41A	11 Jul	1.0	130			0.13
	18 Jul	170	14			
	19 Oct	2,400		0.12	0.11	
JAA 42A	11 Jul	0.98	120			0.12
	18 Jul	170	17			
	19 Oct	2,400		0.14	0.13	
JAA 43A	11 Jul	0.98	150			0.13
	18 Jul	170	9			
	23 Oct	2,500		0.35	0.34	
20 ft east of 43A	11 Jul	0.90	100			
JAA 44A	11 Jul	0.88	50			0.04
	18 Jul	170	7.5			
	23 Oct	2,500		0.09	0.08	
JAA 45A	11 Jul	0.87	50			0.04
	18 Jul	170	25			
	23 Oct	2,500		0.16	0.15	
JAA 46A	11 Jul	0.85	31			0.03
	18 Jul	170	35			
	23 Oct	2,500		0.19	0.18	
JAA 47A	11 Jul	0.83	25			0.02
	18 Jul	170	27			
	23 Oct	2,500		0.19	0.18	
JAA 48A	11 Jul	0.82	18			0.014
	18 Jul	170	1.5			
	23 Oct	2,500		0.04	0.03	
JAA 49A	11 Jul	0.80	15			0.012
	18 Jul	170	0.6			
	23 Oct	2,500		0.04	0.03	
JAA 50A	11 Jul	0.79	10			0.008
	18 Jul	170	0			
	23 Oct	2,500		0.04	0.03	
JAA 51A	11 Jul	0.77	10			0.008
	18 Jul	170	0			
	23 Oct	2,500		0.04	0.03	
JAA 52A	11 Jul	0.75	7			0.005
	18 Jul	170	0			
	23 Oct	2,500		0.03	0.02	
JAA 53A	11 Jul	0.73	4			0.003
	18 Jul	170	0			
	23 Oct	2,500		0.02	0.02	
JAA 54A	11 Jul	0.69	3			0.002
	18 Jul	170	0			
	19 Oct	2,400		0.02	0.02	
JAA 55A	11 Jul	0.67	2			0.001
	18 Jul	170	0			
	19 Oct	2,400		0.02	0.02	
JAA 56A	11 Jul	0.65	1.5			0.002
	18 Jul	170	0			
	19 Oct	2,400		0.02	0.02	
JAA 57A	11 Jul	0.63	1.5			0.0008
	18 Jul	170	0			
	19 Oct	2,400		0.02	0.02	
JAA 58A	18 Jul	170	0			
	19 Oct	2,400		0.02	0.02	
JAA 59A	11 Jul	0.60	1			0.0005
	18 Jul	170	0			
JAA 60A	18 Jul	170	0			
JAA 61A	18 Jul	170	0			
JAA 62A	18 Jul	170	0			
JA 1	11 Jul	7.0	350			3.9
	18 Jul	171	1			
	19 Oct	2,400		0.11	0.11	
JA 2	11 Jul	7.1	450			5.0
	18 Jul	171	1.5			
	19 Oct	2,400		0.13	0.12	
JA 3	11 Jul	7.1	550			6.1
	18 Jul	171	1.75			
	19 Oct	2,400		0.17	0.15	
JA 4	11 Jul	7.1	700			7.7
	18 Jul	171	3			
	19 Oct	2,400		0.28	0.28	
JA 5	11 Jul	7.1	1,000			11
	18 Jul	171	4.5			
	19 Oct	2,400		1.2	1.2	
JA 6	11 Jul	7.1	1,000			11
	18 Jul	171	4			
	19 Oct	2,400		0.75	0.75	
JA 7	11 Jul	7.1	1,200			13
	18 Jul	171	5			
	19 Oct	2,400		1.1	1.0	
JA 8	11 Jul	7.1	1,700			19
	18 Jul	171	8			
	19 Oct	2,400		1.4	1.3	
JA 9	11 Jul	7.1	1,800			20
	18 Jul	171	8			
	19 Oct	2,400		1.4	1.4	
JA 10	11 Jul	7.1	2,600			29
	18 Jul	171	16			
	19 Oct	2,400		2.7		
JA 11	11 Jul	7.1	3,900			43
	18 Jul	171	15			
	19 Oct	2,400		2.5	2.4	
JA 12	11 Jul	7.1	6,000			66
	18 Jul	171	25			
	19 Oct	2,400		4.5	4.4	
75 ft west of JA 13	11 Jul	7.1	10,000			110
JA 13	18 Jul	171	40			61
	19 Oct	2,400		12	12	
JA 14	23 Oct	2,500		20	20	
JA 15	23 Oct	2,500		34	34	
JA 16	18 Jul	171	225			340
	23 Oct	2,500		60	60	
JA 17	23 Oct	2,500		80	80	
JA 18	23 Oct	2,500		90	90	
JA 19	23 Oct	2,500		340	340	
JA 20	23 Oct	2,500		190	190	
JA 21	23 Oct	2,500		140	140	
JA 22	23 Oct	2,500		85	80	
JA 23	23 Oct	2,500		11	11	
JA 24	18 Jul	171	30			46
	23 Oct	2,500		6	6	
JA 25	11 Jul	7.2	10,000			110
	18 Jul	171	10			
	19 Oct	2,400		3.8	3.3	
JA 26	11 Jul	7.2	6,000			66
	18 Jul	171	8			
	19 Oct	2,400		2.2	2.2	
JA 27	11 Jul	7.2	3,500			38
	18 Jul	171	5			
	19 Oct	2,400		1.4	1.4	
JA 28	11 Jul	7.2	1,500			16
	18 Jul	171	5			
	19 Oct	2,400		1.2	1.2	
JA 29	11 Jul	7.2	1,000			[illegible]
	18 Jul	171	2			
	19 Oct	2,400		0.34	0.32	
JA 30	11 Jul	7.2	735			[illegible]
	18 Jul	171	1.5			
	19 Oct	2,400		0.31	0.31	
JA 31	11 Jul	7.2	600			[illegible]
	18 Jul	171	1.5			
	19 Oct	2,400		0.24	0.24	
JA 32	11 Jul	7.3	500			
	18 Jul	171	1.5			
	19 Oct	2,400		1.9	1.9	
JA 33	11 Jul	7.3	450			[illegible]
	18 Jul	171	1			
	19 Oct	2,400		0.14	0.14	
JA 34	11 Jul	7.3	330			[illegible]
	18 Jul	171	0.5			
	19 Oct	2,400		0.11	[illegible]	
JA 35	11 Jul	7.3	150			[illegible]
	19 Oct	2,400		0.06	[illegible]	
JA 36	19 Oct	2,400		0.03	[illegible]	
JA 37	11 Jul	7.3	30			[illegible]
	19 Oct	2,400		0.02	[illegible]	
JA 38	11 Jul	7.3	23			
	19 Oct	2,400		0.02	[illegible]	
JA 39	11 Jul	7.3	15			
	19 Oct	2,400		0.02	[illegible]	
JA 40	11 Jul	7.3	11			[illegible]
	19 Oct	2,400		0.02	[illegible]	
JA 41	11 Jul	7.4	5			[illegible]
	19 Oct	2,400		0.02	[illegible]	
JA 42	11 Jul	7.4	3.4			[illegible]
	19 Oct	2,400		0.02	[illegible]	
JA 43	11 Jul	7.4	2			[illegible]
	19 Oct	2,400		0.02	[illegible]	
JA 44	19 Oct	2,400		0.02	[illegible]	
JA 45	19 Oct	2,400		0.02	[illegible]	
JB 1	11 Jul	3.0	400			
	11 Jul	6.9	100			
	19 Oct	2,400		0.06	[illegible]	

TABLE C.1 RADIATION SURVEY DATA, JOHNIE BOY (Contd)

Station	Date (1962)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-27J Shield Open	Dose Rate Reading: AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
JB 2	11 Jul	3.0	550			2.1
	11 Jul	6.9	250			
	19 Oct	2,400		0.09	0.09	
JB 3	11 Jul	3.0	750			2.8
	11 Jul	6.9	385			
	19 Oct	2,400		0.11	0.11	
JB 4	11 Jul	3.1	1,300			5.1
	11 Jul	6.9	500			
	19 Oct	2,400		0.15	0.15	
JB 5	11 Jul	3.1	1,800			7.1
	11 Jul	6.9	800			
	19 Oct	2,400		0.28	0.28	
JB 6	11 Jul	3.1	3,000			12
	11 Jul	6.9	900			
	19 Oct	2,400		0.7	0.7	
JB 7	11 Jul	3.1	5,500			22
	11 Jul	6.9	1,100			
	19 Oct	2,400		1.4	1.4	
JB 8	11 Jul	6.9	1,800			20
	26 Jul	361	15			
	19 Oct	2,400		7.0	7.0	
25 ft east of JB 8	11 Jul	3.1	10,000			39
75 ft west of JB 8	11 Jul	7.0	10,000			110
JB 9	26 Jul	361	100			850
	19 Oct	2,400		39	39	
JB 10	26 Jul	361	175			1,480
	19 Oct	2,400			130	
JB 11	26 Jul	361	2,000			17,000
	19 Oct	2,400			355	
JB 12	26 Jul	361	2,100			18,000
	19 Oct	2,400			>500	
JB 13	26 Jul	361	750			6.3
	19 Oct	2,400			165	
60 ft west of JB 13	17 Jul	147	1,000			1,100
50 ft east of JB 14	13 Jul	56.1	18,000			2,189
JB 14	13 Jul	56.1	10,000			1,183
	17 Jul	147	200			
	26 Jul	361	45			
	19 Oct	2,400		21	21	
JB 15	11 Jul	7.6	10,000			110
	13 Jul	56.1	1,000			
	17 Jul	147	55			
	26 Jul	361	37			
	19 Oct	2,400		10	10	
JB 16	11 Jul	7.6	5,800			64
	17 Jul	147	12			
	26 Jul	361	14			
	19 Oct	2,400		2.7	2.7	
JB 17	11 Jul	7.5	3,000			33
	19 Oct	2,400		2.5	2.5	
JB 18	11 Jul	0.75	10,200			8.0
	11 Jul	7.5	800			
	17 Jul	147	7			
	19 Oct	2,400		1.3	1.3	
JB 19	11 Jul	0.74	4,500			2.9
	11 Jul	7.5	385			
	17 Jul	147	2			
	19 Oct	2,400		0.12	0.12	
JB 20	11 Jul	0.68	3,500			2.3
	11 Jul	7.5	200			
	17 Jul	147	1.5			
	19 Oct	2,400		0.09	0.09	
JB 21	11 Jul	0.67	2,000			1.3
	11 Jul	7.5	98			
	17 Jul	147	1.3			
	19 Oct	2,400		0.05	0.05	
JB 22	11 Jul	0.65	1,300			0.78
	11 Jul	7.5	40			
	17 Jul	147	1			
	19 Oct	2,400		0.04	0.04	
JB 23	11 Jul	0.63	300			0.16
	11 Jul	7.4	26			
	19 Oct	2,400		0.04	0.04	
JB 24	11 Jul	0.63	220			0.12
	11 Jul	7.4	15			
	19 Oct	2,400		0.03	0.03	
JB 25	11 Jul	0.62	160			0.086
	11 Jul	7.4	13			
	19 Oct	2,400		0.02	0.02	
JB 26	11 Jul	0.62	140			0.075
	11 Jul	7.4	11			
	19 Oct	2,400		0.02	0.02	
JB 27	11 Jul	0.60	100			0.054
	11 Jul	7.4	10			
	19 Oct	2,400		0.02	0.02	
JB 28	11 Jul	0.58	100			0.054
	11 Jul	7.4	9			
	19 Oct	2,400		0.02	0.02	
JB 29	11 Jul	0.57	45			0.024
	11 Jul	7.4	1.5			
	19 Oct	2,400		0.02	0.02	
JB 30	11 Jul	0.55	32			0.017
	11 Jul	7.4	0.5			
	19 Oct	2,400		0.02	0.02	
JB 31	11 Jul	0.53	26			0.011
	11 Jul	7.4	0.3			
	19 Oct	2,400		0.02	0.02	
JB 32	19 Oct	2,400		0.02	0.02	
JB GAY	11 Jul	0.51	25			0.011
JC 1	11 Jul	6.6	100			0.98
	17 Jul	148	15			
	19 Oct	2,400		0.05	0.04	
JC 2	11 Jul	6.6	150			1.5
	17 Jul	148	30			
	19 Oct	2,400		0.09	0.08	
JC 3	11 Jul	6.6	250			2.4
	17 Jul	148	80			
	19 Oct	2,400		0.15	0.14	
JC 4	11 Jul	6.6	300			3.0
	17 Jul	148	65			
	19 Oct	2,400		0.15	0.14	
JC 5	11 Jul	6.7	430			4.3
	17 Jul	148	15			
	19 Oct	2,400		0.18	0.17	
JC 6	11 Jul	6.7	750			7.5
	17 Jul	148	7			
	19 Oct	2,400		0.30	0.29	
JC 7	11 Jul	6.7	850			[illegible]
	17 Jul	147	8			
	19 Oct	2,400		0.44	0.43	
JC 8	11 Jul	6.7	1,800			18
	17 Jul	147	12			
	19 Oct	2,400		1.0	0.9	
JC 9	11 Jul	6.7	2,000			20
	17 Jul	147	15			
	26 Jul	361	7			
	19 Oct	2,400		1.5	1.4	
JC 10	11 Jul	6.7	5,000			[illegible]
	17 Jul	147	40			
	26 Jul	261	15			
	19 Oct	2,400		3.7	3.6	
75 ft west of JC 10	11 Jul	6.8	10,000			...
JC 11	17 Jul	147	1,000			...
	26 Jul	361	125			
	19 Oct	2,400		38	37	
JC 12	26 Jul	361	1,000			[illegible]
	19 Oct	2,400		140	130	
JC 13	17 Jul	147	2,400			[illegible]
	26 Jul	361	1,100			
	19 Oct	2,400		150	140	
30 ft west of JC 13	17 Jul	147	1,000			...
JC 14	11 Jul	7.8	10,000			...
	17 Jul	147	200			
	26 Jul	361	40			
	19 Oct	2,400		17	16	
JC 15	11 Jul	7.8	6,000			[illegible]
	17 Jul	147	70			
	26 Jul	361	20			
	19 Oct	2,400		9.0	8.0	
JC 16	11 Jul	7.8	2,700			
	17 Jul	148	25			
	26 Jul	361	9			
	19 Oct	2,400		2.4	2.3	
JC 17	11 Jul	7.8	2,200			[illegible]
	17 Jul	148	17			
	19 Oct	2,400		1.6	1.5	
JC 18	11 Jul	7.9	1,500			[illegible]
	17 Jul	148	10			
	19 Oct	2,400		1.3	1.2	
JC 19	11 Jul	0.94	12,500			[illegible]
	11 Jul	7.8	1,000			
	17 Jul	148	7			
	19 Oct	2,400		1.3	1.2	
100 ft west of JC 19	11 Jul	0.94	8,000			[illegible]

TABLE C.1 RADIATION SURVEY DATA . JOHNIE BOY (Contd)

Station	Date (1962)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading AN/PDR-27J Shield Open	Dose Rate Reading AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
JC 20	11 Jul	0.90	5,800			5.1
	11 Jul	7.8	200			
	17 Jul	148	3			
	19 Oct	2,400		0.30	0.29	
JC 21	11 Jul	0.90	1,900			1.7
	11 Jul	7.8	110			
	17 Jul	148	1.5			
	19 Oct	2,400		0.16	0.15	
JC 22	11 Jul	0.90	2,000			1.8
	11 Jul	7.7	70			
	17 Jul	148	1			
	19 Oct	2,400		0.11	0.10	
JC 23	11 Jul	0.90	1,500			1.3
	11 Jul	7.7	50			
	17 Jul	148	0.7			
	19 Oct	2,400		0.07	0.06	
JC 24	11 Jul	0.87	350			0.31
	11 Jul	7.7	35			
	19 Oct	2,400		0.05	0.04	
JC 25	11 Jul	0.85	200			0.18
	11 Jul	7.7	22			
	19 Oct	2,400		0.04	0.03	
JC 26	11 Jul	0.85	150			0.13
	11 Jul	7.7	18			
	19 Oct	2,400		0.03	0.02	
JC 27	11 Jul	0.83	250			0.19
	11 Jul	7.7	17			
	19 Oct	2,400		0.02	0.02	
200 ft west of JC 27	11 Jul	0.81	100			0.076
Intersection of JC and GAY	11 Jul	0.77	10			0.008
200 ft east of JD 1	11 Jul	0.83	100			0.076
JD 1*	11 Jul	0.86	250			0.22
	17 Jul	148	60			
	19 Oct	2,400		0.06	0.05	
JD 2*	11 Jul	1.0	300			0.30
	17 Jul	148	50			
	19 Oct	2,400		0.06	0.05	
JD 3*	11 Jul	1.0	500			0.56
	17 Jul	148	20			
	19 Oct	2,400		0.08	0.07	
JD 4*	11 Jul	1.1	800			0.90
	17 Jul	148	50			
	19 Oct	2,400		0.11	0.10	
JD 5*	11 Jul	1.1	1,300			1.5
	17 Jul	148	40			
	19 Oct	2,400		0.17	0.16	
JD 6*	11 Jul	1.2	2,500			3.1
	17 Jul	148	11			
	19 Oct	2,400		0.30	0.29	
JD 7	11 Jul	1.2	5,000			6.3
	17 Jul	148	10			
	19 Oct	2,400		0.46	0.45	
20 ft east of JD 8	11 Jul	1.2	10,000			12
JD 8	17 Jul	148	40			44
	26 Jul	361	7			
	19 Oct	2,400		1.7	1.6	
JD 9	17 Jul	148	80			88
	26 Jul	361	40			
	19 Oct	2,400		15	14	
100 ft west of JD 9	17 Jul	148	1,000			1,100
JD 10	26 Jul	361	1,200			10,000
	19 Oct	2,400		130	130	
JD 11	20 Jul	361	110			930
	19 Oct	2,400		30	29	
25 ft east of JD 12	11 Jul	7.5	10,000			110
JD 12	11 Jul	7.5	3,500			38
	26 Jul	361	15			
	19 Oct	2,400		3.1	3.0	
JD 13	11 Jul	7.5	1,700			19
	26 Jul	361	7			
	19 Oct	2,400		1.4	1.3	
150 ft east of JD 14	11 Jul	1.2	10,000			12
JD 14	11 Jul	1.2	7,000			8.8
	11 Jul	7.5	1,000			
	12 Jul	29.7	250			
	13 Jul	55.9	90			
	16 Jul	118	25			
	18 Jul	169	10			
	26 Jul	361	4			
	19 Oct	2,400		0.7	0.6	
JD 15	11 Jul	1.2	5,000			6.3
	11 Jul	7.5	400			
	12 Jul	29.7	160			
	13 Jul	55.9	70			
	16 Jul	118	16			
	18 Jul	169	8			
	26 Jul	361	2.5			
	19 Oct	2,400		0.6	0.5	
JD 16	11 Jul	1.2	2,000			2.5
	11 Jul	7.5	125			
	12 Jul	29.7	52			
	13 Jul	55.9	18			
	16 Jul	118	4			
	18 Jul	169	1.5			
	26 Jul	361	0.8			
	19 Oct	2,400		0.16	0.15	
JD 17	11 Jul	1.2	1,250			1.6
	11 Jul	7.5	130			
	12 Jul	29.7	45			
	13 Jul	55.9	14			
	16 Jul	118	3			
	18 Jul	169	0.7			
	26 Jul	361	0.5			
	19 Oct	2,400		0.16	0.15	
JD 18	11 Jul	1.1	400			0.45
	11 Jul	7.5	45			
	19 Oct	2,400		0.09	0.08	
JD 19	11 Jul	1.1	200			0.22
	11 Jul	7.5	23			
	19 Oct	2,400		0.05	0.04	
JD 20	11 Jul	1.2	130			0.16
	11 Jul	7.4	17			
	19 Oct	2,400		0.04	0.03	
50 ft east of JD 21	11 Jul	1.1	100			0.11
JD 21	11 Jul	1.1	80			0.09
	11 Jul	7.5	10			
	19 Oct	2,400		0.03	0.03	
JD 22	11 Jul	1.0	50			0.05
	11 Jul	7.4	6			
	19 Oct	2,400		0.02	0.02	
JD 23	11 Jul	1.0	35			0.035
	11 Jul	7.4	3.5			
	19 Oct	2,400		0.02	0.02	
JD GAY	11 Jul	1.0	7			0.007
JE 1	11 Jul	1.3	50			0.069
	11 Jul	6.8	9			
	19 Oct	2,400		0.04	0.04	
JE 2	11 Jul	1.3	100			0.140
	11 Jul	6.8	15			
	19 Oct	2,400		0.07	0.07	
JE 3	11 Jul	1.3	200			0.28
	11 Jul	6.9	30			
	19 Oct	2,400		0.06	0.06	
JE 4	11 Jul	1.3	250			0.34
	11 Jul	6.9	35			
	19 Oct	2,400		0.04	0.04	
JE 5	11 Jul	1.4	500			0.75
	11 Jul	6.9	60			
	19 Oct	2,400		0.07	0.07	
JE 6	11 Jul	1.4	800			1.2
	11 Jul	6.9	100			
	19 Oct	2,400		0.20	0.09	
JE 7	11 Jul	1.4	950			1.4
	11 Jul	6.9	200			
	19 Oct	2,400		0.19	0.15	
JE 8	11 Jul	1.4	1,200			1.8
	11 Jul	6.0	350			
	19 Oct	2,400		0.28	0.25	
JE 9	11 Jul	1.5	4,000			5.5
	11 Jul	7.0	600			
	25 Jul	361	5			
	19 Oct	2,400		1.0	1.1	
30 ft west of JE 9	11 Jul	7.0	1,000			[illegible]
20 ft east of JE 10	11 Jul	1.5	10,000			[illegible]
JE 10	11 Jul	7.0	2,500			[illegible]
	26 Jul	361	40			
	19 Oct	2,400		4.5	[illegible]	

*Stations JD 1 through JD 6 appear to have been contaminated by Little Feller I at 148 hours.

TABLE C.1 RADIATION SURVEY DATA, JORDAN BOY (Cont'd)

Station	Date (1968)	Time After Shot (hours)	Dose Rate Reading Jordan (mr/hr)	Dose Rate Reading AN/PDR-27J Shield Open (mr/hr)	Dose Rate Reading AN/PDR-27J Shield Closed (mr/hr)	Calculated H+1 Hour Dose Rate (r/hr)
JE 11	11 Jul	7.0	>10,000			110
	26 Jul	361	600			
	19 Oct	2,400		100	100	
JE 12	26 Jul	361	500			4,230
	19 Oct	2,400		30	30	
JE 13	26 Jul	361	170			1,400
	19 Oct	2,400		11	11	
JE 14	11 Jul	7.2	2,500			28
	26 Jul	361	17			
	19 Oct	2,400		2.0	2.0	
50 ft west of JE 14	11 Jul	7.2	10,000			110
100 ft east of JE 15	11 Jul	1.3	9,000			12
JE 15	11 Jul	1.3	7,000			10
	11 Jul	7.2	1,000			
	26 Jul	361	5			
	19 Oct	2,400		0.40	0.40	
JE 16	11 Jul	1.3	2,500			3.4
	11 Jul	7.1	250			
	26 Jul	361	2			
	19 Oct	2,400		0.35	0.33	
20 ft east of JE 16	11 Jul	1.3	3,500			4.8
JE 17	11 Jul	1.3	1,500			2.1
	11 Jul	7.1	150			
	19 Oct	2,400		0.14	0.14	
JE 18	11 Jul	1.3	1,200			1.7
	11 Jul	7.1	100			
	19 Oct	2,400		0.09	0.08	
JE 19	11 Jul	1.3	600			0.83
	11 Jul	7.1	60			
	19 Oct	2,400		0.07	0.07	
JE 20	11 Jul	0.98	1,000			0.75
	11 Jul	1.4	500			
	11 Jul	7.1	50			
	19 Oct	2,400		0.05	0.05	
JE 21	11 Jul	0.88	200			0.18
	11 Jul	7.1	20			
	19 Oct	2,400		0.03	0.03	
JE 22	11 Jul	0.86	100			0.088
	11 Jul	7.0	12			
	19 Oct	2,400		0.02	0.02	
JE 23	11 Jul	0.86	100			0.088
	11 Jul	7.0	10			
	19 Oct	2,400		0.03	0.03	
JE 24	11 Jul	0.83	50			0.038
	11 Jul	7.0	4			
	19 Oct	2,400		0.02	0.02	
JE 25	11 Jul	0.81	35			0.027
	11 Jul	7.0	2			
	19 Oct	2,400		0.02	0.02	
JE 26	11 Jul	0.78	25			0.019
	11 Jul	6.9	1			
	19 Oct	2,400		0.02	0.02	
JE 27	11 Jul	0.76	15			0.011
	11 Jul	6.9	0			
	19 Oct	2,400		0.02	0.02	
JE 28	11 Jul	0.73	10			0.007
	11 Jul	6.9	0			
	19 Oct	2,400		0.02	0.02	
JF 1	11 Jul	3.0	5			0.21
	11 Jul	7.1	2.5			
	19 Oct	2,400		0.06	0.05	
JF 2	11 Jul	3.0	9.0			0.034
	11 Jul	7.2	6.0			
	19 Oct	2,400		0.06	0.05	
JF 3	11 Jul	3.1	30			0.12
	11 Jul	7.2	20			
	19 Oct	2,400		0.05	0.05	
JF 4	11 Jul	3.1	100			0.39
	11 Jul	7.2	50			
	12 Jul	30.1	4			
	13 Jul	56.7	4			
	16 Jul	118	2			
	18 Jul	170	1.5			
	19 Oct	2,400		0.11	0.09	
JF 5	11 Jul	3.1	160			0.63
	11 Jul	7.2	100			
	12 Jul	30.1	12			
	13 Jul	56.7	10			
	16 Jul	118	4			
	18 Jul	170	1.5			
	19 Oct	2,400		0.23	0.21	
JF 6	11 Jul	3.1	1,500			5.9
	11 Jul	7.2	300			
	12 Jul	30.2	40			
	13 Jul	56.7	45			
	13 Jul	118	15			
	18 Jul	170	9			
	26 Jul	363	2			
	19 Oct	2,400		13	13	
100 ft east of JF 7	11 Jul	3.2	10,000			39
JF 7	11 Jul	7.3	5,000			55
	25 Jul	363	35			
	19 Oct	2,400		39	38	
JF 8	26 Jul	363	120			1,015
	19 Oct	2,400		23	21	
JF 9	26 Jul	363	80			680
	19 Oct	2,400		5.0	4.0	
JF 10	26 Jul	363	14			120
	19 Oct	2,400		1.0	1.0	
100 ft east of JF 11	11 Jul	0.92	10,000			8.8
JF 11	11 Jul	0.90	3,500			3.1
	26 Jul	363	1			
	19 Oct	2,400		1.0	1.0	
JF 12	11 Jul	0.87	1,300			1.1
	19 Oct	2,400		1.0	1.0	
JF 13	11 Jul	0.85	800			0.7
	19 Oct	2,400		0.01	0.01	
JF 14	11 Jul	0.83	200			0.15
	19 Oct	2,400		0.01	0.	
JF 15	11 Jul	0.81	100			0.076
	19 Oct	2,400		0.01	0.01	
JF 16	11 Jul	0.80	70			0.053
	11 Jul	6.8	2			
JG 1	11 Jul	3.3	6			0.025
	19 Oct	2,400		0.06	0.05	
JG 2	11 Jul	3.3	10			0.042
	19 Oct	2,400		0.05	0.04	
JG 3	11 Jul	3.3	35			0.15
	19 Oct	2,400		0.05	0.04	
JG 4	11 Jul	3.3	100			0.42
	19 Oct	2,400		0.08	0.08	
JG 5	11 Jul	3.3	180			0.76
	26 Jul	363	1			
JG 6	11 Jul	3.4	7,500			33
	26 Jul	363	20			
20 ft west of JG 6	11 Jul	3.4	10,000			44
JG 7	26 Jul	363	110			930
JG 8	26 Jul	363	145			1,200
JG 9	26 Jul	363	65			550
JG 10	26 Jul	363	80			680
JG at Glen	26 Jul	1.0	12,000			12
JH 1	11 Jul	1.7	1,000			1.9
	11 Jul	7.4	60			
	18 Jul	171	2			
JH 2	11 Jul	1.7	800			1.5
	11 Jul	7.4	60			
	18 Jul	171	2			
JH 3	11 Jul	1.8	300			0.6
	11 Jul	7.4	22			
JH 4	11 Jul	1.9	15			0.033
	11 Jul	7.5	0.6			
JH 5	11 Jul	1.9	17			0.037
JH 6	11 Jul	2.0	15			0.035
JH 7	11 Jul	2.0	13			0.029
2L 10	19 Oct	2,400		0.02	0.02	
2L 11	11 Jul	3.6	1.5			0.007
	19 Oct	2,400		0.03	0.02	
2L 12	11 Jul	3.6	5			0.023
	19 Oct	2,400		0.05	0.04	
2L 13	11 Jul	3.7	20			0.096
	19 Oct	2,400		0.07	0.06	

TABLE C.1 RADIATION SURVEY DATA, JOHNIE BOY (Cont'd)

Station	Date (1968)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-27T Shield Open	Dose Rate Reading: AN/PDR-27T Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
2L 14	11 Jul	3.7	60			0.29
	19 Oct	2,400		0.05	0.04	
1N 1	11 Jul	3.8	0.3			
1N 2	11 Jul	3.8	0.4			
1N 3	11 Jul	3.8	0.45			
1N 4	11 Jul	3.8	1			0.005
1N 5	11 Jul	3.8	3			0.015
1N 6	11 Jul	3.7	7.5			0.035
175 ft east of 1N 7	11 Jul	3.7	10			0.048
200 ft west of 1N 7	11 Jul	3.7	15			0.071
1N 8	11 Jul	3.7	500			2.4
1N 9	11 Jul	3.7	350			1.7
1N 10	11 Jul	3.6	700			3.7
2N 10	11 Jul	3.5	0			
2N 11	11 Jul	3.5	1.5			0.007
2N 14	11 Jul	3.4	50			0.21
2N 12	11 Jul	3.4	5			0.022
2N 13	11 Jul	3.4	17			0.074
2N & Conway	11 Jul	1.1	0.5			
2N 9	11 Jul	3.3	1.5			0.006
2N 10	11 Jul	3.3	13			0.055
	11 Jul	6.8	5			
2N 11	11 Jul	3.3	15			0.064
	11 Jul	6.8	7			
2p at Conway	11 Jul	1.1	0.5			
2P 8	19 Oct	2,400		0.04		
2P 9	19 Oct	2,400		0.02	0.02	
2P 10	11 Jul	3.1	0			0
	19 Oct	2,400		0.02	0.02	
2P 11	11 Jul	3.1	3.5			0.014
	19 Oct	2,400		0.05	0.05	
2P 12	11 Jul	3.1	17			0.067
	19 Oct	2,400		0.05	0.05	
2P 13	11 Jul	3.0	140			0.52
	19 Oct	2,400		0.06	0.05	
2Q 9	19 Oct	2,400		0.02	0.02	
2Q 10	19 Oct	2,400		0.02	0.02	
2Q 11	11 Jul	2.8	1			0.003
	19 Oct	2,400		0.03	0.03	
2Q 12	11 Jul	2.9	1.5			0.005
	19 Oct	2,400				
2Q 13	11 Jul	2.9	9			0.032
	19 Oct	2,400			0.05	
California 1	18 Jul	170	0			
California 5	11 Jul	1.4	55			0.083
	11 Jul	7.5	1			
	12 Jul	29.5	0.5			
California 6	11 Jul	1.4	50			0.075
	11 Jul	7.5	1.5			
	12 Jul	29.6	1			
7	11 Jul	1.4	80			0.12
	11 Jul	7.5	4.5			
	12 Jul	29.6	3.5			
California 8	11 Jul	1.4	305			0.46
	11 Jul	7.5	20			
	12 Jul	29.6	15			
	19 Oct	2,400		0.15	0.15	
200 ft north of California 9	11 Jul	1.5	10,000			0.016
California 9	11 Jul	1.5	1,350			2.2
	11 Jul	7.4	500			
	12 Jul	29.7	150			
	13 Jul	55.3	40			
	18 Jul	171	6			
	26 Jul	363	35			
½ way from 9 to 10	19 Oct	2,400		5.5	5.5	

Station	Date (1968)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-27T Shield Open	Dose Rate Reading: AN/PDR-27T Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
California 10	11 Jul	7.4	4,000			44
	12 Jul	29.7	1,200			
	13 Jul	55.3	500			
	16 Jul	118	120			
	18 Jul	171	50			
	20 Jul	217	50			
	26 Jul	363	43			
½ way from 10 to 11	19 Oct	2,400		5.0	5.0	
California 11	11 Jul	7.4	5,000			55
	12 Jul	29.7	1,300			
	13 Jul	55.3	550			
	16 Jul	118	150			
	18 Jul	171	65			
	20 Jul	217	60			
	26 Jul	363	35			
Junction of California and Hall	19 Oct	2,400		2.5	2.5	
California 12	11 Jul	3.6	10,000			47
	11 Jul	7.3	5,000			
	12 Jul	29.7	1,400			
	13 Jul	55.4	600			
	16 Jul	118	150			
	18 Jul	171	60			
	20 Jul	217	65			
	26 Jul	363	19			
½ way from 12 to 13	19 Oct	2,400		2.0	2.0	
California 13	11 Jul	3.6	5,000			23
	11 Jul	7.4	2,500			
	12 Jul	29.7	600			
	18 Jul	171	35			
California 14	11 Jul	3.5	2,500			11
	18 Jul	171	13			
California 15	11 Jul	3.5	2,000			9.1
	11 Jul	7.3	1,750			
	18 Jul	171	8			
Cloy 1	11 Jul	6.8	30			0.33
Cloy 2	11 Jul	1.2	230			0.29
Cloy 3	11 Jul	1.2	130			0.16
Cloy 4	11 Jul	1.2	50			0.063
Cloy 5	11 Jul	1.3	50			0.069
Cloy 6	11 Jul	1.3	50			0.069
800 ft west of Waldron	11 Jul	1.3	100			0.14
Junction of Cloy and California	11 Jul	1.3	45			0.062
	11 Jul	1.8	34			
Junction of Cloy and Gay	11 Jul	8.8	2.3			0.005
Junction of Cloy and Glen	11 Jul	1.2	500			0. 62
Crossover 1	11 Jul	3.0	1.5			0.006
Crossover 2	11 Jul	3.0	1.5			0.006
Crossover 3	11 Jul	3.0	1.5			0.006
Crossover 4	11 Jul	3.1	1.5			0.006
Crossover 5	11 Jul	3.1	1.5			0.006
Crossover 6	11 Jul	3.2	2.5			0.01
Crossover 7	11 Jul	3.2	25			0.01
	11 Jul	7.0	2.5			
Crossover 8	11 Jul	3.3	70			0.3
	11 Jul	.1	7.2			
Crossover 9	11 Jul	3.3	150			0.64
	11 Jul	7.1	15			
Crossover 10	11 Jul	3.4	500			2.2
	11 Jul	7.1	50			
Crossover 11	11 Jul	3.4	500			2.2
	11 Jul	7.2	50			
Crossover 12	11 Jul	3.4	500			2.2
	11 Jul	7.2	60			
Crossover 13	11 Jul	3.4	500			2.2
	11 Jul	7.2	80			
Crossover 14	11 Jul	3.5	1,500			6.6
	11 Jul	7.3	140			

TABLE C.1 RADIATION SURVEY DATA, JOHNSTON ISLAND (Contd)

Station	Date (1968)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading AN/PDR-27J Shield Open	Dose Rate Reading AN/PDR-27J Shield Closed	Calculated K+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Danny Boy Area Mil Road:						
0.2 mi from Clay	11 Jul	2.0	4			0.009
0.4 mi from Clay	11 Jul	2.0	6			0.018
0.6 mi from Clay	11 Jul	2.1	13			0.03
0.8 mi from Clay	11 Jul	2.1	32			0.078
1.0 mi from Clay	11 Jul	2.1	50			0.12
1.2 mi from Clay	11 Jul	2.1	55			0.13
Junction with Mill	11 Jul	2.1	50			0.12
Danny Boy Area N10°E Road:						
0.8 mi from Gay	11 Jul	6.7	0.6			0.006
1.0 mi from Gay	11 Jul	6.8	1.5			0.017
1.2 mi from Gay	11 Jul	6.8	2.5			0.027
1.4 mi from Gay	11 Jul	6.9	8			0.088
1.6 mi from Gay	11 Jul	6.9	180			2.0
Junction with Mill	11 Jul	7.0	450			5.0
Dom 1	11 Jul	1.3	0.5			
	11 Jul	4.0	2.5			
	19 Oct	2,400		0.02	0.02	
Dom 2	11 Jul	1.3	1.7			0.081
	11 Jul	3.9	2.5			
	19 Oct	2,400		0.02	0.02	
Dom 3	11 Jul	1.4	900			1.4
	11 Jul	3.8	500			
	19 Oct	2,400		0.01	0.01	
Dom 4	11 Jul	1.4	900			3.5
	11 Jul	3.8	500			
	12 Jul	29.8	15			
	19 Oct	2,400		0.01	0.01	
Dom 5	11 Jul	1.4	2,300			3.5
	11 Jul	3.8	900			
	12 Jul	29.9	50			
	19 Oct	2,400		0.25	0.25	
Dom 6	11 Jul	1.5	1,600			2.6
	11 Jul	3.8	600			
Dom 7	11 Jul	1.5	2,200			3.6
	11 Jul	3.7	700			
Dom 8	11 Jul	1.6	5,500			5.8
	11 Jul	3.7	1,200			
Gay 1	11 Jul	2.0	3			
Gay 2	11 Jul	1.0	8			
Gay 3	11 Jul	1.0	11			
Gay 4	11 Jul	1.1	10			
Gay 5	11 Jul	1.1	10			
Gay 6	11 Jul	1.1	10			
Gay 7	11 Jul	1.2	5			
Gay 8	11 Jul	1.2	2			
Glen 1	11 Jul	0.70	200			0.02
	11 Jul	0.80	30			
	19 Oct	2,400		0.02	0.02	
Glen 2	11 Jul	0.83	50			0.04
	11 Jul	6.7	1			
	19 Oct	2,400		0.02	0.02	
Glen 3	11 Jul	0.87	100			0.09
	11 Jul	6.8	3			
	19 Oct	2,400		0.03	0.02	
Glen 4	11 Jul	0.89	300			0.26
	11 Jul	6.8	7			
	12 Jul	29.6	0.6			
	19 Oct	2,400		0.02	0.02	
100 ft east of Glen 4	11 Jul	6.8	10			0.11
Glen 5	11 Jul	0.98	550			0.48
	11 Jul	6.8	30			
	12 Jul	29.7	3			
	19 Oct	2,400		0.03	0.02	
Glen 6	11 Jul	0.94	1,000			0.68
	12 Jul	29.7	10			
	19 Oct	2,400			0.13	
Glen at JO	11 Jul	1.0	12,000			12
Glen 7	11 Jul	1.0	>10,000			30
	12 Jul	29.7	1,000			
	13 Jul	56.4	500			
	16 Jul	119	200			
	18 Jul	173	60			
	19 Oct	2,400		5.0	5.0	
N10°W 4,500 ft from GZ	12 Jul	27.3	2,500			75
Glen 8	12 Jul	29.7	1,500			45
	13 Jul	56.4	800			
	16 Jul	119	250			
	18 Jul	173	100			
	19 Oct	2,400		7.0	5.0	
Glen 9	12 Jul	29.8	1,500			45
	13 Jul	56.4	600			
	16 Jul	119	250			
	18 Jul	173	100			
	19 Oct	2,400		5.0	5.0	
Glen 10	12 Jul	29.8	1,200			36
	19 Oct	2,400		5.0	4.0	
Glen 11	12 Jul	29.8	250			7.5
	19 Oct	2,400		3.1	3.0	
Glen 12	12 Jul	29.9	15			0.46
	19 Oct	2,400		0.1	0.1	
Glen 13	19 Oct	2,400		0.05	0.05	
Glen 14	11 Jul	2.9	15			0.05
	18 Jul	172	4			
	19 Oct	2,400		0.05	0.05	
Glen 15	19 Oct	2,400		0.04	0.04	
Glen 16	19 Oct	2,400		0.03	0.03	
Glen 17	19 Oct	2,400		0.13	0.12	
Glen 18	19 Oct	2,400		0.13	0.12	
Glen 19	19 Oct	2,400		0.12	0.12	
Glen 20	19 Oct	2,400		0.03	0.03	
Glen 21	19 Oct	2,400		0.02	0.02	
Glen 22	19 Oct	2,400		0.02	0.02	
Glen 23	19 Oct	2,400		0.03	0.02	
Lovell 1	11 Jul	1.5	0.8			1.3
	11 Jul	6.8	0.5			
Lovell 2	11 Jul	1.5	1.0			1.6
	11 Jul	6.8	0.6			
Lovell 3	11 Jul	1.5	2			3.2
	11 Jul	6.8	0.7			
Lovell 4	11 Jul	1.5	8			13
	11 Jul	6.8	1.5			
Lovell 5	11 Jul	1.5	15			24
	11 Jul	6.8	2.5			
	12 Jul	30.2	0.5			
Lovell 6	11 Jul	1.6	30			[illegible]
	11 Jul	6.9	10.5			
	12 Jul	30.1	1.5			
	23 Oct	2,500				
500 ft from 6 toward 7	11 Jul	1.6	100			[illegible]
Lovell 7	11 Jul	1.6	250			[illegible]
	11 Jul	6.9	20			
	12 Jul	30.1	4			
	23 Oct	2,500		0.8	0.8	
Lovell 8	11 Jul	1.7	4,000			[illegible]
	11 Jul	7.0	900			
	12 Jul	30.1	70			
	13 Jul	55.5	25			
	18 Jul	170	5			
	23 Oct	2,500		13	13	
200 ft from 8 toward 9	11 Jul	1.7	10,000			[illegible]
Lovell 9	11 Jul	7.0	10,000			[illegible]
	12 Jul	30.1	1,300			
	18 Jul	170	100			
	23 Oct	2,500		15	15	
Lovell 10	12 Jul	30.1	2,000			[illegible]
	13 Jul	55.4	600			
	16 Jul	118	200			
	18 Jul	170	100			
	23 Oct	2,500		11	11	

TABLE C.1 RADIATION SURVEY DATA, JOHNSTON BOY (Cont'd)

Station	Date (1962)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-27J Shield Open	Dose Rate Reading: AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Lovell 11	12 Jul	30.0	1,300			39
	13 Jul	55.4	550			
	16 Jul	119	170			
	18 Jul	170	70			
	23 Oct	2,500		2.2	2.1	
Lovell 12	12 Jul	30.0	200			6.0
	18 Jul	170	25			
	23 Oct	2,500		1.0	1.0	
Lovell 13	12 Jul	29.9	60			1.8
	18 Jul	170	5			
	23 Oct	2,500		0.65	0.60	
Lovell 14	12 Jul	29.9	75			2.3
	16 Jul	170	8			
	23 Oct	2,500		0.9	0.9	
Lovell 15	18 Jul	170	6			9.2
	23 Oct	2,500		0.33	0.33	
Lovell 16	18 Jul	170	3.5			5.4
	23 Oct	2,500		0.25	0.25	
Lovell 17	18 Jul	170	1.5			2.3
Pacific 1	11 Jul	2.9	50			0.18
	12 Jul	29.9	0.6			
	19 Oct	2,400			0.6	
Pacific 2	11 Jul	3.0	75			0.28
	12 Jul	29.9	15			
	19 Oct	2,400		0.05	0.04	
Pacific 3	11 Jul	3.0	100			0.37
	12 Jul	29.9	20			
	19 Oct	2,400		0.07	0.06	
Pacific 4	11 Jul	3.0	160			0.6
	12 Jul	30.0	40			
	19 Oct	2,400		0.06	0.05	
Pacific 5	12 Jul	30.0	60			1.8
Pacific 6	12 Jul	30.0	70			2.1
Phil 1	11 Jul	2.1	20			0.049
	11 Jul	2.9	9			
	12 Jul	30.0	1.4			
Phil 2	11 Jul	2.1	34			0.083
	12 Jul	30.0	2.5			
Phil 3	11 Jul	2.2	460			1.2
	12 Jul	30.0	45			
Phil 4	11 Jul	2.2	2,100			5.5
	12 Jul	30.0	150			
Phil 5	11 Jul	2.2	1,200			3.1
	12 Jul	29.9	85			
Junction of Phil and Waldron	11 Jul	2.5	1,800			5.4
Phil 6	11 Jul	2.3	3,000			8.1
	12 Jul	29.9	190			
Phil 7	11 Jul	2.3	2,250			6.1
	12 Jul	29.9	170			
Junction of Phil and Lovell	11 Jul	2.5	1,500			6.3
Phil 8	11 Jul	2.3	1,500			4.1
	12 Jul	29.9	130			
Phil 9	11 Jul	2.3	1,700			4.6
	12 Jul	29.8	130			
Phil 10	11 Jul	2.4	2,300			6.6
	12 Jul	29.8	150			
Phil 11	11 Jul	2.4	4,000			11
	12 Jul	29.8	250			
Phil 12	11 Jul	2.4	5,500			16
	11 Jul	5.8	380			
0.1 mi E of [illegible] Road on Phil	11 Jul	7.2	2,000			22
Junction of Phil and Bunny Bay Road E	11 Jul	4.1	8			0.044
	11 Jul	7.1	7			
200 ft east	11 Jul	2.2	100			0.003
	11 Jul	4.3	100			
Phil Road - 0.2 mi east	11 Jul	2.2	1,000			2.6
Phil Road - 0.4 mi east	11 Jul	2.4	5,000			14
Phil Road - 0.5 mi east	11 Jul	2.4	10,000			29
X-34 on Phil Road	11 Jul	4.3	8,000			46
	11 Jul	7.2	2,500			

Station	Date (1962)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-27J Shield Open	Dose Rate Reading: AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
300 ft east of X-34 on Phil	11 Jul	4.4	10,000			60
0.3 mi E of X-34 on Phil	11 Jul	7.2	4,000			44
0.5 mi E of X-34 on Phil	11 Jul	7.3	4,100			45
X-36	11 Jul	7.3	3,500			39
Waldron 1	11 Jul	1.2	2			0.002
	11 Jul	4.4	0.5			
	19 Oct	2,400		0.02	0.02	
Waldron 2	11 Jul	1.2	3			0.004
	11 Jul	4.4	0.6			
	19 Oct	2,400		0.02	0.02	
Waldron 3	11 Jul	1.2	5			0.006
	11 Jul	4.4	0.7			
	19 Oct	2,400		0.02	0.02	
Waldron 4	11 Jul	1.2	22			0.028
	11 Jul	4.4	6			
	19 Oct	2,400		0.03		
Waldron 5	11 Jul	1.3	200			0.29
	11 Jul	4.5	10			
	12 Jul	29.4	1			
	19 Oct	2,400		0.03	0.03	
Waldron 6	11 Jul	1.3	400			[illegible]
	11 Jul	4.5	40			
	12 Jul	29.5	6			
	19 Oct	2,400		0.5	0.5	
Waldron 7	11 Jul	1.4	4,000			5.0
	11 Jul	4.6	500			
	12 Jul	29.5	55			
	13 Jul	55.8	20			
	18 Jul	120	3.5			
	26 Jul	362	2.0			
	19 Oct	2,400		0.3	0.3	
30 ft N of Waldron 7	11 Jul	1.4	10,000			15
Waldron 8	12 Jul	29.5	2,100			63
	13 Jul	55.6	1,000			
	18 Jul	170	130			
	26 Jul	362	75			
	19 Oct	2,400		10	9.0	
400 ft NE of Waldron 8	11 Jul	4.6	10,000			[illegible]
Waldron 9	12 Jul	29.6	2,150			
	13 Jul	55.7	800			
	18 Jul	170	100			
	26 Jul	362	60			
	19 Oct	2,400		5.0	5.0	
Waldron 10	12 Jul	29.6	1,000			
	13 Jul	55.6	400			
	16 Jul	118	120			
	18 Jul	170	55			
	20 Jul	218	50			
	26 Jul	362	35			
Waldron 11	12 Jul	29.6	125			
	13 Jul	55.7	90			
	16 Jul	118	25			
	18 Jul	170	13			
	26 Jul	362	7			
	19 Oct	2,400		1.1	[illegible]	
Waldron 12	12 Jul	29.7	205			
	13 Jul	55.7	180			
	16 Jul	118	35			
	18 Jul	170	25			
	26 Jul	362	16			
	19 Oct	2,400		1.1	[illegible]	
Waldron 13	12 Jul	29.7	120			
	18 Jul	170	10			
	26 Jul	362	7			
	19 Oct	2,400		1.1	[illegible]	
Waldron 14	12 Jul	29.8	53			
	18 Jul	170	2			
	19 Oct	2,400		0.40	[illegible]	
Waldron 15	12 Jul	29.8	18			
	18 Jul	170	1.5			
	19 Oct	2,400		0.15	[illegible]	
Waldron 16	12 Jul	29.8	7			
	18 Jul	170	1			
	19 Oct	2,400		0.07	[illegible]	
Waldron 17	18 Jul	170	1			
	19 Oct	2,400		0.04	[illegible]	
Waldron 18	19 Oct	2,400		0.03	[illegible]	
Waldron 19	19 Oct	2,400		0.03	[illegible]	
A-1	11 Jul	1.8	0			
A-2	11 Jul	1.9	0			

TABLE C.1 RADIATION SURVEY DATA, JOHNSTON ROT (Cont'd)

Station	Date (1968)	Time After Shot	Jordan	Shield Open	Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
A-3	11 Jul	2.0	10			0.083
A-4	11 Jul	2.1	1.9			0.005
A-5	11 Jul	2.2	350			0.66
A-6	11 Jul	4.6	1,750			11
A-7	11 Jul	4.5	1,900			12
A-8	11 Jul	2.3	680			1.9
A-9	11 Jul	2.4	0.5			0.004
A-10	11 Jul	2.5	0.5			0.001
A-11	11 Jul	2.5	0.5			0.002
III	11 Jul	4.2	0.5			0.005
IV	11 Jul	4.3	0.5			0.003
V	11 Jul	4.3	1.7			0.01
VI	11 Jul	4.4	800			4.8
VII	11 Jul	4.5	1,480			8.7
VIII	11 Jul	2.8	1,200			4.1
IX	11 Jul	2.7	26			0.087
X	11 Jul	2.6	0.5			0.002
II-2	11 Jul	5.0	4.9			0.035
III-2	11 Jul	4.7	110			0.7
IV-2	11 Jul	4.8	110			0.7
V-2	11 Jul	4.9	330			2.2
VI-2	11 Jul	4.9	192			1.3
VII-2	11 Jul	4.9	2.8			0.019
Gold Flat						
0.3 mi east of 00	15 Jul	101	0.8			0.4
0.6 mi east of 00	15 Jul	101	0.8			0.4
0.9 mi east of 00	15 Jul	101	0.8			0.4
1.2 mi east of 00	15 Jul	101	0.8			0.4
1.5 mi east of 00	15 Jul	101	0.8			0.4
1.8 mi east of 00	15 Jul	101	1.2			0.6
2.1 mi east of 00	15 Jul	101	1.3			0.6
2.4 mi east of 00	15 Jul	101	1.4			0.7
2.7 mi east of 00	15 Jul	101	2.0			0.9
3.0 mi east of 00	15 Jul	101	3.0			1.4
3.3 mi east of 00	15 Jul	102	3.0			1.4
Gold Flat 00	11 Jul 12 Jul	7.1 31.2	22 4			0.24
Gold Flat 1	11 Jul 12 Jul	7.1 31.2*	22 4.0			0.24
Gold Flat 2	11 Jul 12 Jul	7.1 31.3	20 3.7			0.22
Gold Flat 3	11 Jul 12 Jul	7.1 31.3	16 3			0.18
Gold Flat 4	11 Jul 12 Jul	7.1 31.3	14 2.5			0.15
Gold Flat 5	11 Jul 12 Jul	7.0 31.3	12 1.8			0.13
Gold Flat 6	11 Jul 12 Jul	7.0 31.3	6 1.0			0.066
Gold Flat 7	11 Jul 12 Jul	6.9 31.4	6 0.6			0.066
Gold Flat 8	11 Jul	6.9	6			0.066
Gold Flat 9	11 Jul	6.9	6			0.066
Gold Flat 10	11 Jul	6.9	6			0.066
Gold Flat 11	11 Jul	6.8	7			0.077
Gold Flat 12	11 Jul 12 Jul	6.7 31.5	7 1			0.07
Gold Flat 13	11 Jul 12 Jul	6.7 31.5	6 1			0.06
Gold Flat 14	11 Jul 12 Jul	6.7 31.5	7			0.07
Gold Flat 15	11 Jul 12 Jul	6.7 31.6*	7 1			0.07
Gold Flat 16	11 Jul 12 Jul	6.7 31.6*	8 1			0.08
Gold Flat 17	11 Jul 12 Jul	6.6 31.7*	6 1			0.059
Gold Flat 18	11 Jul 12 Jul	6.6 31.7*	8 1			0.079
Gold Flat 19	11 Jul 12 Jul	6.6 31.7*	8 1			0.079
Gold Flat 20	11 Jul 12 Jul	6.5 31.8*	8 1			0.077
Gold Flat 21	11 Jul 12 Jul	6.5 31.8*	6 1.0			0.057
Gold Flat 22	11 Jul 12 Jul	6.5 31.8*	8 1.0			0.077
Gold Flat 23	11 Jul 12 Jul	6.5 31.9	10 1.0			0.096
Gold Flat 24	11 Jul 12 Jul	6.4 31.9*	15 1			0.14
Gold Flat 25	11 Jul 12 Jul	6.4 31.9*	35 1			0.33
Gold Flat 26	11 Jul 12 Jul	6.5 31.9*	40 1			0.38
Gold Flat 27	11 Jul 12 Jul	6.4 31.9	50 1.0			0.41
Gold Flat 28	11 Jul 12 Jul	6.3 31.9	60 2.7			0.56
Gold Flat 29	11 Jul 12 Jul	6.3 31.0	70 4.6			0.65
Gold Flat 30	11 Jul 12 Jul	6.2 32.0	70 7.0			0.63
Gold Flat 31	11 Jul 12 Jul	6.2 32.0	70 8.0			0.63
Gold Flat 32	11 Jul 12 Jul	6.2 32.1	70 8.0			0.63
Gold Flat 33	11 Jul 12 Jul	6.2 32.2	120 13			1.1
Gold Flat 34	11 Jul 12 Jul	6.1 32.1	80 10			0.71
Gold Flat 35	11 Jul 12 Jul	6.1 32.1	90 9			0.80
Gold Flat 36	11 Jul 12 Jul	6.1 32.1	70 10			0.62
Gold Flat 37	11 Jul 12 Jul	6.1 32.2	105 10			0.93
Gold Flat 38	11 Jul 12 Jul	6.0 32.2	35 13			0.74
Gold Flat 39	11 Jul 12 Jul	6.0 32.2	80 10			0.70
Gold Flat 40	11 Jul 12 Jul	6.0 32.3	85 10			0.74
Gold Flat 41	11 Jul 12 Jul	5.9 32.3	80 10			0.68
Gold Flat 42	11 Jul 12 Jul	5.9 32.3	80 10			0.68
Gold Flat 43	11 Jul 12 Jul	5.9 32.3	40 9			0.34
Gold Flat 44	11 Jul 12 Jul	5.9 32.4	30 8			0.25
Gold Flat 45	11 Jul 12 Jul	5.8 32.4	20 6			0.17

* Light Rain

TABLE C.1 RADIATION SURVEY DATA, JOHNIE BOY (Cont'd)

Station	Date (1968)	Time After Shot	Jordan	Shield Open	Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Gold Flat 46	11 Jul	5.8	16			0.13
	12 Jul	32.4	6			
Gold Flat 47	11 Jul	5.8	14			0.12
	12 Jul	32.4	4			
Gold Flat 48	11 Jul	5.7	12			0.098
	12 Jul	32.5	2			
Gold Flat 49	11 Jul	5.7	12			0.098
Gold Flat 50	12 Jul	5.7	10			0.081
Gold Flat 51	11 Jul	5.3	12			0.09
Gold Flat 52	11 Jul	5.3	12			0.09
Gold Flat 53	11 Jul	5.3	14			0.11
Gold Flat 54	11 Jul	5.3	14			0.11
Gold Flat 55	11 J	5.3	15			0.11
Gold Flat 56	11 Jul	5.2	16			0.12
Gold Flat 57	11 Jul	5.2	14			0.11
Gold Flat 58	11 Jul	5.2	15			0.11
Gold Flat 59	11 Jul	5.2	14			0.10
Gold Flat 60	11 Jul	5.1	14			0.10
Gold Flat 61	11 Jul	5.1	18			0.13
Gold Flat 62	11 Jul	5.0	16			0.11
Gold Flat 63	11 Jul	5.0	13			0.092
Gold Flat 64	11 Jul	4.9	8			0.055
Gold Flat 65	11 Jul	4.9	2			0.014
Gold Flat 66	11 Jul	4.8	0.8			0.005
Gold Flat 155	11 Jul	6.5	7			0.067
	12 Jul	31.0	0			
Gold Flat 156	11 Jul	6.6	7			0.069
	12 Jul	31.0	0			
Gold Flat 157	11 Jul	6.6	8			0.079
	12 Jul	31.1	0			
Gold Flat 158	11 Jul	6.7	8			0.08
	12 Jul	31.2	0			
Gold Flat 159	11 Jul	6.7	8			0.08
	12 Jul	31.2	1			
Gold Flat 160	11 Jul	6.7	8			0.08
	12 Jul	31.2	0			
Gold Flat 161	11 Jul	6.8	7			0.08
Gold Flat 162	11 Jul	6.8	9			0.099
	12 Jul	31.4	1.2			
Gold Flat 163	11 Jul	6.8	14			0.15
	12 Jul	31.4	2.4			
Gold Flat 164	11 Jul	6.9	18			0.20
	12 Jul	31.5	3.1			
Gold Flat 165	11 Jul	6.9	34			0.037
	12 Jul	31.5	5.0			
Gold Flat 166	11 Jul	6.9	43			0.47
	12 Jul	31.6	6.0			
Gold Flat 167	11 Jul	7.0	80			0.88
	12 Jul	31.7	8			
Gold Flat 168	11 Jul	7.0	90			0.99
	12 Jul	31.7	10			
Gold Flat 169	11 Jul	7.1	90			0.99
	12 Jul	31.8	12			
Gold Flat 170	11 Jul	7.1	90			0.99
	12 Jul	31.8	13			
Gold Flat 171	11 Jul	7.2	90			0.99
	12 Jul	31.9	13			
Gold Flat 172	11 Jul	7.2	85			0.94
	12 Jul	31.9	10			
Gold Flat 173	11 Jul	7.3	80			0.88
	12 Jul	32.0	8			
Gold Flat 174	11 Jul	7.3	70			0.77
	12 Jul	32.1	6			
Gold Flat 175	11 Jul	7.3	70			0.77
	12 Jul	32.1	6			
Gold Flat 176	11 Jul	7.4	70			0.77
	12 Jul	32.2	6			
Gold Flat 177	11 Jul	7.4	65			0.72
	12 Jul	32.2	5			
Gold Flat 178	11 Jul	7.4	60			0.66
	12 Jul	32.3	4			
Gold Flat 179	11 Jul	7.5	10			0.11
	12 Jul	32.3	4			
Gold Flat 180	11 Jul	7.6	6			0.066
	12 Jul	32.4	4			
Gold Flat 181	11 Jul	7.7	2.8			0.031
	12 Jul	32.4	3			
Gold Flat 182	11 Jul	7.8	4			0.044
	12 Jul	32.5	3.8			
Gold Flat 183	11 Jul	7.8	10			0.11
	12 Jul	32.5	5.0			
Gold Flat 184	11 Jul	7.9	9			0.099
	12 Jul	32.6	6.1			
Gold Flat 185	11 Jul	7.9	3			0.033
	12 Jul	32.7	5			
Gold Flat 186	11 Jul	8.0	3.6			0.040
	12 Jul	32.7	5			
Gold Flat 187	11 Jul	8.1	4.4			0.048
Gold Flat 188	11 Jul	8.1	10			0.11
	12 Jul	32.8	1			
Gold Flat 189	11 Jul	8.2	12			0.13
	12 Jul	32.8	2			
Gold Flat 190	11 Jul	8.2	10			0.11
	12 Jul	32.8	3			
Gold Flat 191	11 Jul	8.2	10			0.11
	12 Jul	32.8	2			
Gold Flat 191.5	12 Jul	8.6	2			0.022
Kawich Valley 192	11 Jul	5.9	3.4			0.029
Kawich Valley 193	11 Jul	5.9	3.0			0.025
Kawich Valley 194	11 Jul	5.8	2.5			0.021
Kawich Valley*	11 Jul					

*All Kawich Valley Stations read but dose rates below 2.5 r/hr were not recorded.

TABLE C.2 JOHNSTON ATOLL DOSIMETRY

All films recovered on D+5 days.

Station	LBD Beta r	LBD Gamma r	EG&G Gamma r	REECo Gamma r
Wayne 7				1,000
Wayne 8				1,000
Wayne 9				1,000
Wayne 10				580
Wayne 11				500
Wayne 12				420
Wayne 13				390
Wayne 14				330
Wayne 15				270
Access 9				780
Access 10				540
Access 11				500
Access 12				370
Access 13				360
Access 14				360
Access 15				250
Access 16				220
Access 17				200
Access 18				180
Access 19				150
Access 20				140
Betty 5				1,000
Betty 6				> 1,000
Betty 7				700
Betty 8				240
Betty 9				480
Betty 10				420
JAA 5				1,000
JAA 7				500
JAA 8		2,800		450
JAA 9				380
JAA 10		2,350		360
JAA 11				310
JAA 12		1,550		250
JAA 13				240
JAA 14		1,080		210
JAA 15				170
JAA 16		680		150
JAA 17				150
JAA 18		420		120
JAA 19				100
JAA 20		270		90
JAA 21				80
JAA 22		190		72
JAA 23				66
JAA 24		150		51
JAA 25				45
JAA 26		100		40
JAA 27				34
JAA 28		800		30
JAA 29				34
JAA 30		55		28
JAA 31				24
JAA 32		24		14
JAA 33				8.8
JAA 34		21		10
JAA 35				11
JAA 36		17		9.7
JAA 37				210
JAA 38		1,250		280
JAA 39				330
JAA 40		2,100		270
JAA 41				320
JAA 42		2,800		380
JAA 43				380
JAA 44		> 3,000		135
JAA 45				1,000
JAA 47				1,000
JAA 49				1,000
JAA 58A				1.3
JAA 59A				1.2
JAA 60A				0.75
JAA 61A				0.7
JAA 68A				0.69
JA 1		550		290
JA 2		730		350
JA 3		560		280
JA 4		1,150		420
JA 5	500	1,150		580
JA 6	390	1,550		600
JA 7	710	1,950		600
JA 8		1,670		
JA 9		2,100		1,000
JA 10		1,680		1,000
JA 11		1,800		1,000
JA 12		2,200		1,000
JA 13		1,700		1,000

Station	LBD Beta r	LBD Gamma r	EG&G Gamma r	REECo Gamma r
JA 16		0.01		
JA 19		0.03		
JA 25		0.015		
JA 27		> 3,000		1,000
JA 29		> 3,000		1,000
JA 30	410	2,150		1,000
JA 31		> 3,000		370
JA 32		1,700		350
JA 33	180	1,450		310
JA 34		1,100		
JA 35		800		170
JA 36		540		140
JA 37		330		100
JA 38		220		82
JA 39		160		63
JA 40		120		50
JA 41		83		40
JA 42				33
JA 43		28		20
JA 44		19		
JA 45		17		12
JB 1		180		110
JB 2		250		150
JB 3		370		190
JB 4		550		280
JB 5		850		220
JB 6	150	1,400		310
JB 7		2,100		430
JB 8		1,700		580
JB 9		2,100		1,000
JB 14		26		
JB 16		2,000		1,000
JB 17		> 3,000		580
JB 18		2,400		430
JB 19		1,100		240
JB 20		950		190
JB 21		600		160
JB 22		430		120
JB 23		290		140
JB 24		200		67
JB 25		150		51
JB 26		100		40
JB 27		73		32
JB 28		54		24
JB 29		26		14
JB 30		20		9.1
JB 31		17		9.1
JB 32		17		8.8
JC 1	2.3	68	56	46
JC 2		98		65
JC 3		130		80
JC 4		180		120
JC 5	5	270	185	160
JC 6		430		230
JC 7		570		280
JC 8	30	880		400
JC 9	300	1,350		560
JC 10	500	2,100		> 1,000
JC 11	> 3,000	> 3,000	> 2,500	> 1,000
JC 12	> 3,000	> 3,000		> 1,000
JC 13	> 3,000	> 3,000	2,500	> 1,000
JC 14	> 3,000	> 3,000		> 1,000
JC 15		> 3,000		> 1,000
JC 16		> 3,000		> 1,000
JC 17	350	> 3,000		> 1,000
JC 18		> 3,000		> 1,000
JC 19		2,700		> 1,000
JC 20		1,320		560
JC 21	50	950		350
JC 22		710		210
JC 23		480		140
JC 24		340		100
JC 25		210		71
JC 26		170		52
JC 27	10	118		47
JD 1		25	24	13
JD 2		36		18
JD 3		58		27
JD 4		96		40
JD 5		170	124	59
JD 6		270		95
JD 7	50	400	65	130
JD 8		680		200
JD 9		1,700	1,390	1.3
JD 10	1,000	> 3,000	> 2,500	4.6
JD 11	2,500	1,500	> 2,500	680
JD 12		1,650	1,390	440
JD 13	400	1,750		360

TABLE G.2 JOINER DAY DOSES (Cont'd)

All films recovered on D+5 days.

Station	LSD Beta r	LSD Gamma r	HENDL Gamma r	REECo Gamma r
JD 14		1,450	1,150	300
JD 15		1,350	1,100	250
JD 16		860		170
JD 17	40	570		160
JD 18		360		100
JD 19		230		82
JD 20		150		58
JD 21		100		36
JD 22		74		28
JD 23		37		19
JE 1		6.4		4
JE 2		9.6		5.4
JE 3		15	18	8.8
JE 4		19		10
JE 5		35	28	17
JE 6		48		24
JE 7		76		31
JE 8		130	92	53
JE 9		190		78
JE 10	330	640	410	215
JE 11	> 3,000	1,400		680
JE 12	> 3,000	> 3,000	> 2,500	750
JE 13	> 3,000	1,700	2,250	780
JE 14	140	620		290
JE 15	30	470	360	150
JE 16	8	390	300	130
JE 17		340	270	110
JE 18		280		93
JE 19		240		81
JE 20	8	190	160	70
JE 21		100		38
JE 22		76		31
JE 23		62		27
JE 24		31		16
JE 25		23		37
JE 26		17		9.4
JE 27		9.6		6.2
JE 28		8.6		5.8
JF 1		2.5		2
JF 2		3.4		3
JF 3		8.5		5.7
JF 4		16		12
JF 5		33		20
JF 6		87		40
JF 7	1,000	940		300
JF 8	> 3,000	2,500		1,000
JF 9	> 3,000	1,800		600
JF 10	380	390		160
JF 11		130		62
JF 12		90		45
JF 13		78		39
JF 14		31		20
JF 15		16		11
JF 16		21		14
JG 1		2.3		3
JG 2		2.5		3
JG 3		5.6		5
JG 4		13		11
JG 5	2	28		21
JG 6	220	250		180
JG 7	> 3,000	1,400		850
JG 8	1,200	1,370		850
JG 9	1,000	900		520
JG 10	1,000	2,500		700
JG 11	70	150		100
JH 1				8.2
JH 2				7.4
JH 3				3.7
JH 4				0.26
JH 5				0.05
JH 6				0.05
JH 7				0.08
2L 9				0.73
2L 10				1.7
2L 11				4.0
2L 12				7.7
2L 13				18
2L 14				34
2M 9				0.65
2M 10				1.2
2M 11				3.4
2M 12				5.5
2M 13				12
2M 14				21

Station	LSD Beta r	LSD Gamma r	HENDL Gamma r	REECo Gamma r
2N 7				0.37
2N 8				0.83
2N 9				1.8
2N 10				4.8
2N 11				5.5
2P 8				0.23
2P 9				0.24
2P 10				0.45
2P 11				0.76
2P 12				1.1
2P 13				5.8
2Q 8				0.075
2Q 9				0.05
2Q 10				0.05
2Q 11				0.08
2T 1				0.065
2T 2				0.065
2T 3				0.03
2T 4				0.03
2T 5				0.05
Pacific 1		2.1		1.9
Pacific 2		3.4		3.0
Pacific 3		5.0		4.7
Pacific 4				6.7
Pacific 5		11		10
Pacific 6		12		[illegible]
Glen 1				4.7
Glen 2				7.6
Glen 3				7.9
Glen 4				13
Glen 5				19
Glen 6				22
Glen 7				1.7
Glen 8				1.2
Glen 9				1.2
Glen 10				1.2
Glen 11				1.8
Glen 12				9.1
Glen 14				0.69
Glen 15				0.27
Glen 16				0.14
Glen 17				0.09
Glen 19				0.075
Glen 20				0.07
Glen 21				0.08
Glen 22				0.095
Glen 23				[illegible]
Waldron 1				2.9
Waldron 3				[illegible]
Waldron 4				4.8
Waldron 5				[illegible]
Waldron 6				[illegible]
Waldron 7				26
Waldron 8				100
Waldron 9				250
Waldron 10				[illegible]
Waldron 11				[illegible]
Waldron 12				38
Waldron 13				43
Waldron 14				31
Waldron 16				[illegible]
Waldron 17				[illegible]
Lovell 1				[illegible]
Lovell 2				[illegible]
Lovell 3				[illegible]
Lovell 4				[illegible]
Lovell 5				[illegible]
Lovell 6				[illegible]
Lovell 7				[illegible]
Lovell 8				[illegible]
Lovell 9				[illegible]
Lovell 10				[illegible]
Lovell 11				[illegible]
Lovell 12				[illegible]
Lovell 13				[illegible]
Lovell 14				[illegible]
Lovell 15				[illegible]
Lovell 16				[illegible]
Lovell 17				[illegible]
California 1				[illegible]
California 2				[illegible]
California 3				[illegible]

TABLE C.2 JOHNIE BOY DOSES (Cont'd)

All films recovered on D+5 days.

Station	LSD Beta r	LSD Gamma r	EG&G Gamma r	REECo Gamma r
California 5				0.38
California 7				0.43
California 8				0.55
California 9				1.0
California 10				3.5
California 11				24
California 12				1.6
California 13				1.3
California 14				1.4
California 15				1.9
				37
				23
Phil 1				0.5
Phil 2				0.76
Phil 3				7.0
Phil 4				26
Phil 5				13
Phil 6				30
Phil 7				28
Phil 8				18
Phil 9				24
Phil 10				26
Phil 11				4.9
Phil 12				2.7
Dom 1				0.05
Dom 2				0.07
Dom 3				0.9
Dom 4				8.2
Dom 5				19
Dom 6				14
Dom 7				18
Dom 8				5.0
Crossover 1				0.10
Crossover 2				0.06
Crossover 3				0.05
Crossover 4				0.05
Crossover 5				0.06
Crossover 6				0.11
Crossover 7				0.60
Crossover 8				2.0
Crossover 9				2.8
Crossover 10				6.2
Crossover 11				6.4
Crossover 12				8.2
Crossover 13				10
Crossover 14				20
Cay [illegible]				1.5
Cay 12				0.49
Cloy 1				16
Cloy 2				8.3
Cloy 3				5.0
Cloy 4				2.5
Cloy 5				1.4
Cloy 6				0.77
Cloy 7				0.4
Gold Flats 1				0.[illegible]
Gold Flats 2	1.6	0.9		0.[illegible]
Gold Flats 3				0.[illegible]
Gold Flats 4	1.0	0.55		0.[illegible]
Gold Flats 5				0.44
Gold Flats 6	0.29	0.16		0.19
Gold Flats 7				0.1
Gold Flats 8	0.12	0.06		0.09
Gold Flats 9				0.09
Gold Flats 10	0.14	0.085		0.13
Gold Flats 11				0.16
Gold Flats 12	0.19	0.14		0.17
Gold Flats 13				0.17
Gold Flats 14	0.22	0.14		0.14
Gold Flats 15				0.14
Gold Flats 16	0.32	0.14		0.18
Gold Flats 17				0.19
Gold Flats 18	0.34	0.16		0.19
Gold Flats 19				0.19
Gold Flats 20	0.28	0.17		0.22
Gold Flats 21				0.19
Gold Flats 22	0.69	0.23		0.22
Gold Flats 23				0.24
Gold Flats 24	0.3	0.21		
Gold Flats 25				0.31
Gold Flats 26	0.44	0.3		0.31
Gold Flats 27				0.34
Gold Flats 28	1.1	0.58		0.68
Gold Flats 29				0.87
Gold Flats 30	2.0	1.0		1.1
Gold Flats 31				1.0
Gold Flats 32	3.3	1.7		1.8

Station	LSD Beta r	LSD Gamma r	EG&G Gamma r	REECo Gamma r
Gold Flats 33				
Gold Flats 34	2.4	1.7		1.8
Gold Flats 35				1.7
Gold Flats 36	2.6	1.6		1.6
Gold Flats 37				2.0
Gold Flats 38	1.9	1.4		1.4
Gold Flats 39				1.5
Gold Flats 40	2.3	1.4		1.6
Gold Flats 41				1.3
Gold Flats 42	2.7	1.4		1.5
Gold Flats 43				1.2
Gold Flats 44	2.5	0.86		0.86
Gold Flats 45				0.51
Gold Flats 46	0.64	0.42		0.49
Gold Flats 47				0.31
Gold Flats 48	0.49	0.26		0.29
Gold Flats 49				0.29
Gold Flats 50	0.3	0.2		0.22
Gold Flats 52	0.37	0.26		
Gold Flats 54	0.46	0.29		0.38
Gold Flats 55				0.46
Gold Flats 56	0.99	0.31		0.4
Gold Flats 57				0.4
Gold Flats 58	1.1	0.33		0.4
Gold Flats 59				0.42
Gold Flats 60	0.52	0.3		0.46
Gold Flats 61				0.59
Gold Flats 62	0.72	0.37		0.46
Gold Flats 63				0.36
Gold Flats 64	0.14	0.11		0.16
Gold Flats 65				0.06
Gold Flats 66	0.04	0.02		
Gold Flats 155	0.32	0.16		0.24
Gold Flats 156				0.26
Gold Flats 157	0.76	0.26		0.36
Gold Flats 158				0.32
Gold Flats 159	0.78	0.36		0.44
Gold Flats 160				0.32
Gold Flats 161	0.42	0.26		0.31
Gold Flats 162				0.55
Gold Flats 163	1.1	0.56		0.78
Gold Flats 164				0.94
Gold Flats 165	2.0	1.3		1.6
Gold Flats 166				1.9
Gold Flats 167	5.0	2.1		2.6
Gold Flats 168				2.7
Gold Flats 169	6.3	2.8		3.0
Gold Flats 170				3.0
Gold Flats 171	4.2	2.7		3.0
Gold Flats 172				2.8
Gold Flats 173	1.4	1.6		2.[illegible]
Gold Flats 174				[illegible]
Gold Flats 175	2.3	1.1		[illegible]
Gold Flats 176				[illegible]
Gold Flats 177	1.5	0.76		[illegible]
Gold Flats 178				[illegible]
Gold Flats 179	0.48	0.28		[illegible]
Gold Flats 180				[illegible]
Gold Flats 181	0.29	0.11		[illegible]
Gold Flats 182				[illegible]
Gold Flats 183	0.34	0.21		[illegible]
Gold Flats 184				[illegible]
Gold Flats 185	0.80	0.14		[illegible]
Gold Flats 186				[illegible]
Gold Flats 187	0.84	0.16		[illegible]
Gold Flats 189				[illegible]
Gold Flats 190				[illegible]
Gold Flats 191				[illegible]
Gold Flats 191.5				[illegible]
Kawich Valley 67				
Kawich Valley 68	0.005	0		
Kawich Valley 69				
Kawich Valley 70	0.01	0.012		
Kawich Valley 71				
Kawich Valley 72	0	0		
Kawich Valley 73				
Kawich Valley 74		0.006		
Kawich Valley 75				
Kawich Valley 76	0.005	0.006		
Kawich Valley 77				
Kawich Valley 78	0.005	0.006		
Kawich Valley 79				
Kawich Valley 80	0.005	0.01		
Kawich Valley 81				
Kawich Valley 82	0.005	0.006		
Kawich Valley 83				
Kawich Valley 84		0.006		
Kawich Valley 85				
Kawich Valley 86		0.004		
Kawich Valley 87				
Kawich Valley 88	0.005	0		
Kawich Valley 89				

TABLE C.2 JOHNSTON ATOLL DOSIMETER (Contd)

All films recovered on D+5 Days.

Station	LSD Beta r	LSD Gamma r	EG&G Gamma r	REECo Gamma r
Kawich Valley 90		0.008		0
Kawich Valley 91				0
Kawich Valley 92		0.035		0
Kawich Valley 93				0
Kawich Valley 94		0.016		0
Kawich Valley 95				0
Kawich Valley 96		0		0.50
Kawich Valley 97				0.52
Kawich Valley 98		0.003		0.54
Kawich Valley 99				0.56
Kawich Valley 100		0		0.59
Kawich Valley 101				0.52
Kawich Valley 102	0.005	0.006		0.52
Kawich Valley 103				0.5
Kawich Valley 104		0		0.5
Kawich Valley 105				0.5
Kawich Valley 106		0.006		0.46
Kawich Valley 107				0.5
Kawich Valley 108		0.03		0.52
Kawich Valley 109				0.56
Kawich Valley 110		0.008		0.59
Kawich Valley 111				0.50
Kawich Valley 112		0.01		0.46
Kawich Valley 113				0.46
Kawich Valley 114	0	0		0.46
Kawich Valley 115				0.46
Kawich Valley 116	0.005	0		0.46
Kawich Valley 118	0.005	0.008		0.71
Kawich Valley 119				0.56
Kawich Valley 120	0.005	0		0.59
Kawich Valley 121				0.50
Kawich Valley 122	1.1	0.58		0.46
Kawich Valley 123				0.46
Kawich Valley 124		0.008		0.46
Kawich Valley 125				0.46
Kawich Valley 126		0.004		0.46
Kawich Valley 127				0.46
Kawich Valley 128	0	0		0.50
Kawich Valley 129				0.50
Kawich Valley 130	0.005	0.006		0.56
Kawich Valley 131				0.52
Kawich Valley 132	0.02	0		0.48

Station	LSD Beta r	LSD Gamma r	EG&G Gamma r	REECo Gamma r
Kawich Valley 133				0.47
Kawich Valley 134		0.016		
Kawich Valley 136		0.008		0.5
Kawich Valley 137				0.5
Kawich Valley 138		0.008		0.52
Kawich Valley 139				0.52
Kawich Valley 140				0.59
Kawich Valley 141	0.005	0		0.56
Kawich Valley 142				0.52
Kawich Valley 143				0.5
Kawich Valley 144	0.01	0.012		
Kawich Valley 145				0.49
Kawich Valley 146				0
Kawich Valley 149				0
Kawich Valley 150				0.05
Kawich Valley 151				0
Kawich Valley 152				0
Kawich Valley 153				0
Kawich Valley 154				0
Kawich Valley 192	0.25	0.11		0.14
Kawich Valley 193				0.12
Kawich Valley 194	0.15	0.07		0.09
Kawich Valley 195				0
Kawich Valley 196		0.003		0
Kawich Valley 197				0
Kawich Valley 198	0.005	0		0
Kawich Valley 199				0
Kawich Valley 200	0	0		0.06
Kawich Valley 201				0.06
Kawich Valley 202		0.02		0.06
Kawich Valley 203				0.06
Kawich Valley 204		0.02		0.06
Kawich Valley 205				0.06
Kawich Valley 206	0	0		0.06
Kawich Valley 207				0.06
Kawich Valley 208	0.005	0.006		0.06
Kawich Valley 209				0.08
Kawich Valley 210	0.005	0.006		0.06
Kawich Valley 211				0.06
Kawich Valley 212	0.01	0.006		0.05
Kawich Valley 213				0.03

APPENDIX D

LITTLE FELLER I DATA

TABLE D.1 RADIATION SURVEY DATA, LITTLE FELLER I
TABLE D.2 LITTLE FELLER I DOSES

TABLE D.1 RADIATION SURVEY DATA, LITTLE FELLER I

Station	Date (1962)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading AN/PDR-27J Shield Open	Dose Rate Reading AN/PDR-27J Shield Closed	Calculated 144 Hour Dose Rate	Calculated Kel our Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
Wilsey-1	18 Jul	25.9	250			2.4	1.2
	19 Jul	50.5	140				
	20 Jul	73.9	70				
	21 Jul	94.4	23				
	23 Oct	2,350		0.11	0.11		
Wilsey-2	17 Jul	4.4	1,000			1.1	5.9
	18 Jul	25.9	200				
	19 Jul	50.5	90				
	20 Jul	73.9	40				
	21 Jul	94.4	14				
	23 Oct	2,350		0.06	0.06		
Wilsey-3	17 Jul	4.4	500			0.56	3.0
	18 Jul	25.9	100				
	19 Jul	50.5	50				
	20 Jul	73.9	25				
	21 Jul	94.4	5				
	23 Oct	2,350		0.05	0.04		
Wilsey-4	17 Jul	4.4	300			0.34	1.8
	18 Jul	25.9	70				
	19 Jul	50.5	40				
	20 Jul	74.0	15				
	21 Jul	94.3	6				
	23 Oct	2,350		0.03	0.03		
Wilsey-5	17 Jul	4.4	250			0.28	1.5
	18 Jul	25.9	50				
	19 Jul	50.5	25				
	20 Jul	74.0	10				
	21 Jul	94.3	4				
	23 Oct	2,350		0.03	0.03		
Wilsey-6	17 Jul	4.3	125			0.14	0.72
	18 Jul	25.9	35				
	23 Oct	2,350		0.03	0.03		
Wilsey-7	17 Jul	4.3	105			0.11	0.6
	18 Jul	25.9	25				
	23 Oct	2,350		0.03	0.02		
Wilsey-8	17 Jul	4.3	100			0.11	0.58
	18 Jul	25.8	15				
	23 Oct	2,350		0.03	0.02		
Wilsey-9	17 Jul	4.3	90			0.098	0.52
	18 Jul	25.8	10.5				
	23 Oct	2,350		0.03	0.02		
Wilsey-10	17 Jul	4.3	60			0.065	0.34
	18 Jul	25.8	10.5				
	23 Oct	2,350		0.03	0.03		
Wilsey-11	17 Jul	4.3	50			0.054	0.29
	18 Jul	25.8	10				
	23 Oct	2,350		0.03	0.02		
Wilsey-12	17 Jul	4.3	40			0.044	0.23
	18 Jul	25.8	8				
	23 Oct	2,350		0.02	0.02		
Reeves-1	18 Jul	25.5	200			1.8	9.8
	19 Jul	50.3	200				
	20 Jul	73.8	100				
	21 Jul	94.3	40				
	23 Oct	2,350		30	29		
Reeves-2	18 Jul	25.5	125			1.2	6.1
	19 Jul	50.3	100				
	23 Oct	2,350		4	3		
40' W of Reeves-3	17 Jul	4.7	1,000			1.2	6.4
Reeves-3	18 Jul	25.5	90			0.83	4.4
	19 Jul	50.3	70				
	23 Oct	2,350		4	4		
Reeves-4	17 Jul	4.7	600			0.73	3.8
	18 Jul	25.5	60				
	19 Jul	50.3	50				
	20 Jul	73.8	20				
	21 Jul	94.3	7				
	23 Oct	2,350		0.11	0.10		
Reeves-5	17 Jul	4.6	300			0.35	1.9
	18 Jul	25.6	50				
	19 Jul	50.3	38				
	20 Jul	73.8	15				
	21 Jul	94.3	5				
	23 Oct	2,350		0.08	0.08		
Reeves-6	17 Jul	4.6	200			0.24	1.2
	18 Jul	25.6	30				
	20 Jul	73.5	6				
	23 Oct	2,350		0.05	0.05		
Reeves-7	17 Jul	4.6	150			0.18	0.93
	18 Jul	29.6	25				
	20 Jul	73.5	6				
	21 Jul	94.3	2				
	23 Oct	2,350		0.04	0.03		
Reeves-8	17 Jul	4.6	100			0.12	0.62
	18 Jul	25.6	17				
	23 Oct	2,350		0.03	0.03		
Reeves-9	17 Jul	4.6	80			0.094	0.5
	18 Jul	25.6	15				
	23 Oct	2,350		0.02	0.02		
Reeves-10	17 Jul	4.6	70			0.083	0.44
	18 Jul	25.6	12				
	23 Oct	2,350		0.03	0.02		
Reeves-11	17 Jul	4.5	60			0.069	0.36
	18 Jul	25.7	9				
	23 Oct	2,350		0.02	0.02		
Reeves-12	17 Jul	4.5	40			0.046	0.24
	18 Jul	25.7	6				
	23 Oct	2,350		0.03	0.02		
Reeves-13	17 Jul	4.5	30			0.034	0.18
	18 Jul	25.7	5				
	23 Oct	2,350		0.02	0.02		
Reeves-14	17 Jul	4.5	30			0.034	0.18
	18 Jul	25.7	4				
	23 Oct	2,350		0.02	0.02		
Reeves-15	17 Jul	4.5	20			0.023	0.12
	18 Jul	25.7	3				
	23 Oct	2,350		0.02	0.02		

TABLE D.1 (CONTINUED)

Station	Date (1968)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading AN/PDR-27J Shield Open	Dose Rate Reading AN/PDR-27J Shield Closed	Calculated H+4 Hour Dose Rate	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
Shoreline-16	17 Jul	4.4	20			0.022	0.12
	18 Jul	29.7	2.5				
Shoreline-17	17 Jul	4.4	15			0.017	0.089
	18 Jul	29.7	2				
Shoreline-18	17 Jul	4.4	10			0.011	0.059
	18 Jul	29.7	2				
Shoreline-1	18 Jul	26.0	1,750			17	88
	19 Jul	50.4	1.1				
	23 Oct	2,350		4.8	4.6		
Shoreline-2	18 Jul	26.0	200			1.9	10
	19 Jul	50.4	140				
	23 Oct	2,350		0.21	0.20		
Shoreline-3	17 Jul	4.9	1,000			1.3	6.7
	18 Jul	26.0	150				
	19 Jul	50.4	85				
	20 Jul	73.7	35				
	21 Jul	94.4	20				
	23 Oct	2,350		0.12	0.11		
Shoreline-4	17 Jul	4.9	450			0.58	3.0
	18 Jul	26.0	75				
	19 Jul	50.5	55				
	20 Jul	73.7	25				
	21 Jul	94.6	10				
	23 Oct	2,350		0.08	0.08		
Shoreline-5	17 Jul	4.9	350			0.45	2.4
	18 Jul	26.0	50				
	19 Jul	50.9	35				
	20 Jul	73.7	25				
	21 Jul	94.5	6				
	23 Oct	2,350		0.07	0.06		
Shoreline-6	17 Jul	4.8	250			0.31	1.6
	18 Jul	26.0	35				
	23 Oct	2,350		0.05	0.04		
Shoreline-7	17 Jul	4.8	175			0.22	1.2
	18 Jul	26.0	25				
	20 Jul	73.7	7				
	21 Jul	94.5	3				
	23 Oct	2,350		0.03	0.03		
Shoreline-8	17 Jul	4.8	150			0.19	0.99
	18 Jul	26.1	20				
	23 Oct	2,350		0.04	0.03		
Shoreline-9	17 Jul	4.8	100			0.12	0.66
	18 Jul	26.1	15				
	23 Oct	2,350		0.03	0.03		
Shoreline-10	17 Jul	4.8	70			0.087	0.46
	18 Jul	26.1	12				
	23 Oct	2,350		0.03	0.02		
Shoreline-11	17 Jul	4.8	60			0.074	0.39
	18 Jul	26.1	9				
	23 Oct	2,350		0.02	0.02		
Shoreline-12	17 Jul	4.8	45			0.056	0.3
	18 Jul	26.1	7				
	23 Oct	2,350		0.02	0.02		
LA-1	17 Jul	4.8	7			0.008	0.046
	18 Jul	26.5	1				
	23 Oct	2,350		0.02	0.02		
LA-2	17 Jul	4.8	9			0.011	0.059
	18 Jul	26.5	1.5				
	23 Oct	2,350		0.02	0.02		
LA-3	17 Jul	4.8	11			0.014	0.072
	18 Jul	26.5	2				
	23 Oct	2,350		0.02	0.02		
LA-4	17 Jul	4.8	16			0.02	0.1
	18 Jul	26.5	2.5				
	23 Oct	2,350		0.02	0.02		
LA-5	17 Jul	4.8	20			0.025	0.13
	18 Jul	26.5	3				
	23 Oct	2,350		0.02	0.02		
LA-6	17 Jul	4.8	25			0.031	0.16
	18 Jul	26.5	4				
	23 Oct	2,350		0.02	0.02		
LA-7	17 Jul	4.8	39			0.048	0.26
	18 Jul	26.5	5				
	23 Oct	2,350		0.02	0.02		
LA-8	17 Jul	4.7	45			0.054	0.29
	18 Jul	26.5	6				
	23 Oct	2,350		0.02	0.02		
LA-9	17 Jul	4.5	51			0.059	0.31
	18 Jul	26.4	7.5				
	23 Oct	2,350		0.02	0.02		
LA-10	17 Jul	4.5	70			0.08	0.43
	18 Jul	26.4	10				
	23 Oct	2,350		0.02	0.02		
LA-11	17 Jul	4.5	95			0.098	0.52
	18 Jul	26.4	12				
	23 Oct	2,350		0.02	0.02		
LA-12	17 Jul	4.4	120			0.13	0.71
	18 Jul	26.4	15				
	23 Oct	2,350		0.02	0.02		
LA-13	17 Jul	4.4	150			0.17	0.89
	18 Jul	26.4	20				
	23 Oct	2,350		0.02	0.02		
LA-14	17 Jul	4.4	190			0.21	1.1
	18 Jul	26.4	30				
	23 Oct	2,350		0.02	0.02		
LA-15	17 Jul	4.4	290			0.32	1.7
	18 Jul	26.4	50				
	23 Oct	2,350		0.02	0.02		
LA-16	17 Jul	4.4	350			0.39	2.1
	18 Jul	26.4	60				
	23 Oct	2,350		0.02	0.02		
LA-17	17 Jul	4.4	600			0.67	3.6
	18 Jul	26.4	80				
	19 Jul	50.3	50				
	23 Oct	2,350		0.03	0.03		
LA-18	17 Jul	4.5	1,000			1.2	6.1
	18 Jul	26.4	125				
	19 Jul	50.3	80				
	20 Jul	73.4	30				
	21 Jul	94.6	15				
	23 Oct	2,350		0.03	0.03		

TABLE D.1 (CONTINUED)

Station	Date (1968)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-27J Shield Open	Dose Rate Reading: AN/PDR-27J Shield Closed	Calculated H+4 Hour Dose Rate	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
1A-19	18 Jul	26.4	200			1.9	10
	19 Jul	50.3	100				
	20 Jul	73.4	50				
	21 Jul	94.4	28				
	23 Oct	2,350		0.04	0.04		
1A-20	19 Jul	50.4	200				
	23 Oct	2,350		0.06	0.06	17	99
1A-21	18 Jul	26.3	1,750				
	19 Jul	50.4	1,600				
	20 Jul	73.4	600				
	21 Jul	94.6	300				
	23 Oct	2,350		0.08	0.08	29	153
1A-22	18 Jul	26.3	3,000				
	19 Jul	50.4	2,000				
	20 Jul	73.5	1,000				
	21 Jul	94.6	600				
	23 Oct	2,350		0.26	0.25	14	76
1A-23	18 Jul	26.3	1,500				
	19 Jul	50.4	1,000				
	23 Oct	2,350		8	8	1.9	10
1A-24	18 Jul	26.3	200				
	19 Jul	50.4	150				
	23 Oct	2,350		12	12	0.98	5.2
1A-25	17 Jul	4.3	900				
	18 Jul	26.3	100				
	19 Jul	50.4	60				
	20 Jul	73.5	35				
	21 Jul	94.5	15				
	23 Oct	2,350		9	8		
50' W of 1A-25	17 Jul	4.3	1,000			1.1	5.3
1A-26	17 Jul	4.3	550			0.6	3.2
	18 Jul	26.3	70				
	23 Oct	2,350		0.7	0.6		
1A-27	17 Jul	4.3	275			0.3	1.6
	18 Jul	26.3	50				
	23 Oct	2,350		0.3	0.3		
1A-28	17 Jul	4.3	210			0.23	1.2
	18 Jul	26.3	35				
	23 Oct	2,350		0.07	0.06		
1A-29	17 Jul	4.3	175			0.19	1.0
	18 Jul	26.3	25				
	23 Oct	2,350		0.07	0.07		
1A-30	17 Jul	4.4	140			0.16	0.83
	18 Jul	26.3	20				
	23 Oct	2,350		0.02	0.02		
1A-31	17 Jul	4.4	100			0.11	0.59
	18 Jul	26.2	16				
	23 Oct	2,350		0.02	0.02		
1A-32	17 Jul	4.4	80			0.09	0.47
	18 Jul	26.2	13				
	23 Oct	2,350		0.02	0.02		
1A-33	17 Jul	4.4	70			0.078	0.42
	18 Jul	26.2	10				
	23 Oct	2,350		0.02	0.02		
1A-34	17 Jul	4.4	55			0.062	0.33
	18 Jul	26.2	7				
	23 Oct	2,350		0.02	0.02		
1A-35	17 Jul	4.4	45			0.050	0.27
	18 Jul	26.2	6				
	23 Oct	2,350		0.02	0.02		
1A-36	17 Jul	4.4	35			0.039	0.21
	18 Jul	26.2	4				
	23 Oct	2,350		0.02	0.02		
1A-37	17 Jul	4.4	25			0.028	0.15
	18 Jul	26.2	3				
	23 Oct	2,350		0.02	0.02		
1A-38	17 Jul	4.4	18			0.02	0.11
	18 Jul	26.2	3				
	23 Oct	2,350		0.02	0.02		
1A-39	17 Jul	4.4	16			0.018	0.095
	18 Jul	26.2	3				
	23 Oct	2,350		0.02	0.02		
1B-1	17 Jul	5.3	7			0.009	0.052
	18 Jul	25.4	1.5				
	23 Oct	2,350		0.01	0.01		
1B-2	17 Jul	5.3	9			0.013	[illegible]
	18 Jul	25.5	2				
	23 Oct	2,350		0.01	0.01		
1B-3	17 Jul	5.2	11			0.015	[illegible]
	18 Jul	25.5	2.5				
	23 Oct	2,350		0.01	0.01		
1B-4	17 Jul	5.2	13			0.018	[illegible]
	18 Jul	25.5	2.5				
	23 Oct	2,350		0.01	0.01		
1B-5	17 Jul	5.2	15			0.02	[illegible]
	18 Jul	25.5	3				
	23 Oct	2,350		0.01	0.01		
1B-6	17 Jul	5.2	18			0.025	[illegible]
	18 Jul	25.5	4.5				
	23 Oct	2,350		0.01	0.01		
1B-7	17 Jul	5.2	25			0.034	[illegible]
	18 Jul	25.5	6				
	23 Oct	2,350		0.01	0.01		
1B-8	17 Jul	5.2	35			0.048	[illegible]
	18 Jul	25.6	8				
	23 Oct	2,350		0.01	0.01		
1B-9	17 Jul	5.1	45			0.060	[illegible]
	18 Jul	25.6	10				
	23 Oct	2,350		0.01	0.01		
1B-10	17 Jul	5.1	60			0.080	[illegible]
	18 Jul	25.6	15				
	23 Oct	2,350		0.01	0.01		
1B-11	17 Jul	5.1	80			0.11	[illegible]
	18 Jul	25.6	18				
	23 Oct	2,350		0.01	0.01		
1B-12	17 Jul	5.1	90			0.12	[illegible]
	18 Jul	25.6	20				
	23 Oct	2,350		0.01	0.01		

TABLE D.1 (CONTINUED)

Station	Date (1962)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading AN/PDR-27J Shield Open	Dose Rate Reading AN/PDR-27J Shield Closed	Calculated H+4 Hour Dose Rate	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
13-13	17 Jul	5.1	110			0.15	0.78
	18 Jul	25.6	30				
	23 Oct	2,350		0.02	0.02		
13-14	17 Jul	5.1	150			0.20	1.1
	18 Jul	25.6	40				
	23 Oct	2,350		0.02	0.02		
13-15	17 Jul	5.0	180			0.24	1.2
	18 Jul	25.6	50				
	23 Oct	2,350		0.02	0.02		
13-16	17 Jul	5.0	200			0.26	1.4
	18 Jul	25.7	60				
	23 Oct	2,350		0.03	0.03		
13-17	17 Jul	5.0	300			0.39	2.1
	18 Jul	25.7	80				
	23 Oct	2,350		0.03	0.03		
13-18	17 Jul	5.0	450			0.59	3.1
	18 Jul	25.7	90				
	23 Oct	2,350		0.09	0.05		
13-19	17 Jul	5.0	1,000			1.3	6.9
	18 Jul	25.7	125				
	20 Jul	73.2	20				
	21 Jul	94.7	12				
	23 Oct	2,350		0.09	0.09		
13-20	18 Jul	25.7	150			1.4	7.4
	19 Jul	50.5	100				
	23 Oct	2,350		0.15	0.15		
13-21	18 Jul	25.7	200			1.9	9.8
	19 Jul	50.5	150				
	23 Oct	2,350		0.22	0.22		
13-22	18 Jul	25.7	1,000			9.3	49
	19 Jul	50.5	450				
	20 Jul	73.3	250				
	21 Jul	94.7	110				
	23 Oct	2,350		0.43	0.43		
13-23	18 Jul	25.7	1,500			14	74
	19 Jul	50.5	800				
	23 Oct	2,350		0.43	0.43		
13-24	18 Jul	25.7	3,500			32	172
	19 Jul	50.5	2,000				
	20 Jul	73.3	900				
	21 Jul	94.7	650				
	23 Oct	2,350		0.44	0.44		
13-25	18 Jul	25.7	1,000			9.3	49
	19 Jul	50.9	300				
	23 Oct	2,350		0.1	0.1		
13-26	18 Jul	25.8	200			1.9	9.8
	23 Oct	2,350	—	0.4	0.4		
30' E of 13-27	17 Jul	4.5	1,000			1.2	6.1
13-27	17 Jul	4.5	550			0.63	3.3
	18 Jul	25.8	100				
	20 Jul	73.3	15				
	21 Jul	94.7	9				
	23 Oct	2,350		0.35	0.35		
13-28	17 Jul	4.5	285			0.26	1.4
	18 Jul	25.8	100				
	23 Oct	2,350		0.12	0.12		
13-29	17 Jul	4.6	175			0.21	1.1
	18 Jul	25.8	60				
	23 Oct	2,350		0.07	0.07		
13-30	17 Jul	4.6	150			0.18	0.93
	18 Jul	25.8	50				
	23 Oct	2,350		0.05	0.05		
13-31	17 Jul	4.6	110			0.13	0.68
	18 Jul	25.8	25				
	23 Oct	2,350		0.04	0.04		
13-32	17 Jul	4.6	90			0.11	0.56
	18 Jul	25.8	30				
	23 Oct	2,350		0.03	0.03		
13-33	17 Jul	4.6	80			0.094	0.5
	18 Jul	25.8	20				
	23 Oct	2,350		0.02	0.02		
13-34	17 Jul	4.6	60			0.071	0.37
	18 Jul	25.8	15				
	23 Oct	2,350		0.02	0.02		
13-35	17 Jul	4.6	55			0.065	0.34
	18 Jul	25.8	15				
	23 Oct	2,350		0.02	0.02		
13-36	17 Jul	4.6	35			0.041	0.22
	18 Jul	25.8	10				
	23 Oct	2,350		0.02	0.02		
13-37	17 Jul	4.7	27			0.033	0.17
	18 Jul	25.8	7				
	23 Oct	2,350		0.01	0.01		
13-38	17 Jul	4.7	20			0.024	0.13
	18 Jul	25.8	5				
	23 Oct	2,350		0.01	0.01		
13-39	17 Jul	4.8	17			0.021	0.11
	18 Jul	25.8	4				
	23 Oct	2,350		0.01	0.01		
13-40	17 Jul	4.8	12			0.015	0.079
	18 Jul	25.8	3.5				
	23 Oct	2,350		0.01	0.01		
13-41	17 Jul	4.8	9			0.011	0.059
	18 Jul	25.9	2.5				
	23 Oct	2,350		0.01	0.01		
13-42	17 Jul	4.8	7			0.008	0.046
	18 Jul	25.9	2.0				
	23 Oct	2,350		0.01	0.01		
13-43	17 Jul	4.8	7			0.008	0.046
	18 Jul	25.9	1.5				
	23 Oct	2,350		0.01	0.01		
10-1	17 Jul	3.3	8			0.006	0.034
	18 Jul	26.3	1.5				
	23 Oct	2,350		0.02	0.01		
10-2	17 Jul	3.3	10			0.007	0.042
	18 Jul	26.3	2				
	23 Oct	2,350		0.01	0.01		

TABLE D.1 (CONTINUED)

Station	Date (1968)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading Shield Open	Dose Rate Reading Shield Closed	Calculated 84 Hour Dose Rate	Calculated 841 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
1C-3	17 Jul	3.3	12			0.009	0.050
	18 Jul	26.3	2.5				
	23 Oct	2,350		0.01	0.01		
1C-4	17 Jul	3.3	16			0.013	0.067
	18 Jul	26.2	3.5				
	23 Oct	2,350		0.01	0.01		
1C-5	17 Jul	3.3	20			0.016	0.084
	18 Jul	26.2	4.5				
	23 Oct	2,350		0.01	0.01		
1C-6	17 Jul	3.3	20			0.016	0.084
	18 Jul	26.2	5				
	23 Oct	2,350		0.01	0.01		
1C-7	17 Jul	3.3	30			0.024	0.13
	18 Jul	26.2	7				
	23 Oct	2,350		0.01	0.01		
1C-8	17 Jul	3.3	35			0.028	0.15
	18 Jul	26.2	8				
	23 Oct	2,350		0.01	0.01		
1C-9	17 Jul	3.3	50			0.04	0.21
	18 Jul	26.2	9.5				
	23 Oct	2,350		0.01	0.01		
1C-10	17 Jul	3.3	80			0.064	0.34
	18 Jul	26.2	15				
	23 Oct	2,350		0.01	0.01		
1C-11	17 Jul	3.3	100			0.079	0.42
	18 Jul	26.2	20				
	23 Oct	2,350		0.01	0.01		
1C-12	17 Jul	3.2	120			0.091	0.48
	18 Jul	26.1	30				
	23 Oct	2,350		0.01	0.01		
1C-13	17 Jul	3.2	150			0.11	0.6
	18 Jul	26.1	38				
	23 Oct	2,350		0.01	0.01		
1C-14	17 Jul	3.2	160			0.12	0.64
	18 Jul	26.1	50				
	23 Oct	2,350		0.02	0.02		
1C-15	17 Jul	3.2	175			0.13	0.7
	18 Jul	26.1	60				
	23 Oct	2,350		0.02	0.02		
1C-16	17 Jul	3.2	150			0.11	0.6
	18 Jul	26.1	70				
	23 Oct	2,350		0.03	0.03		
1C-17	17 Jul	3.2	250			0.19	1.0
	18 Jul	26.1	85				
	23 Oct	2,350		0.04	0.04		
1C-18	17 Jul	3.2	1,000			0.76	4
	18 Jul	26.1	125				
	20 Jul	73.6	15				
	23 Oct	2,350		0.07	0.07		
1C-19	18 Jul	26.0	150			1.4	7.5
	21 Jul	94.3	9				
	23 Oct	2,350		0.10	0.10		
1C-20	18 Jul	26.0	250			2.4	12
	19 Jul	50.6	100				
	23 Oct	2,350		0.24	0.24		
1C-21	18 Jul	26.0	1,000			9.5	50
	19 Jul	50.6	350				
	20 Jul	73.6	200				
	21 Jul	94.3	150				
	23 Oct	2,350		0.5	0.47		
1C-22	18 Jul	26.0	1,400			13	70
	19 Jul	50.6	400				
	23 Oct	2,350		2.0	1.8		
1C-23	18 Jul	26.0	2,600			25	130
	19 Jul	50.6	1,000				
	20 Jul	73.6	500				
	21 Jul	94.3	350				
	23 Oct	2,350		3.3	3.2		
1C-24	18 Jul	26.0	500			4.8	25
	19 Jul	50.6	250				
	23 Oct	2,350		1.7	1.7		
1C-25	18 Jul	26.0	100			0.95	5.0
	19 Jul	50.6	35				
	23 Oct	2,350		0.35	0.34		
50' E of 1C-26	17 Jul	3.5	1,000			0.85	4.5
1C-26	17 Jul	3.5	400			0.34	1.8
	18 Jul	26.0	62				
	20 Jul	73.5	10				
	21 Jul	94.2	6				
	23 Oct	2,350		0.08	0.08		
1C-27	17 Jul	3.5	450			0.38	2.0
	18 Jul	26.0	50				
	23 Oct	2,350		0.08	0.07		
1C-28	17 Jul	3.5	350			0.3	1.6
	18 Jul	25.9	40				
	23 Oct	2,350		0.05	0.04		
1C-29	17 Jul	3.5	260			0.22	1.2
	18 Jul	25.9	30				
	23 Oct	2,350		0.02	0.01		
1C-30	17 Jul	3.6	180			0.16	0.84
	18 Jul	25.8	20				
	23 Oct	2,350		0.01	0.01		
1C-31	17 Jul	3.6	140			0.12	0.65
	18 Jul	25.9	15				
	23 Oct	2,350		0.01	0.01		
1C-32	17 Jul	3.6	110			0.097	0.51
	18 Jul	25.9	11				
	23 Oct	2,350		0.01	0.01		
1C-33	17 Jul	3.6	78			0.069	0.36
	18 Jul	25.9	7				
	23 Oct	2,350		0.01	0.01		
1C-34	17 Jul	3.6	40			0.035	0.19
	18 Jul	25.9	5				
	23 Oct	2,350		0.01	0.01		
1C-35	17 Jul	3.6	23			0.02	0.11
	18 Jul	25.9	4				
	23 Oct	2,350		0.02	0.02		

TABLE D.1 (CONTINUED)

Station	Date (1968)	Time After Shot	Dose Rate Reading AN/PDR-27T Jordan	Shield Open	Shield Closed	Calculated H+4 Hour Dose Rate	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
1C-36	17 Jul	3.6	23			0.02	0.11
	18 Jul	25.9	2.5	0.02	0.01		
	23 Oct	2,350				0.014	0.074
1C-37	17 Jul	3.6	16				
	18 Jul	25.8	2	0.02	0.02		
	23 Oct	2,350				0.011	0.06
1C-38	17 Jul	3.6	13				
	18 Jul	25.8	1.5	0.01	0.01		
	23 Oct	2,350				0.01	0.053
1C-39	17 Jul	3.7	11				
	18 Jul	25.8	1.5	0.01	0.01		
	23 Oct	2,350				0.007	0.038
1C-40	17 Jul	3.7	8				
	18 Jul	25.8	1	0.01	0.01		
	23 Oct	2,350				0.004	0.023
1D-1	17 Jul	3.6	5				
	18 Jul	26.3	1.5	0.01	0.01		
	23 Oct	2,350				0.005	0.028
1D-2	17 Jul	3.6	6				
	18 Jul	26.3	1.5	0.01	0.01		
	23 Oct	2,350				0.006	0.032
1D-3	17 Jul	3.6	7				
	18 Jul	26.3	2	0.01	0.01		
	23 Oct	2,350				0.007	0.042
1D-4	17 Jul	3.6	9				
	18 Jul	26.3	2	0.01	0.01		
	23 Oct	2,350				0.009	0.051
1D-5	17 Jul	3.6	11				
	18 Jul	26.3	2.8	0.01	0.01		
	23 Oct	2,350				0.014	0.074
1D-6	17 Jul	3.6	16				
	18 Jul	26.3	3.5	0.01	0.01		
	23 Oct	2,350				0.018	0.093
1D-7	17 Jul	3.6	20				
	18 Jul	26.3	4.5	0.01	0.01		
	23 Oct	2,350				0.018	0.093
1D-8	17 Jul	3.6	20				
	18 Jul	26.3	5.5	0.01	0.01		
	23 Oct	2,350				0.026	0.14
1D-9	17 Jul	3.5	30				
	18 Jul	26.4	6	0.01	0.01		
	23 Oct	2,350				0.03	0.16
1D-10	17 Jul	3.5	35				
	18 Jul	26.4	8	0.01	0.01		
	23 Oct	2,350				0.034	0.18
1D-11	17 Jul	3.5	40				
	18 Jul	26.4	10	0.01	0.01		
	23 Oct	2,350				0.043	0.22
1D-12	17 Jul	3.5	50				
	18 Jul	26.4	12	0.01	0.01		
	23 Oct	2,350				0.055	0.29
1D-13	17 Jul	3.5	65				
	18 Jul	26.4	15	0.01	0.01		
	23 Oct	2,350				0.077	0.4
1D-14	17 Jul	3.5	90				
	18 Jul	26.4	18	0.02	0.02		
	23 Oct	2,350				0.1	0.54
1D-15	17 Jul	3.5	120				
	18 Jul	26.4	25	0.03	0.03		
	23 Oct	2,350				0.13	0.68
1D-16	17 Jul	3.5	150				
	18 Jul	26.4	30	0.03	0.03		
	23 Oct	2,350				0.14	0.76
1D-17	17 Jul	3.5	170				
	18 Jul	26.4	50	0.04	0.04		
	23 Oct	2,350				0.16	0.87
1D-18	17 Jul	3.4	200				
	18 Jul	26.4	45	0.05	0.05		
	23 Oct	2,350				0.20	1.1
1D-19	17 Jul	3.4	250				
	18 Jul	26.5	50	0.06	0.06		
	23 Oct	2,350				0.20	1.1
1D-20	17 Jul	3.4	250				
	18 Jul	26.5	52	0.06	0.06		
	23 Oct	2,350				0.49	2.6
1D-21	17 Jul	3.4	600				
	18 Jul	26.5	60				
	20 Jul	73.8	10				
	21 Jul	98.3	3	0.15	0.15		
	23 Oct	2,350				0.82	4.3
1D-22	17 Jul	3.4	1,000				
	18 Jul	26.5	150				
	20 Jul	73.9	18				
	21 Jul	98.4	13	0.21	0.21		
	23 Oct	2,350				1.4	7.6
1D-23	18 Jul	26.5	150				
	20 Jul	73.9	30				
	21 Jul	98.4	17	0.35	0.35		
	23 Oct	2,350				3.4	18
1D-24	18 Jul	26.5	350				
	19 Jul	50.4	150	0.47	0.47		
	23 Oct	2,350				19	102
1D-25	18 Jul	26.5	2,000				
	19 Jul	50.5	900				
	20 Jul	73.9	500				
	21 Jul	98.4	350	0.44	0.44		
	23 Oct	2,350				6.8	36
1D-26	18 Jul	26.5	700				
	19 Jul	50.3	260	0.17	0.16		
	23 Oct	2,350				0.95	5.0
1D-27	18 Jul	26.5	98	0.10	0.09		
	23 Oct	2,350				0.79	4.0
1D-28	17 Jul	3.2	1,000				
	18 Jul	26.5	70				
	20 Jul	73.9	8				
	21 Jul	98.4	6	0.07	0.06		
	23 Oct	2,350				0.32	1.7
1D-29	17 Jul	3.3	410				
	18 Jul	26.6	38	0.04	0.04		
	23 Oct	2,350					

TABLE D.1 (CONTINUED)

Station	Date (1962)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading IM/PDR-27/ Shield Open	Dose Rate Reading IM/PDR-27/ Shield Closed	Calculated Net Hour Dose Rate	Calculated Net Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
12-30	17 Jul	3.3	330			0.26	1.4
	18 Jul	26.6	23				
	20 Jul	73.9	4				
	21 Jul	94.4	2				
	23 Oct	2,350		0.03	0.03		
12-31	17 Jul	3.3	180			0.14	0.76
	18 Jul	26.6	18				
	23 Oct	2,350		0.03	0.03		
12-32	17 Jul	3.3	95			0.075	0.4
	18 Jul	26.7	11				
	23 Oct	2,350		0.02	0.02		
12-33	17 Jul	3.3	60			0.048	0.25
	18 Jul	26.7	7.5				
	23 Oct	2,350		0.02	0.02		
12-34	17 Jul	3.3	48			0.038	0.2
	18 Jul	26.7	5				
	23 Oct	2,350		0.01	0.01		
12-35	17 Jul	3.3	34			0.027	0.14
	18 Jul	26.7	4				
	23 Oct	2,350		0.01	0.01		
12-36	17 Jul	3.3	23			0.018	0.097
	18 Jul	26.7	3.5				
	23 Oct	2,350		0.01	0.01		
12-37	17 Jul	3.4	21			0.017	0.091
	18 Jul	26.7	2.5				
	23 Oct	2,350		0.01	0.01		
12-38	17 Jul	3.4	17			0.014	0.074
	18 Jul	26.7	2				
	23 Oct	2,350		0.01	0.01		
12-39	17 Jul	3.4	14			0.012	0.061
	18 Jul	26.7	1.8				
	23 Oct	2,350		0.01	0.01		
12-40	17 Jul	3.4	12			0.009	0.052
	18 Jul	26.7	1.3				
	23 Oct	2,350		0.01	0.01		
12-41	17 Jul	3.4	9			0.007	0.039
	18 Jul	26.7	1				
	23 Oct	2,350		0.01	0.01		
12-42	17 Jul	3.4	6			0.004	0.026
	18 Jul	26.7	1				
	23 Oct	2,350		0.01	0.01		
12-43	17 Jul	3.4	4			0.003	0.017
	18 Jul	26.7	0.7				
	23 Oct	2,350		0.01	0.01		
12-44	17 Jul	3.4	4			0.003	0.017
	18 Jul	26.7	0.5				
12-1	17 Jul	3.4	4				
	18 Jul	26.9	0.5				
	22 Oct	2,330		0.01	0.01		
12-2	17 Jul	3.3	6			0.004	0.025
	18 Jul	26.9	0.8				
	22 Oct	2,330		0.01	0.01		
12-3	17 Jul	3.3	8			0.006	0.033
	18 Jul	26.9	1.2				
	22 Oct	2,330		0.01	0.01		
12-4	17 Jul	3.3	12			0.009	0.05
	18 Jul	26.9	1.5				
	22 Oct	2,330		0.01	0.01		
12-5	17 Jul	3.3	20			0.016	0.064
	18 Jul	26.9	2.5				
	22 Oct	2,330		0.01	0.01		
12-6	17 Jul	3.3	25			0.02	0.1
	18 Jul	26.9	3.5				
	22 Oct	2,330		0.01	0.01		
12-7	17 Jul	3.3	32			0.025	0.13
	18 Jul	26.8	6				
	22 Oct	2,330		0.02	0.02		
12-8	17 Jul	3.2	45			0.034	0.18
	18 Jul	26.8	6.5				
	22 Oct	2,330		0.02	0.02		
12-9	17 Jul	3.2	70			0.054	0.28
	18 Jul	26.8	11				
	22 Oct	2,330		0.02	0.02		
12-10	17 Jul	3.2	100			0.076	0.4
	18 Jul	26.8	13				
	22 Oct	2,330		0.03	0.03		
12-11	17 Jul	3.2	125			0.096	0.5
	18 Jul	26.8	15				
	20 Jul	73.4	2.5				
	21 Jul	94.5	1				
	22 Oct	2,330		0.03	0.02		
12-12	17 Jul	3.2	150			0.11	0.6
	18 Jul	26.8	20				
	19 Jul	50.4	10				
	22 Oct	2,330		0.03	0.03		
12-13	18 Jul.	26.7	80			0.78	4.2
	19 Jul	50.4	30				
	20 Jul	73.4	13				
	21 Jul	94.5	9				
	22 Oct	2,330		0.13	0.13		
60' N of 12-14	17 Jul	3.2	1,000			0.76	4.0
	18 Jul	26.7	300			2.9	16
	19 Jul	50.4	170				
	22 Oct	2,330		0.44	0.44		
12-15	18 Jul	26.7	230			2.2	12
	20 Jul	73.5	50				
	21 Jul	94.5	30				
	22 Oct	2,330		0.40	0.40		
75' W of 12-15	17 Jul	3.3	1,000			0.79	4.2
12-16	17 Jul	3.4	275			0.23	1.2
	18 Jul	26.7	29				
	20 Jul	73.5	10				
	21 Jul	94.5	5				
	22 Oct	2,330		0.07	0.07		
12-17	17 Jul	3.4	65			0.053	0.28
	18 Jul	26.7	7				
	22 Oct	2,330		0.02	0.02		
12-18	17 Jul	3.5	35			0.03	0.16
	18 Jul	26.7	4				
	22 Oct	2,330		0.02	0.01		

TABLE D.1 (CONTINUED)

Station	Date (1968)	Time After Shot	Dose Rate Reading Yerkes	AN/PDR-27 Shield Open	AN/PDR-27 Shield Closed	Calculated H+4 Hour Dose Rate	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
18-18	17 Jul	3.5	25			0.021	0.11
	18 Jul	26.6	2.5				
	22 Oct	2,330		0.01	0.01		
18-20	17 Jul	3.5	18			0.015	0.081
	18 Jul	26.6	1.5				
	22 Oct	2,330		0.02	0.02		
18-21	17 Jul	3.5	11			0.009	0.05
	18 Jul	26.6	1				
	22 Oct	2,330		0.02	0.01		
18-22	17 Jul	3.6	8			0.007	0.037
	18 Jul	26.6	0.6				
	22 Oct	2,330		0.01	0.01		
18-23	17 Jul	3.6	5			0.004	0.023
	18 Jul	26.6	0.45				
	22 Oct	2,330		0.01	0.01		
18-24	17 Jul	3.6	4			0.003	0.019
	18 Jul	26.5	0.4				
	22 Oct	2,330		0.01	0.01		
18-25	17 Jul	3.6	3			0.002	0.014
	18 Jul	26.5	0.25				
	22 Oct	2,330		0.01	0.01		
17-1	17 Jul	3.6	0.8			0.0007	0.003
	18 Jul	26.1	0.4				
	22 Oct	2,330		0.02	0.02		
17-2	17 Jul	3.6	4			0.003	0.019
	18 Jul	26.1	0.5				
	22 Oct	2,330		0.02	0.02		
17-3	17 Jul	3.6	6			0.005	0.028
	18 Jul	26.1	0.5				
	22 Oct	2,330		0.02	0.02		
17-4	17 Jul	3.5	6.5			0.005	0.029
	18 Jul	26.1	1				
	22 Oct	2,330		0.02	0.02		
17-5	17 Jul	3.5	8			0.006	0.036
	18 Jul	26.1	1.3				
	22 Oct	2,330		0.02	0.02		
17-6	17 Jul	3.5	10			0.008	0.045
	18 Jul	26.1	2				
	22 Oct	2,330		0.02	0.02		
17-7	17 Jul	3.5	15			0.013	0.068
	18 Jul	26.2	2.5				
	22 Oct	2,330		0.02	0.02		
17-8	17 Jul	3.5	25			0.021	0.11
	18 Jul	26.2	4				
	22 Oct	2,330		0.02	0.02		
17-9	17 Jul	3.5	30			0.026	0.14
	18 Jul	26.2	4.5				
	22 Oct	2,330		0.02	0.02		
17-10	17 Jul	3.5	45			0.038	0.2
	18 Jul	26.2	5				
	22 Oct	2,330		0.02	0.02		
17-11	17 Jul	3.4	65			0.053	0.28
	18 Jul	26.2	6.5				
	22 Oct	2,330		0.02	0.02		
17-12	17 Jul	3.4	70			0.058	0.3
	18 Jul	26.3	8				
	22 Oct	2,330		0.04	0.04		
17-13	17 Jul	3.4	100			0.082	0.43
	18 Jul	26.3	9				
	22 Oct	2,330		0.05	0.05		
17-14	18 Jul	26.3	15			0.14	0.76
	22 Oct	2,330		0.08			
17-15	17 Jul	3.4	1,000			6.7	36
	18 Jul	26.3	700				
	19 Jul	50.5	325				
	20 Jul	73.7	150				
	21 Jul	94.5	150				
	22 Oct	2,330		6.0	4.5		
17-16	17 Jul	4.2	1,000			1.0	5.6
	18 Jul	26.3	100				
	19 Jul	50.5	40				
	20 Jul	73.7	20				
	21 Jul	94.5	11				
	22 Oct	2,330		0.26	0.21		
17-17	17 Jul	4.2	200			0.21	1.1
	18 Jul	26.3	12.5				
	20 Jul	73.7	3				
	21 Jul	94.5	1.5				
	22 Oct	2,330		0.05	0.05		
17-18	17 Jul	4.2	60			0.064	0.34
	18 Jul	26.3	4.5				
	22 Oct	2,330		0.02	0.02		
17-19	17 Jul	4.2	50			0.053	0.28
	18 Jul	26.4	2.5				
	22 Oct	2,330		0.02	0.02		
17-20	17 Jul	4.3	25			0.027	0.14
	18 Jul	26.4	1.5				
	22 Oct	2,330		0.02	0.02		
17-21	17 Jul	4.3	10			0.01	0.058
	18 Jul	26.4	1.5				
	22 Oct	2,330		0.02	0.02		
17-22	17 Jul	4.3	7			0.007	0.04
	18 Jul	26.4	0.7				
	22 Oct	2,330		0.02	0.02		
17-23	17 Jul	4.3	5			0.005	0.029
	18 Jul	26.4	0.6				
	22 Oct	2,330		0.02	0.02		
17-24	17 Jul	4.3	3			0.003	0.017
	18 Jul	26.4	0.45				
	22 Oct	2,330		0.02	0.02		
17-25	17 Jul	4.3	2			0.002	0.012
	18 Jul	26.5	0.35				
	22 Oct	2,330		0.02	0.02		
17-26	17 Jul	4.3	1			0.001	0.005
	18 Jul	26.5	0.3				
	22 Oct	2,330		0.02	0.02		
17-27	18 Jul	26.5	0.25			0.002	0.013
	22 Oct	2,330		0.02	0.02		
17-28	18 Jul	26.5	0.21			0.002	0.011
	22 Oct	2,330		0.02	0.02		

TABLE D.1 (CONTINUED)

Station	Date (1962)	Time After Shot	Dose Rate Reading Jordan	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+4 Hour Dose Rate	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
1G-1	17 Jul	3.9	1.5			0.307	0.901
	18 Jul	26.0	0.4	0.02	0.02	0.001	0.01
	22 Oct	2,330					
1G-2	17 Jul	3.9	2.				
	18 Jul	26.0	0.5	0.02	0.02	0.002	0.015
	22 Oct	2,330					
1G-3	17 Jul	3.9	3				
	18 Jul	26.0	0.6	0.02	0.02	0.003	0.02
	22 Oct	2,330					
1G-4	17 Jul	3.9	4				
	18 Jul	26.0	0.7	0.02	0.02	0.005	0.031
	22 Oct	2,330					
1G-5	17 Jul	3.9	6				
	18 Jul	26.0	1	0.02	0.02	0.008	0.046
	22 Oct	2,330					
1G-6	17 Jul	3.9	9				
	18 Jul	26.0	1.25	0.02	0.02	0.01	0.076
	22 Oct	2,330					
1G-7	17 Jul	3.9	11				
	18 Jul	25.9	1.5	0.02	0.02	0.012	0.064
	22 Oct	2,330					
1G-8	17 Jul	3.8	13				
	18 Jul	25.9	2	0.02	0.02	0.014	0.074
	22 Oct	2,330					
1G-9	17 Jul	3.8	15				
	18 Jul	25.9	2	0.02	0.02	0.024	0.12
	22 Oct	2,330					
1G-10	17 Jul	3.8	25				
	18 Jul	25.9	3.5	0.02	0.02	0.028	0.15
	22 Oct	2,330					
1G-11	17 Jul	3.8	30				
	18 Jul	25.9	4.5	0.02	0.02	0.046	0.3
	22 Oct	2,330					
1G-12	17 Jul	3.8	60				
	18 Jul	25.8	6	0.02	0.02	0.14	0.74
	22 Oct	2,330					
1G-13	17 Jul	3.8	150				
	18 Jul	25.8	13				
	19 Jul	50.5	6.0	0.05	0.05	0.94	5.0
	22 Oct	2,330					
1G-14	17 Jul	3.8	1000				
	18 Jul	25.8	140				
	19 Jul	50.5	50				
	20 Jul	73.9	25				
	21 Jul	94.3	10	0.22	0.15	0.83	4.6
	22 Oct	2,330					
1G-15	17 Jul	3.6	1000				
	18 Jul	25.8	400				
	20 Jul	73.9	55				
	21 Jul	94.4	8.0	2.9	2.4	0.11	0.58
	22 Oct	2,330					
1G-16	17 Jul	3.6	125				
	18 Jul	25.8	15				
	20 Jul	73.9	3				
	21 Jul	94.4	2.5	0.05	0.05	0.031	0.16
	22 Oct	2,330					
1G-17	17 Jul	3.6	35				
	18 Jul	25.8	3	0.02	0.02	0.018	0.093
	22 Oct	2,330					
1G-18	17 Jul	3.6	20				
	18 Jul	25.7	1.5	0.02	0.02	0.008	0.046
	22 Oct	2,330					
1G-19	17 Jul	3.6	10				
	18 Jul	25.7	0.7	0.02	0.02	0.005	0.032
	22 Oct	2,330					
1G-20	17 Jul	3.5	7				
	18 Jul	25.7	0.4	0.02	0.02	0.002	0.016
	22 Oct	2,330					
1G-21	17 Jul	3.5	3.5				
	18 Jul	25.7	0.3	0.02	0.02	0.001	0.009
	22 Oct	2,330					
1G-22	17 Jul	3.5	2				
	18 Jul	25.7	0.25	0.02	0.02	0.001	0.006
	22 Oct	2,330					
1G-23	17 Jul	3.5	1.5				
	18 Jul	25.7	0.2	0.02	0.02	0.0008	0.004
	22 Oct	2,330					
1G-24	17 Jul	3.5	1				
	18 Jul	25.7	0.2	0.02	0.02	0	0
	22 Oct	2,330					
1G-25	17 Jul	3.5	0				
	18 Jul	25.6	0.2	0.02	0.02	0	0
	22 Oct	2,330					
1G-26	17 Jul	3.5	0				
	18 Jul	25.6	0.15			0.0006	0.003
1B-1	17 Jul	3.7	0.7				
	18 Jul	25.6	0	0.02	0.02	0.0009	0.004
	22 Oct	2,330					
1B-2	17 Jul	3.7	1				
	18 Jul	25.6	0	0.02	0.02	0.001	0.007
	22 Oct	2,330					
1B-3	17 Jul	3.7	1.5				
	18 Jul	25.6	0.4	0.02	0.02	0.002	0.014
	22 Oct	2,330					
1B-4	17 Jul	3.6	3				
	18 Jul	25.6	0.5	0.02	0.02	0.003	0.019
	22 Oct	2,330					
1B-5	17 Jul	3.6	4				
	18 Jul	25.6	0.7	0.02	0.02	0.006	0.032
	22 Oct	2,330					
1B-6	17 Jul	3.6	7				
	18 Jul	25.6	1	0.02	0.02	0.008	0.046
	22 Oct	2,330					
1B-7	17 Jul	3.6	10				
	18 Jul	25.6	1.5	0.02	0.02	0.01	0.054
	22 Oct	2,330					
1B-8	17 Jul	3.5	12				
	18 Jul	25.6	1.8	0.02	0.02		
	22 Oct	2,330					

TABLE D.1 (CONTINUED)

Station	Date (1962)	Time After Shot	Dose Rate Reading Jordan	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated 24-Hour Dose Rate	Calculated 48-Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
LB-9	17 Jul	3.5	20			0.017	0.09
	18 Jul	25.3	2.5				
	22 Oct	2,130		0.02	0.02		
LB-10	17 Jul	3.5	55			0.047	0.25
	18 Jul	25.7	6.7				
	19 Jul	50.3	2.2				
	20 Jul	74.1	2				
	21 Jul	98.4	1				
	22 Oct	2,130		0.04	0.04		
50 ft W of LB-10	17 Jul	3.5	1000			0.85	4.5
LB-11	17 Jul	3.8	2000			1.9	9.9
	18 Jul	25.6	250				
	19 Jul	50.4	100				
	20 Jul	74.1	45				
	21 Jul	98.4	45				
	22 Oct	2,130		2.2	1.8		
LB-12	18 Jul	25.7	6			0.056	0.29
	19 Jul	50.4	2.3				
	20 Jul	74.1	1				
	22 Oct	2,130		0.03	0.03		
50 ft W of LB-12	17 Jul	3.8	45			0.042	0.22
LB-13	17 Jul	3.8	13			0.012	0.064
	18 Jul	25.7	1.5				
	22 Oct	2,130		0.02	0.02		
LB-14	17 Jul	3.8	8			0.007	0.04
	18 Jul	25.8	1.5				
	22 Oct	2,130		0.02	0.02		
LB-15	17 Jul	3.8	3.5			0.003	0.017
	18 Jul	25.8	0.6				
	22 Oct	2,130		0.02	0.02		
LB-16	17 Jul	3.7	1.5			0.001	0.007
	18 Jul	25.8	0.5				
	22 Oct	2,130		0.02	0.02		
LB-17	17 Jul	3.7	1			0.0009	0.004
	18 Jul	25.8	0				
	22 Oct	2,130		0.02	0.02		
LB-18	17 Jul	3.7	0			0	0
	18 Jul	25.8	0				
	22 Oct	2,130		0.02	0.02		
LB-19	17 Jul	3.7	0			0	0
	22 Oct	2,130		0.02	0.02		
LB-20	17 Jul	3.7	0			0	0
	22 Oct	2,130		0.02	0.02		
LJ-1	17 Jul	3.4	0.4			0.0003	0.001
	18 Jul	26.1	0				
	22 Oct	2,130		0.02	0.02		
LJ-2	17 Jul	3.3	0.5			0.0003	0.002
	18 Jul	26.1	0				
	22 Oct	2,130		0.02	0.02		
LJ-3	17 Jul	3.3	0.7			0.0005	0.002
	18 Jul	26.0	0				
	22 Oct	2,130		0.02	0.02		
LJ-4	17 Jul	3.3	1			0.0007	0.004
	18 Jul	26.0	0				
	22 Oct	2,130		0.02	0.02		
LJ-5	17 Jul	3.3	2			0.001	0.008
	22 Oct	2,130		0.02	0.02		
LJ-6	17 Jul	3.3	3			0.002	0.013
	18 Jul	26.0	0.5				
	22 Oct	2,130		0.02	0.02		
LJ-7	17 Jul	3.3	6			0.004	0.025
	18 Jul	26.0	0.6				
	22 Oct	2,130		0.02	0.02		
LJ-8	17 Jul	3.3	15			0.012	0.063
	18 Jul	26.0	1				
	22 Oct	2,130		0.02	0.02		
LJ-9	17 Jul	3.3	30			0.024	0.13
	18 Jul	26.0	2				
	22 Oct	2,130		0.03	0.03		
LJ-10	18 Jul	25.9	5			0.047	0.25
	22 Oct	2,130		0.03	0.03		
LJ-11	18 Jul	25.9	30			0.28	1.5
	19 Jul	50.5	8				
	22 Oct	2,130		0.07	0.07		
25 ft E of LJ-12	17 Jul	4.0	1000			1.0	5.2
LJ-12	17 Jul	4.0	375			0.38	2.0
	18 Jul	25.9	80				
	19 Jul	50.5	30				
	20 Jul	73.7	20				
	21 Jul	98.4	12				
	22 Oct	2,130		0.29	0.29		
LJ-13	17 Jul	4.0	30			0.03	0.16
	18 Jul	25.9	3.5				
	19 Jul	50.5	0				
	22 Oct	2,130		0.03	0.03		
LJ-14	17 Jul	4.0	10			0.01	0.052
	18 Jul	25.9	1.5				
	22 Oct	2,130		0.02	0.02		
LJ-15	17 Jul	4.0	5			0.005	0.026
	18 Jul	25.9	0.9				
	22 Oct	2,130		0.02	0.02		
LJ-16	17 Jul	3.9	1.5			0.001	0.007
	18 Jul	25.9	0.5				
	22 Oct	2,130		0.02	0.02		
LJ-17	17 Jul	3.9	1			0.0009	0.005
	18 Jul	25.8	0.5				
	22 Oct	2,130		0.02	0.02		
LJ-18	17 Jul	3.9	0			0	0
	18 Jul	25.8	0.4				
	22 Oct	2,130		0.02	0.02		
LJ-19	17 Jul	3.9	0			0	0
	18 Jul	25.8	0.5				
	22 Oct	2,130		0.02	0.02		
LJ-20	17 Jul	3.9	0			0	0
	22 Oct	2,130		0.02	0.02		

TABLE D. 1 (CONTINUED)

Station	Date (1962)	Time After Shot	Dose Rate Reading Jordan	Dose Rate Reading AN/PDR-27J Shield Open	Dose Rate Reading AN/PDR-27J Shield Closed	Calculated 8-4 Hour Dose Rate	Calculated 8-1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
1J-11	17 Jul	3.9	0			0	0
1K-1	22 Oct	2,330		0.02	0.02		
1K-2	22 Oct	2,330		0.02	0.02	0.0007	0.004
1K-3	17 Jul	3.2	1				
	18 Jul	26.2	0	0.02	0.02	0.002	0.012
	22 Oct	2,330					
1K-4	17 Jul	3.2	3				
	18 Jul	26.2	0.5	0.02	0.02	0.007	0.04
	22 Oct	2,330					
1K-5	17 Jul	3.2	10				
	18 Jul	26.2	1.0	0.02	0.02	0.064	0.34
	22 Oct	2,330					
1K-6	17 Jul	3.3	80				
	18 Jul	26.3	4.5				
	20 Jul	73.8	2				
	21 Jul	94.5	1	0.03	0.03	1.6	8.4
	22 Oct	2,330					
1K-7	17 Jul	3.3	2000				
	18 Jul	26.3	200				
	19 Jul	50.6	110				
	20 Jul	73.8	50				
	21 Jul	94.5	40	2.2	2.2	0.048	0.25
	22 Oct	2,330					
1K-8	17 Jul	4.2	45				
	18 Jul	26.3	6				
	19 Jul	50.6	2	0.05	0.04	0.002	0.014
	22 Oct	2,330					
1K-9	17 Jul	4.2	2.5				
	18 Jul	26.3	0.7				
	19 Jul	50.6	0	0.03	0.03	0.001	0.008
	22 Oct	2,330					
1K-10	17 Jul	4.2	1.5				
	18 Jul	26.3	0.5	0.04	0.04	0.001	0.005
	22 Oct	2,330					
1K-11	17 Jul	4.2	1				
	18 Jul	26.4	0.8	0.05	0.05	0.001	0.005
	22 Oct	2,330					
1K-12	17 Jul	4.2	1				
	18 Jul	26.4	1.0	0.08	0.08	0	0
	22 Oct	2,330					
1K-13	17 Jul	4.2	0.				
	18 Jul	26.4	1.5			0	0
1L-1	17 Jul	3.3	0				
	17 Jul	4.4	0				
	18 Jul	25.6	0	0.02	0.02	0	0
	19 Oct	2,255					
1L-2	17 Jul	3.4	0				
	17 Jul	4.4	0				
	18 Jul	25.6	0	0.02	0.02	0.002	0.011
	19 Oct	2,255					
1L-3	17 Jul	3.4	2.5				
	17 Jul	4.4	1.5				
	18 Jul	25.6	0	0.02	0.02	0.006	0.037
	19 Oct	2,255					
1L-4	17 Jul	3.4	8.5				
	17 Jul	4.4	4				
	18 Jul	25.6	0.6	0.02	0.02	0.18	0.98
	19 Oct	2,255					
1L-5	17 Jul	3.4	225				
	17 Jul	4.3	50				
	18 Jul	25.6	11				
	20 Jul	74.2	2				
	21 Jul	94.5	1.5	0.05	0.05	0.82	4.3
	19 Oct	2,255					
1L-6	17 Jul	3.4	1000				
	17 Jul	4.3	450				
	18 Jul	25.7	80				
	19 Jul	50.7	40				
	21 Jul	94.5	15	0.13	0.30	0.076	0.4
	19 Oct	2,255					
1L-7	17 Jul	4.3	70				
	18 Jul	25.7	14				
	19 Jul	50.7	6				
	20 Jul	74.2	3				
	21 Jul	94.7	2	0.12	0.10	0.002	0.014
	19 Oct	2,255					
1L-8	17 Jul	4.3	2.5				
	18 Jul	25.7	0.7				
	19 Jul	50.7	0.5	0.05	0.04	0.001	0.008
	19 Oct	2,255					
1L-9	17 Jul	4.3	1.5				
	18 Jul	25.7	0.8	0.06	0.05	0.002	0.012
	19 Oct	2,255					
1L-10	17 Jul	4.3	2				
	18 Jul	25.7	3	0.2	0.2	0.003	0.02
	19 Oct	2,255					
1L-11	17 Jul	4.3	3.5			0	0
	18 Jul	25.7	5				
1M-1	17 Jul	3.5	0				
	18 Jul	26.0	0	0.02	0.02	0	0
	19 Oct	2,255					
1M-2	17 Jul	3.5	0				
	18 Jul	26.0	0	0.02	0.02	0	0
	19 Oct	2,255					
1M-3	17 Jul	3.5	0				
	18 Jul	25.9	0	0.02	0.02	0.0008	0.004
	19 Oct	2,255					
1M-4	17 Jul	3.6	1				
	18 Jul	25.9	0	0.02	0.02	0.003	0.019
	19 Oct	2,255					
1M-5	17 Jul	3.6	4				
	18 Jul	25.9	0.5	0.02	0.02	0.022	0.12
	19 Oct	2,255					
1M-6	17 Jul	3.6	25				
	18 Jul	25.9	2	0.02	0.02	0.31	1.6
	19 Oct	2,255					
1M-7	17 Jul	3.6	350				
	18 Jul	25.9	25				
	20 Jul	74.4	5				
	21 Jul	94.8	5	0.17	0.15		
	19 Oct	2,255					

TABLE D. 1 (CONTINUED)

Station	Date (1966)	Time After Shot	Dose Rate Reading: Jordan	Dose Rate Reading: AN/PDR-27J Shield Open	Dose Rate Reading: AN/PDR-27J Shield Closed	Calculated H+4 Hour Dose Rate	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr	r/hr
1M-8	17 Jul	3.7	300			0.27	1.4
	18 Jul	25.9	25				
	20 Jul	74.3	6				
	21 Jul	94.8	3.5				
	19 Oct	2,330		0.30	0.26		
1M-9	17 Jul	3.7	45			0.041	0.22
	18 Jul	25.8	4				
	20 Jul	74.3	1.5				
	21 Jul	94.8	1				
	19 Oct	2,330		0.07	0.07		
	17 Jul[a]	3.7	7			0.0006	0.034
1M-10	18 Jul	25.8	2			0.019	0.098
	19 Oct	2,330		0.13	0.13		
2M-9	17 Jul	3.1	0				
	18 Jul	25.4	0.7				
	22 Oct	2,330		0.01	0.01		
2M-10	17 Jul	3.2	0.6			0.0004	0.002
	18 Jul	25.4	0.5				
2M-11	17 Jul	3.2	1			0.0007	0.004
	18 Jul	25.5	0.7				
2M-12	17 Jul	3.2	40.			0.031	0.16
	18 Jul	25.5	1.5				
2M-13	17 Jul	3.2	100			0.076	0.4
	18 Jul	25.6	7.5				
	20 Jul	74.6	2.5				
	21 Jul	94.8	1.5				
2M-14	17 Jul	3.3	80			0.064	0.34
	18 Jul	25.6	6				
2N-7	17 Jul	3.3	0			0	0
	22 Oct	2,330		0.03	0.03		
2N-8	17 Jul	3.3	0.8			0.0006	0.003
	22 Oct	2,330		0.03	0.03		
2N-9	17 Jul	3.3	2.5			0.001	0.01
	22 Oct	2,330		0.03	0.03		
2N-10	17 Jul	3.3	100			0.079	0.42
	21 Jul	94.9	1.5				
	22 Oct	2,330		0.05	0.05		
2N-11	17 Jul	3.3	80			0.064	0.34
	22 Oct	2,330		0.05	0.05		
	17 Jul[b]	3.5	100			0.085	0.45
2P-11	18 Jul	25.6	7			0.064	0.34
2P-12	18 Jul	25.6	5			0.046	0.24
2P-13	18 Jul	25.6	3			0.028	0.15
2Q-11	18 Jul	25.8	0			0	0
2Q-12	18 Jul	25.7	3			0.028	0.15
2Q-13	18 Jul	25.7	4			0.037	0.2
2T-1 thru 2T-5	18 Jul	25.9	0			0	0
JY-4	18 Jul	26.0	1.5			0.014	0.075
	19 Oct	2,255		0.11	0.09		
JY-5	18 Jul	25.9	1.5			0.014	0.075
	19 Oct	2,255		0.23	0.21		
JY-6	18 Jul	25.9	9			0.085	0.45
JD-14	18 Jul	25.7	10			0.093	0.49
JD-15	18 Jul	25.7	8			0.074	0.39
JD-16	18 Jul	25.7	1.5			0.014	0.074
JD-17	18 Jul	25.8	0.7			0.006	0.034
DOE-3	18 Jul	26.1	1			0.009	0.05
DOE-4	18 Jul	26.2	3			0.028	0.15
DOE-5	18 Jul	26.2	5			0.048	0.25
DOE-6	18 Jul	26.2	4			0.038	0.20
DOE-7	18 Jul	26.3	4			0.038	0.20
DOE-8	18 Jul	26.3	11			0.1	0.56

Near GZ of LP-1 The 10 r contour line at 1230 on 19 July resembled a circle of 34 ft diameter from GZ and extended downwind 30 ft at approximately 330 degrees with a width of 30 ft.

[a] Intersection of Morgenthau and JAA.
[b] JAA Line, near GZ of Johnie Boy, approximately 2,000 ft E of Morgenthau.

TABLE D.2 LITTLE FELLER I DOSES

All films recovered on D+3 days.

Station	LSD Beta r	LSD Gamma r	REECo Gamma r
Showers 3			1,000
Showers 4		>3,000	
Showers 5			480
Showers 6	190	560	
Showers 7			280
Showers 8		900	
Showers 9			175
Showers 10		570	
Showers 11			117
Showers 12		300	
Reeves 1			1,000
Reeves 3			600
Reeves 5			340
Reeves 6		2,600	
Reeves 7			230
Reeves 8		1,100	
Reeves 9			160
Reeves 10		590	
Reeves 11			120
Reeves 12		320	
Reeves 14		210	
Reeves 15			52
Reeves 16		130	
Reeves 17			35
Reeves 18		81	
Wilsey 1			1,000
Wilsey 2	840	>3,000	
Wilsey 3			600
Wilsey 4	650	2,200	
Wilsey 5			350
Wilsey 6		1,300	
Wilsey 8		800	
Wilsey 9			140
Wilsey 10		480	
Wilsey 11			94
Wilsey 12		290	
1A 1			21
1A 2		70	
1A 3			30
1A 4		110	
1A 5			43
1A 6		170	
1A 7			63
1A 8		260	
1A 9			94
1A 11			155
1A 12		770	
1A 13			200
1A 14		2,300	
1A 15			300
1A 16		3,000	
1A 17			600
1A 18	>3,000	>3,000	
1A 19			1,000
1A 20		0.01	
1A 23			1,000
1A 24	250	1,800	
1A 25			700
1A 26		2,000	
1A 27			320
1A 28		1,400	
1A 29			200
1A 30		760	
1A 31			150
1A 32		420	
1A 33			110
1A 34		270	
1A 35			73
1A 36		180	
1A 37			43
1A 38		110	
1A 39			33
1B 1		52	
1B 2			23
1B 3		80	
1B 4			32
1B 5		120	
1B 6			47
1B 7		190	
1B 8			71
1B 9		320	
1B 10			100
1B 11		570	
1B 12			160
1B 13		990	
1B 14			200
1B 15		1,800	
1B 16			270
1B 17		2,000	
1B 18			400
1B 19		3,000	
1B 20			650
1B 21		>3,000	
1B 22			930
1B 23	2,000	>3,000	
1B 24			1,000
1B 25	2,000	2,000	
1B 26			350
1B 28			230
1B 29		820	
1B 30			170
1B 31		530	
1B 32			130
1B 33		420	
1B 34			92
1B 35		240	
1B 36			62
1B 37		140	
1B 38			41
1B 39		90	
1B 40			26
1B 41		50	
1B 42			18
1B 43		40	
1C 1		48	
1C 2			23
1C 3		75	
1C 4			30
1C 5		120	
1C 6			44
1C 7		180	
1C 8			65
1C 9		290	
1C 10			100
1C 11		500	
1C 12			160
1C 13		840	
1C 14			200
1C 16			300
1C 17		>3,000	
1C 18			320
1C 19		2,500	
1C 20			490
1C 21		2,700	
1C 22			650
1C 23	>3,000	3,000	
1C 24			460
1C 25		1,300	
1C 26			190
1C 27		760	
1C 28			150
1C 29		430	
1C 30			[illegible]
1C 31		280	
1C 32			[illegible]
1C 33		150	
1C 34			[illegible]
1C 35		78	
1C 36			[illegible]
1C 37		48	
1C 38			[illegible]
1C 39		36	
1C 40			[illegible]
1D 1			[illegible]
1D 2		38	
1D 3			[illegible]
1D 4		59	
1D 5			[illegible]
1D 6		100	
1D 7			[illegible]
1D 8		150	
1D 9			[illegible]
1D 10		230	
1D 11			[illegible]
1D 12		360	
1D 13			[illegible]
1D 14		490	
1D 15			
1D 16		760	
1D 17			
1D 18		1,300	
1D 19			[illegible]
1D 20		1,000	
1D 21			
1D 22	130	880	
1D 23			[illegible]
1D 24	180	750	
1D 25			[illegible]
1D 26	700	810	
1D 27			
1D 28		390	
1D 29			
1D 30		280	
1D 31			[illegible]
1D 32		170	
1D 33			[illegible]
1D 34		100	
1D 35			

TABLE D.2 LITTLE FELLER I DOSES (Contd)

All films recovered on D+3 days.

Station	LAD Beta r	LAD Gamma r	REECo Gamma r
1D 36		66	
1D 37			22
1D 38		44	
1D 39			16
1D 40		32	
1D 41			12
1D 42		24	
1D 43			9
1D 44		15	
1E 1		2.6	
1E 2			14
1E 3		48	
1E 4			24
1E 5		100	
1E 6			43
1E 7		70	
1E 8			64
1E 9		290	
1E 10			92
1E 11		370	
1E 12			100
1E 13	94	320	
1E 14			200
1E 15	150	470	
1E 16			90
1E 17		120	
1E 18			30
1E 19		63	
1E 20			21
1E 21		33	
1E 22			12
1E 23		17	
1E 24			6.0
1E 25		7.9	
1F 1			9.0
1F 2		26	
1F 3			15
1F 4		48	
1F 5			22
1F 6		80	
1F 8		130	
1F 9			49
1F 10		170	
1F 11			57
1F 12		200	
1F 13			66
1F 14		190	
1F 15			260
1F 16		220	
1F 17			36
1F 18		64	
1F 19			22
1F 20		34	
1F 21			12
1F 22		17	
1F 23			7.0
1F 24		10	
1F 25			5.0
1F 26		8.0	
1F 27			3.0
1F 28		4.7	
1G 1			78
1G 2		14	
1G 3			5.0
1G 4		24	
1G 5			13
1G 6		34	
1G 7			18
1G 8		57	
1G 9			24
1G 10	3.8	1.7	
1G 11			27
1G 12		6.7	
1G 13			28
1G 14	100	98	
1G 15			140
1G 16	8.4	40	
1G 17			14
1G 18		20	
1G 19			8.3
1G 20		11	
1G 21			4.7
1G 22		6.3	
1G 23			3.0
1G 24		170	
1G 25			2.0
1G 26		2.0	
1H 1		4.0	
1H 2			4.3
1H 3		9.5	
1H 4			7.0
1H 5		16	
1H 6			10
1H 7		24	
1H 8			10
1H 9		20	
1H 10			12
1H 11	220	200	
1H 12			10
1H 13		15	
1H 14			5.0
1H 15		4.6	
1H 16			3.0
1H 17		2.2	
1H 18			2.0
1J 1			1.4
1J 2		2.4	
1J 3			2.0
1J 4		150	
1J 6		6.6	
1J 7			4.3
1J 8		7.4	
1J 9			6.0
1J 10		15	
1J 11			15
1J 12		60	6.0
1J 14		6.6	
1J 15			3.0
1J 16		3.3	
1J 17			1.6
1J 18		1.5	
1J 19			1.0
1J 20		0.02	
1K 1			1.4
1K 2		2.0	
1K 3			2.0
1K 4		3.4	
1K 5			3.5
1K 6		7.3	
1K 7			160
1K 8		9.4	
1K 9			2.0
1K 10		1.8	
1K 11			1.0
1K 12		1.0	
1L 1		1.4	
1L 2			1.3
1L 3		1.6	
1L 4			2.0
1L 5		8.0	
1L 6			39
1L 7		12	
1L 8			1.0
1L 9		1.3	
1L 10			1.0
1L 11		1.0	
1M 1		0.3	
1M 2			0.24
1M 3		0.49	
1M 4			0.45
1M 5		0.88	
1M 6			2.0
1M 7		18.0	
1M 8			12
1M 9		3.9	
2L 9		0.05	
2L 10			0.065
2L 11		0.14	
2L 12			2.8
2L 13	6.8	5.6	
2L 14			2.4
2M 9		0.01	
2M 13		0.01	
2N 9		0.02	
2N 11		0.03	
JAA 9		0.03	
JAA 10			0.96
JAA 12			0.68
JAA 13		0.76	
JAA 14			0.51
JAA 15		0.52	
JAA 16			0.37
JAA 18			0.27
JAA 19		0.02	
JAA 20			0.23
JAA 21		0.26	
JAA 22			0.20
JAA 23		0.24	
JAA 24			0.19
JAA 29		0.2	
JAA 30			0.14
JAA 31		0.17	
JAA 32			0.14
JAA 34			0.13
JAA 35		0.17	
JAA 36			0.14
JAA 38			0.9
JAA 39	1.8	2.3	
JAA 40	0.37	1.7	3.0
JAA 41	13	9.6	
JAA 42		2.4	11
JAA 37A	0.17	1.2	

TABLE D.2 LITTLE FELLER I DOSES (Contd)

All films recovered on D+3 days.

Station	LAD Beta r	LAD Gamma r	Gamma r
JAA 38A			0.9
JAA 41A			1.3
JAA 43A	6.2	6.6	
JAA 45A	22	14	
JAA 47A	33	20	
JAA 48A			1.0
JAA 49A		0.97	
JAA 50A			0.52
JAA 51A		0.43	
JAA 52A			0.28
JAA 53A		0.2	
JAA 54A			0.14
JAA 55A		0.15	
JAA 56A			0.11
JAA 57A		0.11	
JAA 58A			0.075
JAA 59A		0.07	
JAA 60A			0.075
JAA 61A		0.06	
JAA 62A			0.065
JA 1		0.95	
JA 2			0.8

Station	LAD Beta r	LAD Gamma r	Gamma r
JA 3		1.1	
JA 4			0.98
JA 5		2.0	
JB 1			3.2
JB 2	3.5	3.0	
JB 3			1.1
JB 4		0.96	
JB 5			0.98
JC 2	6.8	4.5	
JC 3			1.8
JD 1			3.0
JD 2	3.5	2.3	
JD 3			1.4
JD 4	4.5	2.6	
JD 5			1.7
JE 2	5.1	3.0	
JE 3			2.6
JE 4	3.8	1.7	
JE 5			1.2

APPENDIX E

SMALL BOY DATA

TABLE E.1 ON-SITE RADIATION SURVEY DATA, SMALL BOY
TABLE E.2 SMALL BOY ON-SITE DOSES
TABLE E.3 OFF-SITE RADIATION SURVEY DATA, SMALL BOY
TABLE E.4 SMALL BOY OFF-SITE DOSES

TABLE 2.1 ON-SITE RADIATION SURVEY DATA, SMALL BOY

Station	D-9 Day Background mr/hr	Date	Time After Shot hours	Dose Rate Readings AN/PDR-39A mr/hr	AN/PDR-27 Shield Open mr/hr	AN/PDR-27 Shield Closed mr/hr	Calculated D+1 Hour Dose Rate r/hr
D-1	0.02						
D-20	0.02						
D-30	0.02						
D-35		16 Jul	44.8		0.02		
D-40	0.02	16 Jul	44.9		0.01		
D-45		16 Jul	44.9		0.03		
D-70		16 Jul	45.2		0.02		
D-75		16 Jul	45.2		0.02		
D-80		16 Jul	45.3		0.04		
D-85	0.02	16 Jul	45.4		0.04		
D-90		16 Jul	45.5		0.5		
D-95		16 Jul	45.6		0.1		
D-100		16 Jul	45.7		0.6		
D-104		17 Jul	70.8	0.4		0.3	
		18 Jul	98.3	0.4		0.24	
UCLA 27-5		15 Jul	24.9			2.0	
D-105	0.02	16 Jul	45.8	0.6	4.4	0.2	0.08
		17 Jul	70.8	0.6		0.1	
		18 Jul	98.3	0.3		0.2	
D-106		16 Jul	45.9	0.8		0.6	0.10
		17 Jul	70.9	0.6		0.1	
		18 Jul	98.4	0.3		0.2	
D-107		16 Jul	45.9	1.0		0.5	0.13
		17 Jul	70.9	0.4		0.2	
		18 Jul	99.4	0.4		0.23	
D-108		15 Jul	25.0			1.5	
		16 Jul	46.0	1.0		0.6	0.13
		17 Jul	70.9	0.4		0.3	
		18 Jul	100.5	0.7		0.3	
D-109		15 Jul	25.0			1.5	
		16 Jul	46.1	1.2		0.6	0.15
		17 Jul	71.0	0.6		0.4	
		18 Jul	100.5	0.9		0.26	
D-110		15 Jul	25.0			1.5	
		16 Jul	46.2	1.2	2.2	1.0	0.15
		17 Jul	71.0	0.8		0.4	
		18 Jul	100.6	1.0		0.22	
D-111		16 Jul	46.3	1.2		0.5	0.15
		17 Jul	71.1	0.6		0.4	
		18 Jul	100.6	1.2		0.26	
D-112		16 Jul	46.3	1.4		0.8	0.18
		17 Jul	71.1	0.6		0.5	
		18 Jul	100.7	1.0		0.24	
D-113		16 Jul	46.5	2.0		0.9	0.26
		17 Jul	71.1	1.0		0.4	
		18 Jul	100.7	1.0		0.36	
D-114		16 Jul	46.6	1.6		0.8	0.21
		17 Jul	71.1	0.6		0.5	
		18 Jul	100.7	1.0		0.34	
D-115		16 Jul	46.6	2.2	4.4	1.2	0.29
		17 Jul	71.2	1.4		0.6	
		18 Jul	100.8	1.2		0.4	
D-116		16 Jul	46.7	2.2		1.3	0.29
		17 Jul	71.2	1.0		0.8	
		18 Jul	100.8	1.4		0.46	
D-117		16 Jul	46.7	3.2		1.7	0.41
		17 Jul	71.4	2.0		1.0	
		18 Jul	100.8	1.6		0.9	
D-118		16 Jul	46.8	3.2		1.6	0.41
		17 Jul	71.4	2.0		1.0	
		18 Jul	100.8	1.0		0.7	
D-119		16 Jul	46.8	3.0		1.4	0.39
		17 Jul	71.5	2.0		1.0	
		18 Jul	100.9	0.9		0.6	
D-120		16 Jul	46.8	3.8	5.0	1.8	0.50
		17 Jul	71.5	2.0		1.0	
		18 Jul	100.9	0.8		0.6	
D-121		16 Jul	46.9	3.0		1.5	0.40
		17 Jul	71.5	2.0		0.9	
		18 Jul	100.9	1.0		0.5	
D-122		16 Jul	46.9	3.0		1.6	0.4
		17 Jul	71.6	1.8		0.9	
		18 Jul	100.9	1.0		0.6	
D-123		16 Jul	46.9	2.2		1.1	0.29
		17 Jul	71.6	1.8		0.7	
		18 Jul	101.0	0.8		0.4	
D-124		16 Jul	47.0	2.6		1.1	0.34
		17 Jul	71.6	1.6		0.7	
		18 Jul	101.0	0.8		0.5	
D-125	0.02	16 Jul	47.0	2.4	4.5	1.5	0.32
		17 Jul	71.6	1.2		0.8	
		18 Jul	101.1	0.8		0.5	
D-126		16 Jul	47.1	2.6		1.3	0.34
		17 Jul	71.7	1.6		0.8	
		18 Jul	101.1	0.8		0.5	
D-127		16 Jul	47.1	2.6		1.4	0.34
		17 Jul	71.7	1.2		0.7	
		18 Jul	101.1	0.8		0.5	
D-128		16 Jul	47.2	3.0		1.4	0.40
		17 Jul	71.7	1.2		0.9	
		18 Jul	101.2	1.4		0.6	
D-129		16 Jul	47.2	2.1		1.0	0.28
		17 Jul	71.7	1.2		0.6	
		18 Jul	101.2	0.8		0.4	
D-130		16 Jul	47.2	2.5	2.5	1.2	0.33
		17 Jul	71.8	1.4		0.7	
		18 Jul	101.3	1.0		0.5	
D-131		16 Jul	47.3	3.0		1.5	0.40
		17 Jul	71.8	1.6		0.8	
		18 Jul	101.3	1.0		0.6	
D-132		16 Jul	47.3	2.4		1.1	0.32
		17 Jul	71.8	1.4		0.8	
		18 Jul	101.4	1.2		0.6	
D-133		16 Jul	47.4	2.2		1.3	0.29
		17 Jul	72.1	1.2		0.5	
		18 Jul	101.4	1.2		0.5	
D-134		16 Jul	47.4	2.[illegible]		1.2	0.35
		17 Jul	72.1	1.4		0.7	
		18 Jul	101.4	0.6		0.4	
D-135		16 Jul	47.5	2.6	5.0	1.6	0.35
		17 Jul	72.1	1.0		0.7	
		18 Jul	101.5	1.1		0.4	
D-137		16 Jul	47.6	3.0		1.4	0.40
		17 Jul	72.1	1.6		0.8	
		18 Jul	101.5	1.0		0.6	
D-138		16 Jul	47.6	3.2		1.5	0.43
		17 Jul	72.2	1.6		0.8	

TABLE 2.1 (Continued)

Station	D-9 Day Background mr/hr	Date	Time After Shot hours	Dose Rate Readings AN/PDR-39A mr/hr	AN/PDR-77 Shield Open mr/hr	AN/PDR-77 Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
B-138		16 Jul	101.5	1.2		0.6	
B-139		16 Jul	47.6	3.2		1.4	0.43
		17 Jul	72.4	1.6		0.8	
		18 Jul	101.6	1.0		0.7	
B-140		16 Jul	47.7	3.2	3.9	1.6	0.43
		17 Jul	72.4	1.8		0.8	
		18 Jul	101.6	1.0		0.5	
B-141		16 Jul	47.8	3.0		1.5	0.40
		17 Jul	72.4	1.8		0.9	
		18 Jul	101.6	1.2		0.5	
B-142		16 Jul	47.8	3.1		1.5	0.42
		17 Jul	72.5	1.8		0.8	
		18 Jul	101.7	1.2		0.6	
B-143		16 Jul	47.8	3.2		1.6	0.43
		17 Jul	72.5	1.8		0.9	
		18 Jul	101.7	1.6		0.6	
B-144		16 Jul	47.9	3.2		1.6	0.43
		17 Jul	72.5	1.8		0.9	
		18 Jul	101.7	1.6		0.7	
B-145		16 Jul	47.9	3.2	5.0	1.3	0.43
		17 Jul	72.6	2.0		1.0	
	0.02	18 Jul	101.8	1.6		0.5	
D-84		21 Jul	168	1.9			1.3
D-85		21 Jul	168	2.3			1.5
D-86		21 Jul	168	2.0			1.3
D-87		21 Jul	168	1.6			1.1
D-88		21 Jul	168	1.6			1.1
D-89		21 Jul	168	1.4			0.93
D-90		21 Jul	168	1.6			1.1
D-91		21 Jul	168	1.6			1.1
D-92		21 Jul	168	1.6			1.1
D-93		21 Jul	168	1.4			0.93
D-94		21 Jul	168	1.4			0.93
D-95		21 Jul	168	1.6			1.1
D-96		21 Jul	168	1.6			1.1
D-97		21 Jul	168	1.6			1.1
D-98		21 Jul	168	1.6			1.1
D-99		21 Jul	168	1.5			1.0
D-100		21 Jul	168	1.3			0.86
B-1 thru B-60		16 Jul	46.2 thru 48.1	0		0.05	
B-60		21 Jul	168	0.2	0.05		
B-61		16 Jul	48.2	0		0.05	
		21 Jul	168	0.4	0.04		
B-62		16 Jul	48.2	0		0.06	
		21 Jul	168	0.2	0.05		
B-63		16 Jul	48.2	0		0.07	
		21 Jul	168	0.4	0.07		
B-64		16 Jul	48.3	0.1		0.1	
		21 Jul	168	0.20	0.11		
B-65		16 Jul	48.3	0.2		0.17	
		21 Jul	168	0.2	0.10		
B-66		16 Jul	48.4	0.3		0.3	0.040
		21 Jul	169	0.2	0.19		
B-67		14 Jul	7.4	5.0		3.0	0.064
		15 Jul	30.9	1.0			
		16 Jul	48.4	0.5		0.4	
		21 Jul	169	0.6	0.24		
B-68		15 Jul	30.8	1.4			
		16 Jul	48.4	0.6		0.44	0.080
		21 Jul	169	0.2	0.28		
B-69		15 Jul	30.8	1.8			
		16 Jul	48.9	0.6		0.42	0.080
		21 Jul	169	0.2	0.25		
B-70		15 Jul	30.7	2.6			
		16 Jul	48.5	0.4		0.41	0.060
B-71		15 Jul	30.7	3.0		3.0	
		16 Jul	48.6	0.4		0.45	0.060
		21 Jul	169	0.6	0.27		
B-72		15 Jul	30.6	3.0			
		16 Jul	48.7	1		1.0	0.14
B-73		15 Jul	30.6	3.2			
		16 Jul	48.8	5		5.0	0.69
		21 Jul	169	1.1	2.0		
B-74		15 Jul	30.5	5.0			
		16 Jul	48.9	10		10	1.4
B-75		15 Jul	30.5	7.0			
		16 Jul	49.0	12		7	1.7
		21 Jul	169	2.5	4.4	2.5	
B-76		15 Jul	30.4	9.0			
		16 Jul	49.0	12		10	1.7
B-77		15 Jul	30.4	11			
		16 Jul	49.2	12		10	1.7
		21 Jul	169	2.9		2.8	
B-78		15 Jul	30.3	12	3.5		
		16 Jul	49.2	12		10	1.7
B-79		15 Jul	30.3	13			
		16 Jul	49.3	12		9.0	1.7
		21 Jul	169	2.9	3.9	2.8	
B-80		15 Jul	30.2	15			
		16 Jul	49.4	10		8.0	1.4
		21 Jul	169	2.5	3.9	2.3	
B-81		15 Jul	30.2	16			
		16 Jul	49.5	9		8.0	1.3
		21 Jul	170	2.5	3.5	2.1	
B-82		15 Jul	30.0	18			
		16 Jul	49.6	9		8.0	1.3
		21 Jul	170	2.4	3.5	2.3	
B-83		15 Jul	30.0	20			
		16 Jul	49.6	9		9.0	1.3
		21 Jul	170	2.3	4.0	2.2	
B-84		15 Jul	30.0	18			
		16 Jul	49.7	9		9.0	1.3
		21 Jul	170	2.3	4.0	2.1	
B-85		15 Jul	29.9	17			
		16 Jul	49.8	8		6.0	1.1
B-86		15 Jul	29.8	13			
		16 Jul	49.9	8		6.0	1.1
		21 Jul	170	2.1	3.5	2.0	
B-87		15 Jul	29.8	11			
		16 Jul	50.0	8		7.0	1.1
B-88		15 Jul	29.7	9			
		16 Jul	50.0	8		6.0	1.1
		21 Jul	170	2.3	3.0	2.1	
B-89		15 Jul	29.6	5			
		16 Jul	50.1	9		8.0	1.3

TABLE E.1 (Continued)

Station	Date	Time After Dose hours	Dose Rate Readings AN/PDR-39A mr/hr	AN/PDR-27T Shield Open mr/hr	AN/PDR-27T Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
E-90	15 Jul	29.5	5.0			1.4
	16 Jul	50.2	10		8.0	
	21 Jul	170	2.4	3.0	2.3	
E-91	16 Jul	50.2	10		7.0	1.5
E-92	16 Jul	50.3	10		7.0	1.3
	21 Jul	170	2.3	2.5	2.3	
E-93	16 Jul	50.4	10		8.0	1.5
E-94	16 Jul	50.5	11		7.0	1.6
	21 Jul	170	2.4	3.5	2.1	
E-95	16 Jul	50.6	10		8.0	1.5
	21 Jul	17[illegible]			6.0	
E-96	16 Jul	50.6	9		6.0	1.3
	21 Jul	170	1.9	3.5	1.8	
E-97	16 Jul	50.7	8		6.0	1.2
	21 Jul	170	1.8	3.0	1.5	
E-98	16 Jul	50.7	6.0		5.0	0.88
	21 Jul	170	1.6	2.0	1.4	
E-99	16 Jul	50.8	4		4.0	0.59
	21 Jul	171	1.2	2.0	1.2	
E-100	16 Jul	50.8	3		3.0	0.44
E-101	16 Jul	50.9	3		3.0	0.44
	21 Jul	171	0.8	1.5	0.8	
E-102	16 Jul	50.9	3		3.0	0.44
E-103	16 Jul	51.0	2		2.0	0.30
	21 Jul	171	0.7	1.3	0.7	
E-104	16 Jul	51.0	1		2.0	0.15
E-105	16 Jul	51.1	2		2.0	0.30
E-106	16 Jul	51.1	2		1.0	0.30
E-107	16 Jul	51.2	1		1.0	0.15
E-108	16 Jul	51.2	0.8		0.07	0.12
E-109	16 Jul	51.3	0.8		0.07	0.12
E-110	16 Jul	51.4	0.6		0.06	0.090
F-1 thru F-71	16 Jul	46.3 thru 49.1	<0.1			<0.010
F-72	16 Jul	49.1	0.4			0.060
F-73	16 Jul	49.1	0.6			0.080
F-74	16 Jul	49.1	0.6			0.080
F-75	16 Jul	49.2	0.7			0.10
F-76	16 Jul	49.2	0.8			0.10
F-77	16 Jul	49.3	2			0.28
F-78	16 Jul	49.3	5			0.70
F-79	16 Jul	49.3	8			1.1
F-80	16 Jul	49.4	9			1.3
F-81	16 Jul	49.5	12			1.7
F-82	16 Jul	49.5	11			1.6
F-83	16 Jul	49.6	11			1.6
F-84	16 Jul	49.6	12			1.7
F-85	16 Jul	49.7	11			1.6
F-86	16 Jul	49.8	12			1.7
F-87	16 Jul	49.8	11			1.6
F-88	16 Jul	49.9	10			1.4
	21 Jul	173	2.4			
F-89	16 Jul	49.9	10			1.4
	21 Jul	173	2.6			
F-90	16 Jul	50.0	9			1.3
	21 Jul	173	2.5			
F-91	16 Jul	50.0	9			1.3
F-92	16 Jul	50.1	9			1.3
	21 Jul	173	2.4			
F-93	16 Jul	50.2	8			1.2
F-94	16 Jul	50.3	9			1.3
	21 Jul	173	2.5			
F-95	16 Jul	50.3	10			1.45
F-96	16 Jul	50.4	11			1.6
F-97	16 Jul	50.4	11			1.6
	21 Jul	173	3.1			
F-98	16 Jul	50.5	10			1.5
	21 Jul	173	2.6			
F-99	16 Jul	50.5	11			1.6
	21 Jul	173	2.8			
F-100	16 Jul	50.6	10			1.5
F-101	16 Jul	50.6	9			1.3
	21 Jul	174	2.3			
F-102	16 Jul	50.7	7			1.0
F-103	16 Jul	50.7	8			1.2
	21 Jul	174	2.0			
F-104	16 Jul	50.8	8			1.2
F-105	16 Jul	50.8	7			1.0
	21 Jul	174	1.8			
F-106	16 Jul	50.8	5			0.74
F-107	16 Jul	50.9	5			0.74
F-108	16 Jul	50.9	4			0.59
	21 Jul	174	1.5			
F-109	16 Jul	51.0	4			0.59
	21 Jul	174	1.0			
F-110	16 Jul	51.0	3.3			0.49
	21 Jul	174	1.0			
F-111	16 Jul	51.1	3			0.45
F-112	16 Jul	51.1	2.5			0.38
F-113	16 Jul	51.1	2.5			0.38
F-114	16 Jul	51.2	1.8			0.27
F-115	16 Jul	51.2	1.6			0.27
F-116	16 Jul	51.2	1.3			0.19
F-117	16 Jul	51.3	1.1			0.16
F-118	16 Jul	51.3	1			0.15
F-119	16 Jul	51.4	0.6			0.090
F-120	16 Jul	51.4	0.4			0.060
G-1	14 Jul	7.0	0.2			0.002[illegible]
G-3	14 Jul	7.1	0.4			0.00[illegible]
G-5	14 Jul	7.1	0.3			0.004
G-7	14 Jul	7.1	0.5			0.006
G-10 and G-11	16 Oct	2250		0.02	0.02	
G-12 thru G-17	16 Oct	2250		0.01	0.01	
G-18	14 Jul	7.3	5			0.062
	16 Jul	2250		0.01	0.01	
G-19	14 Jul	7.4	8			0.10
	15 Jul	28.4	2			
	17 Jul	72.4	0			
	16 Jul	2250		0.01	0.01	
G-20	14 Jul	7.4	10			0.12
	15 Jul	28.4	10			
	17 Jul	72.4	3			
	16 Jul	2250		0.01	0.01	
Between G-20 and G-21	14 Jul	7.4	50	0.01	0.01	0.62
G-21	14 Jul	7.5	100			1.3

TABLE E.1 (Continued)

Station	Date	Time After Dose hours	Dose Rate Readings AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
0-21	15 Jul	28.5	23			
	17 Jul	72.5	10			
	16 Oct	2250		0.01	0.01	4.9
0-22	15 Jul	28.5	70			
	17 Jul	72.5	30			
	16 Oct	2250		0.01	0.01	
0-23	14 Jul	7.5	400			5.2
	15 Jul	27.5	70			
	16 Jul	48.2	30			
	17 Jul	72.5	35			
	16 Oct	2250		0.01	0.01	
0-24	15 Jul	28.6	60			4.3
	16 Jul	48.4	38			
	17 Jul	72.5	30			
	16 Oct	2250		0.01	0.01	
0-25	14 Jul	7.6	300			3.9
	15 Jul	28.6	50			
	17 Jul	72.6	30			
	16 Oct	2250		0.01	0.01	
0-26	15 Jul	28.6	70			5.0
	17 Jul	72.6	30			
	16 Oct	2250		0.05	0.05	
0-27	14 Jul	7.6	500			6.6
	15 Jul	28.7	120			
	17 Jul	72.7	72.7			
	16 Oct	2250		0.05	0.05	
0-28	14 Jul	7.7	1000			13
	15 Jul	28.7	100			
	17 Jul	72.7	20			
	16 Oct	2250		1.0	1.0	
0-29	14 Jul	7.7	600			8.0
	15 Jul	28.8	110			
	16 Jul	48.4	49			
	17 Jul	72.7	25			
	16 Oct	2250		1.0	1.0	
0-30	15 Jul	28.8	160			11
	17 Jul	72.8	40			
	16 Oct	2250		1.0	1.0	
0-31	15 Jul	28.8	110			7.9
	17 Jul	72.0	25			
	16 Oct	2250		1.0	1.0	
I-15	15 Jul	29.6	2			0.15
	17 Jul	72.0	0.6			
I-16	15 Jul	29.7	9			0.65
	17 Jul	72.1	3			
I-17	15 Jul	29.7	11			0.81
	17 Jul	72.1	6			
I-18	15 Jul	29.7	35			2.6
	17 Jul	72.1	18			
I-19	15 Jul	29.8	150			11
	17 Jul	72.2	100			
I-20	15 Jul	29.8	150			11
	17 Jul	72.2	100			
I-21	15 Jul	29.8	170			13
	17 Jul	72.2	100			
I-22	15 Jul	29.8	230			17
	17 Jul	72.3	100			
I-23	15 Jul	29.9	220			16
	17 Jul	72.3	100			
I-24	15 Jul	29.9	180			14
	17 Jul	72.3	100			
I-25	15 Jul	29.9	180			14
	17 Jul	72.4	100			
I-26	15 Jul	29.9	110			8.2
	17 Jul	72.4	60			
I-27	15 Jul	29.9	70			5.2
	17 Jul	72.4	40			
I-28	15 Jul	30.0	36			2.7
	17 Jul	72.5	16			
I-29	15 Jul	30.0	17			1.3
	17 Jul	72.5	8			
K-16	16 Jul	47.8	0.4			0.054
K-17	16 Jul	47.9	0.4			0.054
K-18	16 Jul	47.9	0.4			0.054
	16 Oct	2250		0.02	0.02	
K-19	16 Jul	48.0	0.4			0.055
	16 Oct	2250		0.02	0.02	
K-20	16 Jul	48.0	0.4			0.055
	16 Oct	2250		0.02	0.02	
K-21	16 Jul	48.1	0.6			0.082
	16 Oct	2250		0.02	0.02	
K-22	16 Jul	48.1	0.8			0.11
	16 Oct	2250		0.02	0.02	
K-23	16 Jul	48.1	6			0.082
	17 Jul	72.5	3.6			
	16 Oct	2250		0.09	0.05	
K-24	16 Jul	48.2	10			1.4
	17 Jul	72.5	9			
	16 Oct	2250		0.12	0.12	
K-25	16 Jul	48.2	22			3.0
	17 Jul	72.6	15			
	16 Oct	2250		0.24	0.24	
K-26	16 Jul	48.3	42			5.8
	17 Jul	72.6	25			
	16 Oct	2250		0.36	0.36	
K-27	14 Jul	7.3	1000			13
	16 Jul	48.3	100			
	17 Jul	72.6	80			
	20 Jul	149	12			
	16 Oct	2250		1.2	1.2	
K-28	14 Jul	7.4	1300			16
	16 Jul	48.4	120			
	17 Jul	72.6	100			
	16 Oct	2250		2.0	1.9	
K-29	14 Jul	7.5	1300			17
	16 Jul	48.4	140			
	17 Jul	72.6	100			
	16 Oct	2250		1.9	1.8	
K-30	14 Jul	7.6	1600			21
	16 Jul	48.5	190			
	17 Jul	72.7	140			
	18 Oct	2300		1.8	1.7	
K-31	14 Jul	7.6	2000			26
	16 Jul	48.6	220			
	17 Jul	72.7	160			
	18 Oct	2300		1.9	1.8	

TABLE 2.1 (Continued)

Station	Date	Time After Dose hours	Dose Rate Readings AN/PDR-27B mr/hr	AN/PDR-77 Shield Open mr/hr	AN/PDR-77 Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
K-30	14 Jul	7.7	2000			27
	16 Jul	48.6	220			
	17 Jul	72.7	160			
	20 Jul	149	28			
	18 Oct	2300		1.7	1.7	
K-33	14 Jul	7.7	2800			37
	16 Jul	48.6	320			
	17 Jul	72.7	210			
	18 Oct	2300		3.0	2.9	
K-34	14 Jul	7.8	3200			44
	16 Jul	48.7	380			
	17 Jul	72.8	290			
	18 Oct	2300		3.0	3.0	
K-35	14 Jul	7.8	3400			46
	16 Jul	48.8	380			
	17 Jul	72.8	290			
	20 Jul	149	50			
	18 Oct	2300		3.2	3.1	
K-36	14 Jul	7.8	3000			41
	16 Jul	48.8	350			
	17 Jul	72.8	240			
	18 Oct	2300		3.0	3.0	
K-37	14 Jul	7.9	2400			33
	16 Jul	48.8	300			
	17 Jul	72.8	200			
	18 Oct	2300		2.6	2.5	
K-38	14 Jul	8.0	2200			31
(bumper)	14 Jul	8.0	1000			
	16 Jul	48.9	240			
	17 Jul	72.8	180			
	20 Jul	149	32			
	18 Oct	2300		2.2	2.1	
K-39	16 Jul	48.9	240			33
	17 Jul	72.9	150			
	18 Oct	2300		2.2	1.9	
K-40	16 Jul	49.0	240			34
	17 Jul	72.9	170			
	19 Oct	2325		2.0	1.7	
K-41	16 Jul	49.1	180			25
	17 Jul	72.9	140			
	19 Oct	2325		2.1	1.6	
K-42	16 Jul	49.1	150			21
	17 Jul	72.9	110			
	19 Oct	2325		1.2	1.2	
K-43	16 Jul	49.2	120			17
	17 Jul	72.9	100			
	19 Oct	2325		1.8	1.5	
K-44	16 Jul	49.2	80			11
	17 Jul	73.0	80			
	19 Oct	2325		0.9	0.8	
K-45	16 Jul	49.3	70			9.9
	17 Jul	73.0	60			
	19 Oct	2325		0.7	0.5	
K-46	16 Jul	49.4	50			7.1
	17 Jul	73.0	50			
	19 Oct	2325		0.5	0.4	
K-47	16 Jul	49.4	34			4.8
	17 Jul	73.0	40			
	19 Oct	2325		0.4	0.4	
K-48	16 Jul	49.5	28			4.1
	19 Oct	2325		0.3	0.3	
K-49	16 Jul	49.5	20			2.9
	17 Jul	73.1	12			
	19 Oct	2325		0.15	0.13	
K-50	16 Jul	49.6	12			2.7
	17 Jul	73.1	9			
	19 Oct	2325		0.13	0.09	
K-51	17 Jul	73.2	8			1.8
	19 Oct	2325		0.09	0.07	
M-13	14 Jul	2.4	0			0
M-14	14 Jul	2.4	0			0
M-15	14 Jul	2.5	0			0
M-16	14 Jul	2.5	0			0
M-17	14 Jul	2.6	0			0
M-18	14 Jul	2.6	0			0
M-19	14 Jul	2.6	1.6			0.005
M-20	14 Jul	2.7	1.1			0.003
M-21	14 Jul	2.7	0.9			0.003
M-22	14 Jul	2.7	1.1			0.003
M-23	14 Jul	2.8	1.6			0.005
	16 Jul	50.0	1			
M-24	14 Jul	2.8	1.5			0.006
	16 Jul	50.0	2			
M-25	14 Jul	2.9	6			0.023
	16 Jul	50.0	3			
M-26	14 Jul	2.9	18			0.070
	16 Jul	49.9	4			
	18 Oct	2300		0.02	0.02	
M-27	14 Jul	3.0	48			0.20
	16 Jul	49.9	4			
	18 Oct	2300		0.03	0.03	
M-28	14 Jul	3.1	60			0.25
	16 Jul	49.9	5			
	18 Oct	2300		0.05	0.04	0.04
M-29	14 Jul	3.1	120			0.50
	16 Jul	49.9	6			
	18 Oct	2300		0.05	0.05	
M-30	14 Jul	3.2	220			0.96
	16 Jul	49.9	10			
	18 Jul	98.0	12			
	18 Oct	2300		0.08	0.05	
M-31	14 Jul	3.2	600			2.6
	16 Jul	49.9	16			
	18 Jul	98.0	20			
	20 Jul	148	4			
	18 Oct	2300		0.05	0.04	
M-32	14 Jul	3.2	1400			6.1
	16 Jul	49.8	60			
	18 Jul	98.1	22			
	18 Oct	2300	0.06	0.09	0.06	
M-33	14 Jul	3.3	2600			11
	16 Jul	49.8	110			
	18 Jul	98.2	40			
	18 Oct	2300	1.6	1.8	1.1	

TABLE E.1 (Continued)

Station	Date	Time After Dose hours	Dose Rate Readings AN/PDR-39A mr/hr	AN/PDR-27/ Shield Open mr/hr	AN/PDR-27/ Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
N-34	14 Jul	1.3	3600			16
	16 Jul	49.8	150			
	18 Jul	98.2	50			
	20 Jul	148	20			
	18 Oct	2300	1.8	2.0	1.5	23
N-35	14 Jul	1.4	4800			
	16 Jul	49.0	180			
	18 Jul	98.2	60			
	18 Oct	2300	2.4	3.0	2.1	24
N-36	14 Jul	1.4	5000			
	16 Jul	49.0	195			
	18 Jul	98.3	80			
	18 Oct	2300	2.5	3.6	2.1	28
N-37	14 Jul	1.4	6000			
	16 Jul	48.9	200			
	18 Jul	98.3	90			
	20 Jul	148	30			
	18 Oct	2300	3.0	2.5	2.0	29
N-38	14 Jul	1.5	6000			
	16 Jul	48.9	210			
	18 Jul	98.3	100			
	18 Oct	2300	3.0	3.0	2.5	29
N-39	14 Jul	1.5	6000			
	16 Jul	48.9	220			
	18 Jul	98.3	90			
	20 Jul	148	32			
	18 Oct	2300	3.2	3.4	2.5	33
N-40	16 Jul	48.9	240			
	18 Jul	98.4	100			
	18 Oct	2300	3.4	3.5	3.0	36
N-41	16 Jul	48.9	260			
	18 Jul	98.4	100			
	18 Oct	2300	3.8	4.0	3.0	39
N-42	16 Jul	48.9	280			
	18 Jul	98.5	120			
	18 Oct	2300	4.0	4.0	3.0	44
N-43	16 Jul	48.8	320			
	18 Jul	98.5	140			
	18 Oct	2300	3.4	5.0	4.0	47
N-44	16 Jul	48.8	340			
	18 Jul	98.6	180			
	18 Oct	2300	4.0	6.0	5.0	56
N-45	16 Jul	48.8	400			
	18 Jul	98.6	160			
	18 Oct	2300	4.5	6.0	5.0	61
N-46	16 Jul	48.8	440			
	18 Jul	98.6	200			
	18 Oct	2300	6.0	7.0	6.0	58
N-47	16 Jul	48.8	420			
	18 Jul	98.7	220			
	18 Oct	2300	6.5	6.0	5.5	69
N-48	16 Jul	48.8	500			
	18 Jul	98.7	250			
	18 Oct	2300	7.5	8.0	7.0	83
N-49	16 Jul	48.7	600			
	18 Jul	98.8	280			
	18 Oct	2300	8.0	7.5	7.5	83
N-50	16 Jul	48.7	600			
	18 Jul	98.8	300			
	18 Oct	2300	7.5	9.0	9.0	83
N-51	16 Jul	48.7	600			
	18 Jul	98.9	310			
	18 Oct	2300	9.0	9.0	9.0	83
N-52	16 Jul	48.7	600			
	18 Jul	99.0	280			
	18 Oct	2300	9.0	9.0	9.0	83
N-53	16 Jul	48.7	600			
	18 Jul	99.0	250			
	18 Oct	2300	7.0	7.0	7.0	83
N-54	16 Jul	48.7	600			
	18 Jul	99.0	260			
	18 Oct	2300	8.0	8.0	8.0	83
N-55	16 Jul	48.6	600			
	18 Jul	99.1	260			
	18 Oct	2300	6.0	6.0	6.0	87
N-56	16 Jul	48.6	625			
	18 Jul	99.2	290			
	18 Oct	2300	8.0	8.0	8.0	83
N-57	16 Jul	48.6	600			
	18 Jul	99.2	260			
	18 Oct	2300	9.0	9.0	9.0	83
N-58	16 Jul	48.6	600			
	18 Jul	99.2	220			
	18 Oct	2300	9.0	9.0	9.0	83
N-59	16 Jul	48.6	600			
	18 Jul	99.3	230			
	18 Oct	2300	9.0	9.0	9.0	83
N-60	16 Jul	48.5	600			
	18 Jul	99.3	230			
	18 Oct	2300	7.0	7.0	7.0	83
N-61	16 Jul	48.5	600			
	18 Jul	99.4	240			
	18 Oct	2300	8.0	8.0	8.0	69
N-62	16 Jul	48.5	500			
	18 Jul	99.4	220			
	18 Oct	2300	8.0	8.0	8.0	69
N-63	16 Jul	48.5	400			
	18 Jul	99.5	220			
	18 Oct	2300	7.0	7.0	7.0	69
N-64	16 Jul	48.5	500			
	18 Jul	99.5	200			
	18 Oct	2300	8.0	8.0	8.0	64
N-65	16 Jul	48.5	460			
	18 Jul	99.6	180			
	18 Oct	2300	6.0	6.0	6.0	64
N-66	16 Jul	48.5	460			
	18 Jul	99.6	160			
	18 Oct	2300	8.0	8.0	8.0	55
N-67	16 Jul	48.4	400			
	18 Jul	99.6	160			
	18 Oct	2300	7.0	7.0	7.0	54
N-68	16 Jul	48.4	390			
	18 Jul	99.7	160			
	18 Oct	2300	4.5	4.5	4.5	46
N-69	16 Jul	48.4	330			
	18 Jul	99.7	140			
	18 Oct	2300	4.5	4.5		

TABLE 2.1 (Continued)

Station	Date	Time After Shot hours	Dose Rate Readings AN/PDR-1/1A mr/hr	AN/PDR-77 Shield Open mr/hr	AN/PDR-77 Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
N-70	14 Jul	1.0	10000			41
	16 Jul	48.4	270			
	18 Jul	99.8	100			
	20 Jul	148.1	40			
	18 Oct	2300		3.5	3.5	
N-71	14 Jul	2.9	6000			23
	14 Jul	5.4	2500	•		
	16 Jul	48.4	180			
	18 Jul	99.8	80			
	18 Oct	2300		2.5	2.5	
N-72	14 Jul	2.9	6000			23
	16 Jul	48.4	200			
	18 Jul	99.8	80			
	20 Jul	148.1	25			
	18 Oct	2300		3.0	3.0	
N-73	14 Jul	2.9	4600			18
	16 Jul	48.3	160			
	18 Jul	99.9	80			
	18 Oct	2300		2.0	2.0	
10 yds N of N-73	14 Jul	2.9	5000			19
N-74	14 Jul	2.9	3400			13
	16 Jul	48.3	120			
	18 Jul	99.9	60			
	20 Jul	148.1	16			
	18 Oct	2300		1.5	1.5	
N-75	14 Jul	2.9	2400			9.3
	14 Jul	5.3	1200			
	16 Jul	48.3	90			
	18 Jul	99.0	60			
	18 Oct	2300		1.5	1.5	
N-76	14 Jul	2.8	4000			15
	16 Jul	48.3	80			
	18 Jul	99.1	20			
	20 Jul	148.0	8			
	18 Oct	2300		0.5	0.5	
N-77	14 Jul	2.8	1600			5.9
	16 Jul	48.3	46			
	18 Jul	99.1	12			
	18 Oct	2300		0.4	0.4	
N-78	14 Jul	2.8	1000			3.7
	16 Jul	48.3	28			
	18 Jul	99.2	8			
	18 Oct	2300		0.5	0.5	
N-79	14 Jul	2.8	600			2.2
	16 Jul	48.3	16			
	18 Jul	99.2	5			
	20 Jul	148.0	3			
	18 Oct	2300		0.05	0.05	
N-80	14 Jul	2.7	480			1.7
	16 Jul	48.2	14			
	18 Jul	99.3	4			
	18 Oct	2300		0.05	0.05	
N-81	14 Jul	2.7	180			0.64
	16 Jul	48.2	5			
	18 Jul	99.4	4			
	18 Oct	2300		0.05	0.05	
N-82	14 Jul	2.7	50			0.28
	16 Jul	48.2	2			
	18 Oct	2300		0.04	0.04	
N-83	14 Jul	2.7	26			0.092
	16 Jul	48.1	0			
	18 Oct	2300		0.03	0.03	
N-84	14 Jul	2.7	20			0.071
	16 Jul	48.0	0			
	18 Oct	2300		0.03	0.03	
N-85	14 Jul	2.6	16			0.054
	16 Jul	48.1	0			
	18 Oct	2300		0.03	0.03	
N-7	16 Jul	99.7	0			0
N-8	16 Jul	47.8	0			0
N-9	16 Jul	47.8	0.2			0.027
N-13	16 Jul	47.9	1			0.136
	18 Oct	2300		0.02	0.02	
N-14	16 Jul	47.9	1.6			0.22
	18 Oct	2300		0.05	0.04	
N-15	16 Jul	48.0	4			0.55
	18 Oct	2300		0.08	0.07	
N-16	16 Jul	48.0	15			2.0
	18 Oct	2300		0.21	0.17	
N-17	16 Jul	48.0	26			3.6
	18 Oct	2300		0.37	0.27	
N-18	16 Jul	48.1	80			11
	18 Oct	2300		1.3	1.1	
N-19	16 Jul	48.1	100			14
	18 Oct	2300		1.4	1.2	
N-20	16 Jul	48.1	120			16
	18 Oct	2300		1.75	1.35	
N-21	16 Jul	48.2	150			21
	18 Oct	2300		2.1	1.8	
N-22	16 Jul	48.2	190			26
	18 Oct	2300		2.8	2.2	
N-23	16 Jul	48.2	200			28
	18 Oct	2300		3.4	2.9	
N-24	16 Jul	48.3	280			39
	18 Oct	2300		4.4	3.7	
N-25	16 Jul	48.3	320			[illegible]
	18 Oct	2300		7.0	7.0	
N-26	16 Jul	48.3	400			55
	18 Oct	2300		7.0	7.0	
N-27	16 Jul	48.4	460			64
	18 Oct	2300		7.5	7.5	
N-28	16 Jul	48.4	480			66
	18 Oct	2300		8.5	8.5	
N-29	16 Jul	48.4	500			69
	18 Oct	2300		8.5	8.5	
N-30	16 Jul	48.5	500			69
	18 Oct	2300		8.5	8.5	
N-31	16 Jul	48.5	500			69
	18 Oct	2300		8.5	8.5	
N-32	16 Jul	48.6	600			83
	18 Oct	2300		8.5	8.5	
N-33	16 Jul	48.6	600			83
	18 Oct	2300		10	10	

TABLE 2.1 (Continued)

Station	Date	Time After Shot hours	Dose Rate Readings AN/PDR-78A mr/hr	AN/PDR-77 Shield Open mr/hr	AN/PDR-77 Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
H-34	16 Jul	48.6	600			83
	18 Oct	2300		10	10	
H-35	16 Jul	48.7	600			83
	18 Oct	2300		10	10	
H-36	16 Jul	48.7	600			83
	18 Oct	2300		13	13	
H-37	16 Jul	48.7	600			83
	18 Oct	2300		13	13	
H-38	16 Jul	48.7	700			97
	18 Oct	2300		14	14	
H-39	16 Jul	48.8	800			110
	18 Oct	2300		14	14	
H-40	15 Jul	28.5	1500			105
	16 Jul	48.8	800			
	18 Oct	2300		13	13	
H-41	15 Jul	28.5	1600			110
	18 Oct	2300		15	15	
H-42	15 Jul	28.5	1800			120
	18 Oct	2300		13	13	
H-43	15 Jul	28.4	1700			120
	18 Oct	2300		12	12	
H-45	15 Jul	28.4	1900			130
	18 Oct	2300		12	12	
H-46	15 Jul	28.4	1900			130
	18 Oct	2300		12	12	
H-47	15 Jul	28.4	1600			110
	18 Oct	2300		11	11	
H-48	15 Jul	28.4	1600			110
	18 Oct	2300		13	13	
H-49	15 Jul	28.4	1500			105
	18 Oct	2300		13	13	
H-50	15 Jul	28.3	1500			105
	18 Oct	2300		12	12	
H-51	15 Jul	28.3	1300			91
	18 Oct	2300		11	11	
H-52	15 Jul	28.3	1200			84
	18 Oct	2300		8.5	8.5	
H-53	15 Jul	28.3	1000			70
	18 Oct	2300		8.0	8.0	
H-54	15 Jul	28.2	950			66
	18 Oct	2300		5.0	4.3	
H-55	14 Jul	2.4	10000			30
	15 Jul	28.2	700			
	18 Oct	2300		3.5	3.1	
H-56	14 Jul	2.4	8000			24
	15 Jul	28.2	400			
	18 Oct	2300		2.6	2.3	
H-57	14 Jul	2.4	4000			12
	15 Jul	28.2	240			
	18 Oct	2300		1.7	1.4	
H-58	14 Jul	2.4	2200			6.7
	15 Jul	28.1	140			
	18 Oct	2300		1.0	0.8	
H-59	14 Jul	2.4	1200			3.6
	18 Oct	2300		0.29	0.26	
H-60	14 Jul	2.3	800			2.3
	18 Oct	2300		0.20	0.17	
H-61	14 Jul	2.3	600			1.7
	18 Oct	2300		0.15	0.13	
H-62	14 Jul	2.3	480			1.4
	18 Oct	2300		0.12	0.10	
H-63	14 Jul	2.2	180			0.4
	18 Oct	2300		0.07	0.05	
H-64	14 Jul	2.2	100			0.22
H-65	14 Jul	2.2	40			0.11
H-66	14 Jul	2.1	24			0.062
H-67	14 Jul	2.1	18			0.046
Halfway between H-67 and H-68	14 Jul	2.1	10			0.026
H-68	14 Jul	2.1	8			0.020
F-1 and 2	17 Oct	2273		0.04	0.04	
F-3 to 6	17 Oct	2273		0.03	0.03	
F-9 and 10	18 July	98.4	0.1			0.034
F-11 to 25	18 July	98.5	0.2			0.068
	17 Oct	2273		0.02	0.02	
F-26	16 July	50.0	1.0			0.15
	17 Oct	2273		0.02	0.01	
F-27	16 Jul	50.0	1.1			0.16
	17 Oct	2273	0.02	0.02		
F-28	16 Jul	49.9	1.2			0.17
	17 Oct	2273	0.02	0.02		
F-29	16 Jul	49.9	1.6			0.23
	17 Oct	2273	0.02	0.02		
F-30	16 Jul	49.9	1.4			0.20
	17 Oct	2273	0.02	0.02		
F-31	16 Jul	49.9	1.6			0.23
	17 Oct	2273	0.02	0.02		
F-32	16 Jul	49.8	1.6			0.23
	17 Oct	2273	0.03	0.03		
F-33	16 Jul	49.8	1.4			0.20
	17 Oct	2273	0.04	0.04		
F-34	16 Jul	29.8	2			0.28
	17 Oct	2273	0.03	0.03		
F-35	16 Jul	49.8	4			0.57
	17 Oct	2273	0.06	0.07		
F-36	15 Jul	25.1	7			
	16 Jul	49.7	6			
	17 Oct	2273	0.1	0.1		
F-37	15 Jul	25.1	11			0.65
	16 Jul	49.7	10			
	18 Jul	98.8	1.8			
	17 Oct	2273	0.15	0.17		
F-38	15 Jul	25.1	25			1.5
	16 Jul	49.7	20			
	18 Jul	98.8	4			
	17 Oct	2273	0.3	0.35		
F-39	15 Jul	25.1	41			2.5
	16 Jul	49.6	20			
	18 Jul	98.8	6			
	17 Oct	2273	1.2	1.2		
F-40	15 Jul	25.2	120			7.2
	16 Jul	49.6	40			
	18 Jul	98.8	14			
	17 Oct	2273	1.3	1.4		
F-41	15 Jul	25.2	190			11
	16 Jul	49.6	80			
	18 Jul	98.8	26			
	17 Oct	2273	1.8	2.3		
F-42	15 Jul	25.2	280			17
	16 Jul	49.6	100			
	18 Jul	98.8	40			
	17 Oct	2273	3.3	3.8		
F-43	15 Jul	25.3	450			27
	16 Jul	49.5	100			
	18 Jul	98.8	98			
	17 Oct	2273	4.0	4.5		

TABLE E.1 (Continued)

Station	Date	Time After Shot hours	Dose Rate Readings AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
P-44	15 Jul	25.3	850			51
	16 Jul	49.5	300			
	18 Jul	98.8	120			
	17 Oct	2275	4.6	5.0		
P-45	15 Jul	25.3	1000			60
	16 Jul	49.5	400			
	18 Jul	98.8	130			
	17 Oct	2275	7.0	9.0		
P-46	15 Jul	25.4	1100			66
	16 Jul	49.4	600			
	18 Jul	98.8	180			
	17 Oct	2275	9.0	10		
P-47	15 Jul	25.4	1400			84
	16 Jul	49.4	700			
	18 Jul	98.8	220			
	17 Oct	2275	11	10		
P-48	15 Jul	25.4	1600			96
	16 Jul	49.4	800			
	18 Jul	98.8	260			
	17 Oct	2275	11	10		
P-49	15 Jul	25.4	1600			96
	16 Jul	49.3	700			
	18 Jul	98.9	280			
	17 Oct	2275	10	10		
P-50	15 Jul	25.5	1600			98
	16 Jul	49.3	800			
	18 Jul	98.9	280			
	17 Oct	2275	10	10		
P-51	15 Jul	25.5	1500			92
	16 Jul	49.3	800			
	18 Jul	98.9	200			
	17 Oct	2275	10	12		
P-52	15 Jul	25.5	1700			104
	16 Jul	49.2	900			
	18 Jul	98.9	180			
	17 Oct	2275	11	11		
P-53	15 Jul	25.6	1700			105
	16 Jul	49.2	900			
	18 Jul	98.9	180			
	17 Oct	2275	11	11		
P-54	15 Jul	25.6	1500			93
	16 Jul	49.2	800			
	18 Jul	98.9	160			
	18 Oct	2300	11	12	10	
P-55	15 Jul	25.7	1800			110
	16 Jul	49.1	800			
	18 Jul	99.0	160			
	18 Oct	2300	12	13	12	
P-56	15 Jul	25.7	1900			120
	16 Jul	49.1	1000			
	18 Jul	99.0	200			
	18 Oct	2300	15	13	13	
P-57	15 Jul	25.7	2000			120
	16 Jul	49.1	1100			
	18 Jul	99.0	240			
	18 Oct	2300	10	13	12	
P-58	14 Jul	6.8	10000			110
	16 Jul	49.0	1100			
	18 Jul	99.0	260			
	18 Oct	2300	14	13	13	
P-59	15 Jul	25.8	2200			140
	16 Jul	49.0	1000			
	18 Jul	99.0	220			
	18 Oct	2300	12	13	13	
P-60	15 Jul	25.8	2100			130
	16 Jul	49.0	1200			
	18 Jul	99.0	240			
	18 Oct	2300	12	12	12	
P-61	15 Jul	25.8	2100			130
	16 Jul	49.0	1100			
	18 Jul	99.0	240			
	18 Oct	2300	11	13	13	
P-62	15 Jul	25.9	2000			130
	16 Jul	49.0	1000			
	18 Jul	99.1	220			
	18 Oct	2300	10	10	10	
P-63	15 Jul	25.9	2000			130
	16 Jul	49.0	1000			
	18 Jul	99.1	220			
	18 Oct	2300	10	11	9.0	
P-64	15 Jul	25.9	2000			130
	16 Jul	48.9	800			
	18 Jul	99.1	180			
	18 Oct	2300	9.0	9.0	8.0	
P-65	15 Jul	26.0	1900			120
	16 Jul	48.9	800			
	18 Jul	99.1	180			
	18 Oct	2300	7.0	9.0	8.0	
P-66	15 Jul	26.0	1800			110
	16 Jul	48.9	800			
	18 Jul	99.1	120			
	18 Oct	2300	6.0	6.0	6.0	
P-67	15 Oct	26.1	1700			110
	16 Oct	48.9	600			
	18 Oct	99.1	100			
	18 Oct	2300	4.0	5.0	4.0	
P-68	15 Jul	26.1	1600			100
	16 Jul	48.8	440			
	18 Jul	99.1	80			
	18 Oct	2300	4.0	4.0	4.0	
P-69	15 Jul	26.1	2000			130
	16 Jul	48.8	180			
	18 Oct	2300	4.0	3.0	3.0	
P-70	15 Jul	26.3	1800			120
	15 Jul	29.3	600			
	16 Jul	48.8	120			
	18 Oct	2300	1.9	1.3	1.0	
P-71	15 Jul	29.3	500			36
	16 Jul	48.1	260			
	18 Oct	2300	0.07	0.05	0.03	
P-72	15 Jul	29.2	250			18
	16 Jul	48.7	100			
	18 Oct	2300	0.02	0.02	0.01	
P-73	15 Jul	29.4	100			7.4
	16 Jul	48.7	40			
P-74	15 Jul	29.4	30			2.2
	16 Jul	48.6	18			

TABLE 6.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27 Shield Open	AN/PDR-27 Shield Closed	Calculated Rel Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
P-75	15 Jul	29.4	14			1.0
	16 Jul	48.6	8			
P-76	15 Jul	29.4	8			0.59
	16 Jul	48.6	3			
P-77	15 Jul	29.4	6			0.44
	16 Jul	48.5	4.4			
P-78	15 Jul	29.5	6			0.44
	16 Jul	48.5	3			
P-79	15 Jul	29.5	5			0.37
	16 Jul	48.4	2.6			
P-80	15 Jul	29.5	4			0.29
	16 Jul	48.4	1.6			
P-81	15 Jul	29.5	4			0.29
	16 Jul	48.4	1.2			
P-82	15 Jul	29.5	2			0.15
	16 Jul	48.3	1.8			
P-83	15 Jul	29.6	0.5			0.037
	16 Jul	48.2	2			
P-84	15 Jul	29.6	0.4			0.030
	16 Jul	48.2	2			
P-85	15 Jul	29.6	0.3			0.022
	16 Jul	48.2	2.0			
P-86	15 Jul	29.6	0.3			0.022
	16 Jul	48.1	0			
P-87	15 Jul	29.6	0.3			0.022
	16 Jul	48.1	0			
P-88	15 Jul	29.6	0.2			0.015
	16 Jul	48.1	1.4			
P-89	15 Jul	29.7	0.2			0.015
	16 Jul	48.0	0			
P-90	15 Jul	29.7	0.2			0.015
P-91	15 Jul	29.7	0.2			0.015
Q-1	14 Jul	2.3	0.5			0.0014
Q-2	14 Jul	2.3	0.5			0.0014
Q-3	14 Jul	2.2	0.5			0.0014
Q-4	14 Jul	2.4	0.5			0.0015
Q-5	14 Jul	2.4	0.5			0.0015
Q-6	14 Jul	2.4	0.5			0.0015
Q-7	14 Jul	2.4	0.6			0.0018
Q-8	14 Jul	2.5	0.6			0.0019
Q-9	14 Jul	2.5	0.7			0.0022
Q-10	14 Jul	2.5	0.7			0.0022
Q-11	14 Jul	2.6	0.8			0.0027
Q-12	14 Jul	2.6	0.9			0.0030
Q-13	14 Jul	2.7	1			0.0035
Q-14	14 Jul	2.7	1.2			0.0042
Q-15	14 Jul	2.8	1.6			0.0059
Q-16	14 Jul	2.9	2			0.0077
Q-17	14 Jul	2.9	2.6			0.010
Q-18	14 Jul	3.0	3			0.012
Q-19	14 Jul	3.0	4.4			0.018
Q-20	14 Jul	3.1	9			0.038
Q-21	14 Jul	3.1	9			0.038
	15 Jul	30.0	0			
Q-22	14 Jul	3.2	10			0.044
	15 Jul	30.0	0.4			
Q-23	14 Jul	3.2	15			0.066
	15 Jul	29.9	0.7			
	18 Oct	2300		0.02	0.02	
Q-24	14 Jul	3.2	18			0.079
	15 Jul	29.8	0.8			
	18 Oct	2300		0.02	0.02	
Q-25	14 Jul	3.2	22			0.096
	15 Jul	29.9	1.4			
	18 Oct	2300		0.02	0.02	
Q-26	14 Jul	3.3	33			0.15
	15 Jul	29.9	2.5			
	18 Oct	2300		0.02	0.02	
Q-27	14 Jul	3.3	49			0.22
	15 Jul	29.9	3.5			
	18 Oct	2300		0.03	0.03	
Q-28	14 Jul	3.4	90			0.43
	15 Jul	29.9	6			
	18 Oct	2300		0.06	0.05	
Q-29	14 Jul	3.4	210			1.0
	15 Jul	29.8	18			
	18 Oct	2300		0.09	0.09	
Q-30	14 Jul	3.4	380			1.5
	15 Jul	29.8	20			
	16 Jul	47.8	12			
	18 Jul	97.7	4.6			
	20 Jul	146.5	2.6			
	18 Oct	2300		0.1	0.1	
Q-31	14 Jul	3.4	700			3.3
	15 Jul	29.8	32			
	18 Oct	2300		0.18	0.15	
Q-32	14 Jul	3.5	800			3.9
	15 Jul	26.4	100			
	15 Jul	29.8	90			
	18 Oct	2300		0.3	0.3	
Q-33	14 Jul	3.5	2000			9.8
	15 Jul	26.4	160			
	15 Jul	29.8	250			
	16 Jul	47.9	180			
	18 Jul	98.7	18			
	20 Jul	146.5	18			
	18 Oct	2300		0.7	0.6	
Q-34	14 Jul	3.6	3600			18
	15 Jul	26.5	300			
	15 Jul	29.8	390			
	18 Oct	2300		1.5	1.4	
Q-35	14 Jul	3.6	5000			25
	15 Jul	26.5	1200			
	15 Jul	29.7	440			
	18 Oct	2300		2.0	1.9	
Q-36	14 Jul	3.7	9000			47
	15 Jul	26.5	800			
	15 Jul	29.7	750			
	18 Oct	2300		3.0	2.9	

TABLE E.1 (Continued)

Station	Date	Time After Shot hours	Dose Rate Readings AN/PDR-39A mr/hr	AN/PDR-27 Shield Open mr/hr	AN/PDR-27 Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
Q-37	14 Jul	1.7	18000			63
	15 Jul	26.5	1000			
	15 Jul	29.7	800			
	16 Jul	47.9	1400			
	18 Jul	98.6	180			
	20 Jul	146.6	120			
	18 Oct	2300		4.4	4.0	
Q-38	15 Jul	26.5	1200			74
	15 Jul	29.7	1000			
	18 Oct	2300		7.0	7.0	
Q-39	15 Jul	26.7	1400			81
	15 Jul	29.7	1100			
	18 Oct	2300		7.0	6.0	
Q-40	15 Jul	26.7	1600			100
	15 Jul	29.7	1400			
	18 Oct	2300		9.0	8.0	
Q-41	15 Jul	26.7	2000			110
	15 Jul	29.6	1500			
	18 Oct	2300		10	9.0	
Q-42	15 Jul	26.8	1600			110
	15 Jul	29.6	1500			
	18 Oct	2300		8.0	7.0	
Q-43	15 Jul	26.8	1400			100
	15 Jul	27.8	1500			
	18 Oct	2300		7.0	6.0	
Q-44	15 Jul	26.8	1400			100
	15 Jul	27.8	1500			
	18 Oct	2300		7.0	6.0	
Q-45	15 Jul	26.9	1600			120
	15 Jul	27.8	1800			
	18 Oct	2300		8.0	8.0	
Q-46	15 Jul	26.9	1600			120
	15 Jul	27.8	1800			
	18 Oct	2300		9.0	8.0	
Q-47	15 Jul	27.0	1300			120
	15 Jul	27.7	1800			
	18 Oct	2300		10	10	
Q-48	15 Jul	27.0	1800			120
	15 Jul	27.7	1800			
	18 Oct	2300		8.0	8.0	
Q-49	15 Jul	27.0	1800			120
	15 Jul	27.7	1800			
	18 Oct	2300		7.0	7.0	
Q-50	15 Jul	27.0	1600			100
	15 Jul	27.7	1500			
	18 Oct	2300		7.0	6.0	
Q-51	15 Jul	27.5	1300			
	18 Oct	2300		7.0	5.0	
Q-52	15 Jul	27.6	1200			
	18 Oct	2300		4.6	4.5	
Q-53	15 Jul	27.2	8000			98
	15 Jul	27.6	1200			
	18 Oct	2300		4.6	4.5	
Q-54	14 Jul	2.7	10000			35
	15 Jul	27.6	600			
	16 Jul	48.0	1200			
	18 Jul	97.5	100			
	20 Jul	146.7	90			
	18 Oct	2300		3.1	3.0	
Q-55	14 Jul	2.7	9800			34
	15 Jul	27.5	500			
	18 Oct	2300		2.7	2.5	
Q-56	14 Jul	2.6	9000			30
	15 Jul	27.5	360			
	16 Jul	48.1	1000			
	18 Jul	98.4	50			
	20 Jul	146.7	36			
	18 Oct	2300		1.6	1.5	
Q-57	14 Jul	2.5	3800			13
	15 Jul	27.5	240			
	18 Oct	2300		1.1	1.0	
Q-58	14 Jul	2.5	2600			8.3
	15 Jul	25.1	100			
	15 Jul	27.5	100			
	15 Jul	27.5	180			
	18 Oct	2300		0.7	0.6	
Q-59	14 Jul	2.4	3000			9.1
	15 Jul	27.4	80			
	16 Jul	48.1	1000			
	20 Jul	147.	5			
	18 Oct	2300		0.31	0.30	
Q-60	14 Jul	2.4	1000			3.0
	15 Jul	27.4	25			
	18 Jul	97.3	6			
	18 Oct	2300		0.13	0.12	
Q-61	14 Jul	2.3	300			0.86
	15 Jul	27.3	14			
	18 Oct	2300		0.06	0.05	
Q-62	14 Jul	2.3	200			0.58
	15 Jul	27.3	8			
	20 Jul	147	1			
	18 Oct	2300		0.06	0.05	
Q-63	14 Jul	2.2	100			0.27
	15 Jul	27.3	4.2			
	18 Oct	2300		0.04	0.03	
Q-64	14 Jul	2.2	70			0.19
	15 Jul	27.2	3			
	18 Oct	2300		0.03	0.02	
Q-65	14 Jul	2.2	50			0.14
	15 Jul	27.3	1.6			
	18 Oct	2300		0.02	0.02	
Q-66	14 Jul	2.1	24			0.061
	15 Jul	27.3	1.1			
Q-67	14 Jul	2.1	15			0.038
	15 Jul	27.2	0.4			
Q-68	14 Jul	2.1	10			0.025
	15 Jul	27.2	0.1			
Q-69	14 Jul	2.0	7.0			0.017
Q-70	14 Jul	2.0	5.0			0.012
Q-71	14 Jul	1.90	4.2			0.0095
Q-72	14 Jul	1.85	2.6			0.0057
Q-73	14 Jul	1.80	2.6			0.0056
Q-74	14 Jul	1.73	1.0			0.0020
Q-75	14 Jul	1.73	0.8			0.0016
Q-76	14 Jul	1.70	0.4			0.0008

TABLE 8.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27C Shield Open	AN/PDR-27C Shield Closed	Calculated R+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
R-29	15 Jul	29.4	0			
	18 Oct	2300		0.01	0.01	
R-30	15 Jul	29.4	0.3			0.022
	18 Oct	2300		0.02	0.02	
R-31	15 Jul	29.4	0.6			0.044
	18 Oct	2300		0.02	0.02	
R-32	15 Jul	29.4	0.8			0.059
	18 Oct	2300		0.02	0.02	
R-33	15 Jul	29.4	1.5			0.11
	18 Oct	2300		0.03	0.03	
R-34	15 Jul	29.3	2.5			0.18
	18 Oct	2300		0.04	0.04	
R-35	15 Jul	29.3	4			0.29
	18 Oct	2300		0.07	0.07	
R-36	15 Jul	29.3	10			0.73
	18 Oct	2300		0.15	0.15	
R-37	15 Jul	29.3	20			1.5
	18 Oct	2300		0.30	0.25	
R-38	15 Jul	26.0	100			6.3
	15 Jul	29.3	60			
	18 Oct	2300		0.45	0.45	
R-39	14 Jul	5.4	1000			8.5
	15 Jul	26.0	160			
	18 Oct	2300		1.6	1.4	
R-40	14 Jul	5.5	2000			17
	15 Jul	25.9	300			
	18 Oct	2300		2.7	2.5	
R-41	14 Jul	5.5	4000			34
	18 Oct	2300		4.3	3.8	
R-42	15 Jul	25.9	1000			63
	18 Oct	2300		5.0	4.7	
R-43	15 Jul	25.8	1200			75
	18 Oct	2300		5.0	5.0	
R-44	15 Jul	25.8	2000			120
	18 Oct	2300		5.0	5.0	
R-45	15 Jul	25.8	2000			120
	18 Oct	2300		5.0	5.0	
R-46	15 Jul	25.8	2000			120
	18 Oct	2300		5.0	5.0	
R-47	15 Jul	25.7	2000			120
	18 Oct	2300		5.0	5.0	
R-48	15 Jul	25.7	2000			120
	18 Oct	2300		5.0	5.0	
R-49	15 Jul	25.7	1800			110
	18 Oct	2300		5.0	5.0	
R-50	15 Jul	25.6	1800			110
	18 Oct	2300		5.0	5.0	
R-51	15 Jul	25.6	2000			120
	18 Oct	2300		5.0	5.0	
R-52	15 Jul	25.6	1400			87
	18 Oct	2300		5.0	4.9	
R-53	14 Jul	7.2	8000			98
	15 Jul	25.5	1200			
	18 Oct	2300		5.0	4.7	
R-54	15 Jul	25.5	1000			61
	18 Oct	2300		5.0	4.5	
R-55	15 Jul	25.4	1200			72
	18 Oct	2300		5.0	4.6	
Half way between R-55 and R-56	14 Jul	4.7	8000			42
R-56	14 Jul	4.6	6000			69
	15 Jul	25.4	1000			
	18 Oct	2300		5.0	4.7	
R-57	14 Jul	4.6	1000			49
	15 Jul	25.3	800			
	18 Oct	2300		3.2	3.0	
R-58	14 Jul	3.2	10000			44
	15 Jul	25.3	300			
	18 Oct	2300		1.8	1.8	
R-59	14 Jul	3.1	1800			7.6
	15 Jul	25.2	100			
	15 Jul	27.1	130			
	18 Oct	2300		0.45	0.45	
R-60	14 Jul	3.1	800			3.4
	15 Jul	27.1	44			
	18 Oct	2300		0.2	0.2	
R-61	14 Jul	3.0	470			1.9
	15 Jul	27.1	28			
	18 Oct			0.13	0.13	
R-62	14 Jul	3.0	260			1.1
	15 Jul	27.1	16			
	18 Oct	2300		0.08	0.08	
R-63	14 Jul	3.0	190			0.77
	15 Jul	27.0	10			
	18 Oct	2300		0.05	0.05	
R-64	14 Jul	3.0	120			0.49
	15 Jul	27.0	8			
	18 Oct	2300		0.05	0.04	
R-65	14 Jul	3.0	70			0.28
	15 Jul	27.0	2.2			
	18 Oct	2300		0.02	0.02	
R-66	14 Jul	3.0	27			0.11
	15 Jul	27.0	1.3			
	18 Oct	2300		0.02	0.02	
R-67	14 Jul	2.9	18			0.070
	15 Jul	27.0	0.7			
	18 Oct	2300		0.02	0.02	
R-68	14 Jul	2.9	15			0.058
	15 Jul	26.0	0.4			
	18 Oct	2300		0.02	0.02	
R-69	14 Jul	2.9	11			0.043
	18 Oct	2300		0.02	0.02	
R-70	14 Jul	2.9	8			0.031
	18 Oct	2300		0.02	0.01	
R-71	14 Jul	2.8	6			0.022
	18 Oct	2300		0.01	0.01	
R-72	14 Jul	2.8	3.5			0.013
	18 Oct	2300		0.01	0.01	
R-73	14 Jul	2.8	2.6			0.010
R-74	14 Jul	2.8	1.4			0.0058
R-75	14 Jul	2.7	1.1			0.0039
R-76	14 Jul	2.7	0.8			0.0028
R-77	14 Jul	2.5	0.8			0.0027
R-78	14 Jul	2.6	0.9			0.0030
R-79	14 Jul	2.6	0.6			0.0020
R-80	14 Jul	2.6	0.7			0.0024
R-81	14 Jul	2.5	0.5			0.0016

TABLE E.1 (Continued)

Station	Date	Time After Shot hours	Dose Rate Readings AN/PDR-39A mr/hr	AN/PDR-27J Shield Open mr/hr	AN/PDR-27J Shield Closed mr/hr	Calculated H+1 Hour Dose Rate r/hr
S-21	14 Jul	2.7	1.6	0.01	0.01	0.0056
	18 Oct	2300				
S-22	14 Jul	2.7	2.2	0.01	0.01	0.007
	18 Oct	2300				
S-23	14 Jul	2.8	3.0	0.02	0.02	0.011
	18 Oct	2300				
S-24	14 Jul	2.8	3.8	0.02	0.02	0.014
	18 Oct	2300				
S-25	14 Jul	2.8	4.0	0.02	0.02	0.015
	18 Oct	2300				
S-26	14 Jul	2.9	7.0	0.02	0.02	0.027
	18 Oct	2300				
S-27	14 Jul	2.9	9.0	0.02	0.02	0.035
	15 Jul	25.3	0			
	18 Oct	2300				
S-28	14 Jul	3.0	10	0.02	0.02	0.041
	15 Jul	25.4	0.2			
	18 Oct	2300				
S-29	14 Jul	3.0	16	0.02	0.02	0.065
	15 Jul	25.4	0.8			
	18 Oct	2300				
S-30	14 Jul	3.1	23	0.02	0.02	0.097
	15 Jul	25.4	1.0			
	18 Oct	2300				
S-31	14 Jul	3.1	34	0.02	0.02	0.14
	15 Jul	25.4	1.6			
	18 Oct	2300				
S-32	14 Jul	3.1	80	0.02	0.02	0.34
	15 Jul	25.4	2.7			
	18 Oct	2300				
S-33	14 Jul	3.1	90	0.03	0.03	0.38
	15 Jul	25.4	4.9			
	18 Oct	2300				
S-34	14 Jul	3.2	120	0.03	0.03	0.53
	15 Jul	25.5	7			
	18 Oct	2300				
S-35	14 Jul	3.2	300			1.3
	15 Jul	25.5	20			
	16 Jul	48.6	9			
	18 Jul	97.0	4			
	20 Jul	146	2.4			
	18 Oct	2300		0.1	0.1	
S-36	14 Jul	3.3	900			4.1
	15 Jul	25.5	80			
	18 Oct	2300		0.3	0.2	
S-37	14 Jul	3.3	2000			9.1
	15 Jul	25.5	160			
	16 Jul	48.6	70			
	18 Jul	97.0	30			
	20 Jul	146	20			
	18 Oct	2300		0.7	0.7	
S-38	14 Jul	3.4	3400			16
	15 Jul	25.5	300			
	18 Oct	2300		1.3	1.2	
S-39	14 Jul	3.4	9000			43
	15 Jul	25.6	600			
	18 Oct	2300		2.6	2.5	
S-40	14 Jul	3.5	11000			54
	15 Jul	25.6	800			
	16 Jul	48.5	400			
	18 Jul	97.0	200			
	[illegible]	[illegible]	[illegible]			
	[illegible]	[illegible]	[illegible]			
	18 Oct	2300		[illegible]	[illegible]	
S-41	15 Jul	25.6	1300			88
	18 Oct	2300		5.0	5.0	
S-42	15 Jul	25.7	2300			140
	17 Oct	2275	16	7.0	7.0	
S-43	15 Jul	25.7	2800			170
	17 Oct	2275	20	8.0	8.0	
S-44	15 Jul	25.7	2900			180
	17 Oct	2275	18	9.0	9.0	
S-45	15 Jul	25.7	3900			240
	17 Oct	2275	25	12	12	
S-46	15 Jul	25.7	3400			210
	17 Oct	2275	24	10	10	
S-47	15 Jul	25.7	3200			200
	17 Oct	2275	24	8.0	8.0	
S-48	15 Jul	25.8	2100			130
	17 Oct	2275	16	5.0	5.0	
S-49	15 Jul	25.8	1600			100
	17 Oct	2275	11	5.0	5.0	
S-50	15 Jul	25.8	1400			88
	17 Oct	2275	10	5.0	5.0	
S-51	15 Jul	25.8	1400			88
	17 Oct	2275	10	5.0	5.0	
S-52	14 Jul	6.0	10000			97
	15 Jul	25.8	1000			
	17 Oct	2275	10	5.0	4.5	
S-53	14 Jul	6.0	6100			59
	15 Jul	25.8	600			
	17 Oct	2275	10	3.2	2.6	
S-54	14 Jul	6.1	4200			42
	15 Jul	25.8	600			
	17 Oct	2275	10	3.4	3.0	
S-55	14 Jul	2.3	14000			40
	14 Jul	6.2	2100			
	15 Jul	25.8	600			
	16 Jul	48.5	300			
	18 Jul	96.8	160			
	20 Jul	146	90			
	17 Oct	2275	10	3.7	3.0	

TABLE E.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Half way between 56 & 57	14 Jul	2.3	10000			29
S-57	14 Jul	2.3	2200			6.4
	14	6.2	600			
	15	25.8	100			
	17 Oct	2275	1.2	0.43	0.34	
S-58	14 Jul	2.3	700			2.0
	14	6.2	100			
	15	25.9	23			
	16	48.4	10			
	18	96.8	46			
	20	146	3			
	17 Oct	2275	0.4	0.12	0.12	
S-59	14 Jul	2.2	300			0.82
	15	25.9	12			
	17 Oct	2275	0.6	0.06	0.06	
S-60	14 Jul	2.2	230			0.63
	15	25.9	8			
	16	48.4	3.5			
	18	96.7	2.2			
	20	146.0	1			
	17 Oct	2275	0.06	0.05	0.04	
S-61	14 Jul	2.2	160			0.44
	15	25.9	4.9			
	17 Oct	2275		0.02	0.02	
S-62	14 Jul	2.1	100			0.25
	15	25.9	2.9			
	17 Oct	2275		0.02	0.02	
S-63	14 Jul	2.1	70			0.18
	15	25.9	1.8			
	17 Oct	2275		0.02	0.02	
S-64	14 Jul	2.1	47			0.12
	15	25.9	1.1			
	17 Oct	2275		0.02	0.02	
S-65	14 Jul	2.0	28			0.068
	15	26.0	0.6			
	17 Oct	2275		0.02	0.02	
S-66	14 Jul	2.0	19			0.046
	15	26.0	0.2			
	17 Oct	2275		0.02	0.02	
S-67	14 Jul	1.95	11			0.026
	15	26.0	0			
	17 Oct	2275		0.02	0.02	
S-68	14 Jul	1.90	8			0.018
	17 Oct	2275		0.02	0.02	
S-69	14 Jul	1.85	5			0.011
	17 Oct	2275		0.02	0.02	
S-70	14 Jul	1.81	3.2			0.0068
	17 Oct	2275		0.02	0.02	
S-71	14 Jul	1.77	2.1			0.0043
	17 Oct	2275		0.01	0.01	
S-72	14 Jul	1.73	1.4			0.0028
	17 Oct	2275		0.01	0.01	
S-73	14 Jul	1.70	1.0			0.0020
	17 Oct	2275		0.01	0.01	
S-74	14 Jul	1.64	0.8			0.001
	17 Oct	2275		0.01	0.01	
S-75	14 Jul	1.60	0.8			0.001
	17 Oct	2275		0.02	0.02	
S-76	14 Jul	1.5	1.3			0.0022
	17 Oct	2275		0.02	0.02	
T-1 to T-14	15 Jul		0			
T-15	15 Jul	27.3	0			
T-16	15 Jul	27.3	0			
T-17	15 Jul	27.4	0			
T-18	15 Jul	27.4	0			
T-19	14 Jul	5.0	1.1			0.0065
	15 Jul	27.4	0			
T-20	14 Jul	5.1	1.2			0.009
	15 Jul	27.4	0			
T-21	14 Jul	5.1	1.8			0.014
	15 Jul	27.4	0			
T-22	14 Jul	5.1	2.6			0.021
	15 Jul	27.4	0			
T-23	14 Jul	5.1	3.2			0.025
	15 Jul	27.5	0			
T-24	14 Jul	5.2	4.6			0.038
	15 Jul	27.5	0			
T-25	14 Jul	5.2	7			0.058
	15 Jul	27.5	1			
T 26	14 Jul	5.2	10			0.082
	15 Jul	27.5	1			
T-27	14 Jul	5.3	12			0.10
	15 Jul	27.5	1			
	18 Oct	2300		0.02	0.01	
T-28	14 Jul	5.3	18			0.16
	15 Jul	27.5	2			
	18 Oct	2300		0.03	0.02	
T-29	14 Jul	5.3	24			0.21
	15 Jul	27.5	2.5			
	18 Oct	2300		0.02	0.02	
T-30	14 Jul	5.3	36			0.31
	15 Jul	27.6	4			
	18 Jul	97.6	1.3			
	18 Oct	2300		0.04	0.03	
T-31	14 Jul	5.3	60			0.52
	15 Jul	27.6	10			
	18 Jul	97.6	1.4			
	18 Oct	2300		0.03	0.03	
T-32	14 Jul	5.4	100			0.85
	15 Jul	27.6	10			
	18 Jul	97.7	1.8			
	18 Oct	2300		0.06	0.06	
T-33	14 Jul	5.4	160			1.4
	15 Jul	27.6	20			
	18 Jul	97.7	3			
	18 Oct	2300		0.08	0.08	

TABLE E.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
T-34	14 Jul	5.4	280			2.4
	15 Jul	27.7	30			
	18 Jul	97.7	5			
	18 Oct	2300		0.20	0.17	
T-35	14 Jul	5.5	480			4.1
	15 Jul	27.7	100			
	18 Jul	97.7	10			
	18 Oct	2300		2.2	2.1	
T-36	14 Jul	5.5	1000			8.6
	18 Jul	97.7	16			
	18 Oct	2300		4.8	4.8	
T-37	14 Jul	5.5	1900			16
	15 Jul	25.0	5000			
	18 Jul	97.8	40			
	18 Oct	2300		1.5	1.5	
T-38	14 Jul	5.6	8000			71
	15 Jul	25.0	6000			
	18 Jul	97.8	140			
	18 Oct	2300		5.0	4.7	
T-39	14 Jul	5.6	20000			180
	15 Jul	25.0	9000			
	18 Jul	97.8	300			
	18 Oct	2300		16	16	
T-40	15 Jul	24.9	9000			530
	18 Jul	97.8	420			
	18 Oct	2300		19	18	
T-41	15 Jul	24.9	10000			590
	16 Jul	49.9	2600			
	18 Jul	97.9	900			
	18 Oct	2300		26	24	
T-42	16 Jul	49.9	4600			660
	18 Jul	97.9	1300			
	18 Oct	2300		36	36	
T-43	16 Jul	49.9	5000			720
	18 Jul	97.9	1700			
	18 Oct	2300		32	30	
T-44	16 Jul	50.0	6000			860
	18 Jul	97.9	1700			
	18 Oct	2300		28	25	
T-45	16 Jul	50.0	6000			860
	18 Jul	98.0	1400			
	18 Oct	2300		29	28	
T-46	16 Jul	50.0	3000			
	18 Jul	98.0	1300			
	18 Oct	2300		18	18	
Half way between 46 & 47	15 Jul	24.7	10000			580
T-47	15 Jul	24.7	2700			160
	16 Jul	50.1	1200			
	18 Jul	98.0	400			
	18 Oct	2300		11	10	
T-48	15 Jul	24.7	2100			120
	18 Jul	98.0	250			
	18 Oct	2300		9.0	8.0	
T-49	14 Jul	6.5	10000			110
	15 Jul	24.7	2000			
	18 Jul	98.1	210			
	18 Oct	2300		5.0	5.0	
T-50	14 Jul	6.5	8000			96
	15 Jul	24.7	1000			
	18 Jul	98.1	160			
	18 Oct	2300		9.0	8.0	
T-51	14 Jul	2.9	10000			39
	14 Jul	4.8	8000			
	14 Jul	6.6	4000			
	15 Jul	24.7	800			
	18 Jul	98.1	100			
	18 Oct	2300		4.0	3.0	
T-52	14 Jul	2.8	8000			30
	14 Jul	4.8	4400			
	14 Jul	6.6	3000			
	15 Jul	24.8	600			
	18 Jul	98.1	80			
	18 Oct	2300		3.0	2.0	
T-53	14 Jul	2.8	2400			8.9
	14 Jul	4.7	1000			
	14 Jul	6.6	1000			
	15 Jul	24.8	150			
	18 Jul	98.1	20			
	18 Oct	2300		2.0	2.0	
T-54	14 Jul	2.8	1000			3.7
	14 Jul	6.7	300			
	15 Jul	24.8	49			
	18 Jul	98.2	8			
	18 Oct	2300		0.22	0.20	
T-55	14 Jul	2.7	600			2.2
	14 Jul	6.7	100			
	15 Jul	24.8	26			
	18 Jul	98.2	4.5			
	18 Oct	2300		0.29	0.28	
T-56	14 Jul	2.7	360			1.3
	15 Jul	24.8	17			
	18 Jul	98.2	2.9			
	18 Oct	2300		0.25	0.25	
T-57	14 Jul	2.7	260			0.96
	15 Jul	24.8	11			
	18 Jul	98.2	2			
	18 Oct	2300		0.18	0.17	
T-58	14 Jul	2.6	180			0.60
	15 Jul	24.9	8			
	18 Jul	98.2	1.1			
	18 Oct	2300		0.31	0.30	
T-59	14 Jul	2.6	120			0.40
	15 Jul	24.9	5			
	18 Oct	2300		0.16	0.14	
T-60	14 Jul	2.6	8.5			0.29
	15 Jul	24.9	3.7			
	18 Oct	2300		0.09	0.09	

TABLE E.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
T-61	14 Jul	2.5	80			0.26
	15 Jul	24.9	2.9			
	18 Oct	2300		0.04	0.03	
T-62	14 Jul	2.5	36			0.12
	15 Jul	24.9	1.3			
	18 Oct	2300		0.02	0.02	
T-63	14 Jul	2.4	22			0.067
	15 Jul	24.9	1.0			
T-64	14 Jul	2.4	12			0.037
	15 Jul	25	0.4			
T-65	14 Jul	2.3	6			0.017
	15 Jul	25	0.2			
T-66	14 Jul	2.2	4			0.011
	15 Jul	25	0.2			
U-1	14 Jul	2.8	3.2			0.012
U-2	14 Jul	2.8	6			0.022
U-3	14 Jul	2.8	8			0.030
U-4	14 Jul	2.8	11			0.041
U-5	14 Jul	2.9	16			0.062
U-6	14 Jul	2.9	20			0.077
	18 Oct	2300		0.01	0.01	
U-7	14 Jul	2.9	28			0.11
	18 Oct	2300		0.01	0.01	
U-8	14 Jul	3.0	38			0.16
	18 Oct	2300		0.02	0.02	
Toward U-9	14 Jul	3.0	60			0.24
U-9	14 Jul	3.0	90			0.37
	18 Oct	2300		0.02	0.02	
U-10	14 Jul	3.1	130			0.55
	18 Oct	2300		0.02	0.02	
U-11	14 Jul	3.1	180			0.76
	18 Oct	2300		0.03	0.03	
U-12	14 Jul	3.1	270			1.1
	18 Oct	2300		0.05	0.04	
U-13	14 Jul	3.2	370			1.6
	18 Oct	2300		0.07	0.05	
U-14	20 Jul	145	2.2			1.2
	18 Oct	2300		0.15	0.10	
U-15	20 Jul	145	6			3.3
	18 Oct	2300		0.18	0.15	
U-16	14 Jul	3.2	800			3.5
	18 Oct	2300		0.30	0.15	
U-17	14 Jul	3.3	1000			4.6
	18 Oct	2300		1.2	1.0	
U-18	14 Jul	3.2	2000			8.8
	15 Jul	27.0	120			
	18 Oct	2300	2.2			
U-19	14 Jul	3.3	6000			27
	15 Jul	27.0	400			
	18 Oct	2300	5.0			
U-20	14 Jul	3.3	10080			46
	15 Jul	26.9	800			
	18 Oct	2300	6.0			
U-21	15 Jul	26.9	3600			230
	18 Oct	2300	20			
U-22	15 Jul	26.8	10000			640
	18 Oct	2300	100			
U-23	20 Jul	146	1200			680
	18 Oct	2300	42			
U-24	20 Jul	146	800			450
	18 Oct	2300	20			
U-25	20 Jul	146	1900			1100
	18 Oct	2300	104			
U-26	20 Jul	146	1000			560
	18 Oct	2300	44			
U-27	15 Jul	26.2	10000			640
	18 Oct	2300	98	98	98	
U-28	15 Jul	26.3	6000			380
	18 Oct	2300	20	20	20	
U-29	15 Jul	26.3	5000			320
	18 Oct	2300	46	45	43	
U-30	15 Jul	26.3	4000			260
	18 Oct	2300	10	10	10	
Half way between U-30 & U-31	15 Jul	27.3	3000			
U-31	15 Jul	26.3	2000			130
	15 Jul	27.2	2200			
	18 Oct	2300	30	28	25	
U-32	15 Jul	26.3	1000			64
	15 Jul	27.0	1000			
	18 Oct	2300	14	10	8	
U-33	14 Jul	2.1	12000			30
	15 Jul	26.3	600			
	18 Oct	2300	3.2	4.0	3.0	
U-34	14 Jul	2.1	6000			15
	15 Jul	26.4	300			
	18 Oct	2300	6.0	6.0	5.0	
U-35	14 Jul	2.1	2100			5.3
	15 Jul	26.2	100			
	15 Jul	26.4	100			
	18 Oct	2300	38	38	38	
U-36	14 Jul	2.0	1000			2.4
	15 Jul	26.4	40			
	18 Oct	2300		0.40	0.38	
U-37	14 Jul	2.0	80			0.19
	15 Jul	26.4	30			
	18 Oct	2300		0.22	0.20	
U-38	14 Jul	2.0	60			0.14
	15 Jul	26.4	18			
	18 Oct	2300		0.13	0.11	
U-39	14 Jul	1.9	40			0.090
	15 Jul	26.4	12			
	18 Oct	2300		0.07	0.06	
U-40	14 Jul	1.85	30			0.065
	15 Jul	26.5	8			
	18 Oct	2300		0.05	0.04	
U-41	14 Jul	1.78	22			0.045
	15 Jul	26.5	6			
	18 Oct	2300		0.05	0.04	
U-42	14 Jul	1.71	10			0.020
	15 Jul	26.5	4			
	18 Oct	2300		0.03	0.02	
U-43	14 Jul	1.66	48			0.091
	18 Oct	2300		0.03	0.02	
U-44	14 Jul	1.61	26			0.048
	18 Oct	2300		0.02	0.02	
U-45	14 Jul	1.55	10			0.018
	18 Oct	2300		0.02	0.02	
U-46	14 Jul	1.51	7			0.012
	18 Oct	2300		0.01	0.01	

TABLE 8.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
V-1	14 Jul	1.75	0.1			0.0002
V-2	14 Jul	1.76	0.1			0.0002
V-3	14 Jul	1.78	0.1			0.0002
V-4	14 Jul	1.83	0.15			0.0004
V-5	14 Jul	1.85	0.02			
V-6	14 Jul	1.87	0.15			0.002
V-7	14 Jul	1.89	1.0			0.003
V-8	14 Jul	1.93	1.2			0.004
V-9	14 Jul	1.96	1.6			0.003
V-10	14 Jul	2.0	2.4			0.010
V-11	14 Jul	2.1	4			0.015
V-12	14 Jul	2.1	6			
	18 Oct	2300		0.02	0.01	
V-13	14 Jul	2.1	6			0.015
	18 Oct	2300		0.02	0.01	
V-14	14 Jul	2.1	10			0.025
	18 Oct	2300		0.02	0.01	
V-15	14 Jul	2.2	12			0.033
	18 Oct	2300		0.02	0.01	
V-16	14 Jul	2.2	16			0.043
	18 Oct	2300		0.02	0.02	
V-17	14 Jul	2.2	20			0.054
	18 Oct	2300		0.03	0.02	
V-18	14 Jul	2.2	39			0.11
	18 Oct	2300		0.03	0.03	
V-19	14 Jul	2.3	39			0.11
	18 Oct	2300		0.03	0.03	
V-20	14 Jul	2.3	60			0.17
	18 Oct	2300		0.05	0.04	
V-21	14 Jul	2.3	80			0.23
	15 Jul	26.7	4			
	18 Jul	95.2	0			
	18 Oct	2300		0.09	0.06	
V-22	14 Jul	2.3	120			0.34
	15 Jul	26.6	4			
	18 Jul	95.2	1.0			
	18 Oct	2300		0.06	0.06	
V-23	14 Jul	2.4	160			0.49
	15 Jul	26.6	6			
	18 Jul	95.2	1.4			
	18 Oct	2300		0.12	0.10	
V-24	14 Jul	2.4	240			0.73
	15 Jul	26.6	10			
	18 Jul	95.2	1.6			
	18 Oct	2300		0.17	0.15	
V-25	14 Jul	2.4	360			1.1
	15 Jul	26.5	14			
	16 Jul	47.9	6			
	18 Jul	95.2	2.8			
	18 Oct	2300		0.13	0.10	
V-26	14 Jul	2.5	520			1.7
	15 Jul	26.5	20			
	18 Jul	95.2	4.2			
	18 Oct	2300		0.23	0.21	
V-27	14 Jul	2.5	90			0.29
	15 Jul	26.5	35			
	18 Jul	95.1	6			
	18 Oct	2300		0.20	0.20	
V-28	14 Jul	2.5	1200			3.8
	14 Jul	5.0	250			
	15 Jul	26.4	60			
	16 Jul	47.9	30			
	18 Jul	95.1	8			
	18 Oct	2300		0.20	0.20	
V-29	14 Jul	2.6	2100			7.1
	14 Jul	5.0	7000			
	15 Jul	26.4	100			
	18 Jul	95.1	18			
	18 Oct	2300		0.20	0.20	
V-30	14 Jul	2.6	4200			14
	14 Jul	4.9	7500			
	15 Jul	26.4	160			
	16 Jul	48.0	100			
	18 Jul	95.1	38			
	18 Oct	2300		0.20	0.20	
V-31	14 Jul	2.6	10000			34
	14 Jul	4.9	8000			
	15 Jul	26.3	440			
	16 Jul	95.0	80			
	18 Oct	2300		0.20	0.20	
V-32	14 Jul	4.9	9000			68
	15 Jul	26.3	1400			
	18 Jul	95.0	290			
	18 Oct	2300		0.17	0.15	
V-33	14 Jul	4.8	18000			130
	15 Jul	26.2	2800			
	16 Jul	48.0	1800			
	18 Jul	95.0	1000			
	18 Oct	2300		0.27	0.25	
V-34	15 Jul	26.2	20000			1300
	16 Jul	48.0	10000			
	18 Jul	95.0	2100			
	18 Oct	2300		0.90	0.90	
V-35	16 Jul	48.0	10000			1400
	18 Jul	95.0	4000			
	18 Oct	2300		1.1	1.0	
V-36	16 Jul	48.1	10000			1400
	18 Jul	94.9	6000			
	18 Oct	2300		2.7	2.4	
V-37	18 Jul	94.9	2800			900
	18 Oct	2300		5.0	5.0	
V-38	18 Jul	94.9	4200			1400
	18 Oct	2300		8.0	8.0	
V-39	18 Jul	94.9	3300			1100
	18 Oct	2300		11	10	
V-40	18 Jul	94.8	1900			610
	18 Oct	2300		110	110	
V-41	18 Jul	94.8	1800			580
	19 Jul	123	1000			
	18 Oct	2300		140	140	

TABLE E.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
V-42	15 Jul	25.9	10000			630
	18 Jul	94.8	1000			
	19 Jul	123	1000			
	18 Oct	2300		17	17	
V-43	15 Jul	25.9	4000			250
	18 Jul	94.8	320			
	18 Oct	2300		10	9.0	
Half way between 43 & 44	14 Jul	4.2	10000			62
V-44	14 Jul	4.2	8000			50
	19 Jul	26.0	1600			
	16 Jul	47.4	850			
	18 Jul	94.8	180			
	19 Jul	123	115			
	18 Oct	2300		5.0	5.0	
V-45	14 Jul	4.2	4400			27
	14 Jul	5.2	8000			
	15 Jul	26.0	1000			
	18 Jul	94.8	130			
	19 Jul	123	100			
	18 Oct	2300	4.8	3.0	2.8	
Half way between 45 & 46	14 Jul	5.2	5000			12
V-46	14 Jul	4.2	2000			
	14 Jul	5.2	2400			
	15 Jul	26.0	350			
	16 Jul	46.4	190			
	18 Jul	94.7	42			
	18 Oct	2300	3.0	1.9	1.9	5.1
V-47	14 Jul	4.3	800			
	15 Jul	26.0	140			
	18 Jul	94.7	14			
	18 Oct	2300	1.6	1.4	1.2	2.7
V-48	14 Jul	4.3	420			
	15 Jul	26.0	100			
	18 Jul	94.7	9			
	18 Oct	2300	0.5	0.36	0.36	3.8
V-49	15 Jul	26.1	60			
	18 Jul	94.7	6			
	18 Oct	2300	0.7	0.45	0.45	2.0
V-50	15 Jul	26.1	32			
	18 Jul	94.7	3			
	18 Oct	2300		0.2	0.2	1.5
V-51	15 Jul	26.1	24			
	18 Jul	94.6	2.4			
	18 Oct	2300		0.06	0.06	0.64
V-52	15 Jul	26.1	10			
	18 Oct	2300		0.04	0.04	0.32
V-53	15 Jul	26.2	5			
	18 Oct	2300		0.02	0.02	0.076
W-1	14 Jul	2.8	20			
	15 Jul	26.2	2			
	18 Oct	2300		0.02	0.02	0.23
W-2	14 Jul	2.8	60			
	15 Jul	26.3	3			
	18 Oct	2300		0.03	0.02	0.30
W-3	14 Jul	2.8	80			
	15 Jul	26.3	5			
	18 Oct	2300		0.04	0.03	0.46
W-4	14 Jul	2.8	120			
	15 Jul	26.3	10			
	18 Oct	2300		0.05	0.04	0.77
W-5	14 Jul	2.9	200			
	15 Jul	26.3	10			
	18 Oct	2300		0.06	0.06	1.1
W-6	14 Jul	2.9	280			
	15 Jul	26.3	20			
	18 Oct	2300		0.06	0.06	1.6
W-7	14 Jul	2.9	400			
	15 Jul	26.3	25			
	18 Oct	2300		0.06	0.06	2.3
W-8	14 Jul	2.9	600			
	15 Jul	26.4	35			
	18 Oct	2300		0.06	0.06	3.1
W-9	14 Jul	2.9	800			
	15 Jul	26.4	100			
	18 Oct	2300		0.06	0.06	4.8
W-10	14 Jul	3.0	1200			
	15 Jul	26.4	100			
	18 Oct	2300		0.088	0.025	8.1
W-11	14 Jul	3.0	2000			
	15 Jul	26.4	150			
	18 Oct	2300		0.07	0.06	16
W-12	14 Jul	3.0	4000			
	15 Jul	26.4	300			
	18 Oct	2300		0.08	0.07	32
W-13	14 Jul	3.0	8000			
	15 Jul	26.4	1000			
	18 Oct	2300		1.6	1.5	40
W-14	14 Jul	3.0	10000			
	18 Oct	2300		4.0	4.0	340
W-15	20 Jul	146	600			
	18 Oct	2300		4.0	4.0	320
W-16	15 Jul	26.5	5000			
	18 Oct	2300		15	10	1400
W-17	20 Jul	146	2400			
	18 Oct	2300		23	20	1500
W-18	20 Jul	146	2700			
	18 Oct	2300		31	30	1400
W-19	20 Jul	146	2400			
	18 Oct	2300		32	31	1300
W-20	20 Jul	146	2300			
	18 Oct	2300		30	20	
W-21	18 Oct	2300	10000	130	120	610
W-22	15 Jul	25.5				
	18 Oct	2300	800	130	120	450
W-23	20 Jul	146				
	18 Oct	2300		60	60	

TABLE E.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
W-84	15 Jul	25.6	8000	100	90	490
	18 Oct	2300				
W-85	20 Jul	146	190	80	70	110
	18 Oct	2300				
W-86	20 Jul	146	39	60	50	22
	18 Oct	2300				
W-87	14 Jul	2.7	10000	26	25	35
	18 Oct	2300				
W-88	14 Jul	2.7	3200	0.5	0.4	11
	18 Oct	2300				
W-89	14 Jul	2.7	1900	0.40	0.39	6.7
	18 Oct	2300				
W-30	14 Jul	2.7	1000	0.20	0.18	3.5
	15 Jul	25.4	100			
	18 Oct	2300				
W-31	14 Jul	2.6	600	0.13	0.11	2.0
	15 Jul	25.6	60			
	18 Oct	2300				
W-32	14 Jul	2.6	480	0.08	0.07	1.6
	15 Jul	25.6	39			
	18 Oct	2300				
W-33	14 Jul	2.6	340	0.06	0.05	1.1
	15 Jul	25.6	26			
	18 Oct	2300				
W-34	14 Jul	2.5	240	0.06	0.05	0.77
	15 Jul	25.7	17			
	18 Oct	2300				
W-35	14 Jul	2.5	160	0.05	0.05	0.51
	15 Jul	25.7	10			
	18 Oct	2300				
W-36	14 Jul	2.5	120	0.05	0.04	0.38
	15 Jul	25.7	7			
	18 Oct	2300				
W-37	14 Jul	2.5	80	0.04	0.03	0.26
	15 Jul	25.8	5			
	18 Oct	2300				
W-38	14 Jul	2.4	60	0.03	0.02	0.18
	18 Oct	2300				
W-39	14 Jul	2.4	38	0.03	0.02	0.12
	18 Oct	2300				
W-40	[illegible] Jul	2.4	26	0.02	0.02	0.079
	18 Oct	2300				
W-41	14 Jul	2.3	20			0.058
X-40 *	21 Jul	171	2.7			1.9
X-41 *	21 Jul	171	2.4			1.7
X-42 *	21 Jul	172	3.0			2.1
X-43 *	21 Jul	172	2.8			1.9
X-44 *	21 Jul	172	2.8			1.9
X-45 *	21 Jul	172	3.0			2.1
X-46 *	21 Jul	172	3.4			2.3
½ mile W of X-46 *	21 Jul	172	3.8			2.1
Y-1	14 Jul	1.98	0			0
Y-2	14 Jul	2.0	0	0.02	0.02	0
	18 Oct	2300				
Y-3	14 Jul	2.0	0	0.02	0.02	0
	18 Oct	2300				
Y-10	14 Jul	2.2	1	0.02	0.02	0.002
	18 Oct	2300				
Y-11	14 Jul	2.2	2	0.02	0.02	0.004
	18 Oct	2300				
Y-12	14 Jul	2.2	2	0.02	0.02	0.004
	18 Oct	2300				
Y-13	14 Jul	2.3	3	0.02	0.02	0.006
	18 Oct	2300				
Y-14	14 Jul	2.3	4	0.02	0.02	0.008
	18 Oct	2300				
Y-15	14 Jul	2.3	5	0.02	0.02	0.010
	18 Oct	2300				
Y-16	14 Jul	2.3	8	0.02	0.02	0.016
	18 Oct	2300				
Y-17	14 Jul	2.3	10	0.02	0.02	0.020
	18 Oct	2300				
Y-18	14 Jul	2.3	12	0.02	0.02	0.024
	15 Jul	25.9	0			
	18 Oct	2300				
Y-19	14 Jul	2.4	19	0.02	0.02	0.039
	15 Jul	25.9	0			
	18 Oct	2300				
Y-20	14 Jul	2.4	26	0.02	0.02	0.054
	14 Jul	25.9	0			
	18 Oct	2300				
Y-21	14 Jul	2.4	32	0.02	0.02	0.066
	15 Jul	25.9	10			
	18 Oct	2300				
Y-22	14 Jul	2.4	46	0.02	0.02	0.095
	15 Jul	25.9	10			
	18 Oct	2300				
Y-23	14 Jul	2.5	80	0.02	0.02	0.1
	15 Jul	25.8	10			
	18 Oct	2300				
Y-24	14 Jul	2.5	100	0.02	0.02	0.21
	15 Jul	25.8	10			
	18 Oct	2300				
Y-25	14 Jul	2.5	140	0.02	0.02	0.30
	15 Jul	25.8	10			
	18 Oct	2300				
Y-26	14 Jul	2.6	200	0.02	0.02	0.44
	15 Jul	25.8	20			
	18 Oct	2300				
Y-27	14 Jul	2.6	300	0.02	0.02	0.66
	14 Jul	6.5	120			
	15 Jul	25.8	30			
	18 Jul	96.2	1.2			
	18 Oct	2300				
Y-28	14 Jul	2.6	480	0.04	0.03	1.1
	14 Jul	6.5	180			
	15 Jul	25.8	100			
	18 Jul	96.3	2.7			
	18 Oct	2300				
Y-29	14 Jul	2.6	600	0.08	0.07	1.3
	14 Jul	6.5	200			
	15 Jul	25.7	100			
	18 Jul	96.3	3.4			
	18 Oct	2300				

* Indian Springs Valley.

TABLE E.1 (Continued)

Station	Date	Time After Shot	Dose Rate Readings AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Y-30	14 Jul	2.6	900			2.0
	14 Jul	6.5	400			
	15 Jul	25.7	100			
	16 Jul	96.3	4			
	18 Oct	2300		0.08	0.07	
Y-31	14 Jul	2.6	1200			2.6
	14 Jul	6.5	600			
	15 Jul	25.7	200			
	16 Jul	96.3	6			
	18 Oct	2300		0.09	0.08	
Y-32	14 Jul	2.7	2000			4.6
	14 Jul	6.4	850			
	15 Jul	25.7	200			
	16 Jul	47.7	42			
	18 Jul	96.4	11			
	20 Jul	145	4			
	18 Oct	2300		0.12	0.11	
Y-33	14 Jul	2.7	3000			6.9
	14 Jul	6.4	1300			
	15 Jul	25.6	1000			
	16 Jul	47.7	92			
	18 Jul	96.4	16			
	20 Jul	145	8			
	18 Oct	2300		0.19	0.19	
Y-34	14 Jul	2.7	6000			14
	14 Jul	6.4	2300			
	18 Jul	96.5	38			
	18 Oct	2300		0.36	0.35	
Y-35	14 Jul	2.7	10000			23
	14 Jul	6.4	3800			
	16 Jul	47.8	220			
	18 Jul	96.5	70			
	20 Jul	145	22			
	18 Oct	2300		1.1	1.1	
Y-36	14 Jul	6.4	6500			31
	15 Jul	25.6	1000			
	18 Jul	96.5	140			
	20 Jul	145	22			
	18 Oct	2300		1.7	1.7	
Y-37	14 Jul	6.3	10000			47
	15 Jul	25.6	1000			
	18 Jul	96.6	800			
	18 Oct	2300		10	10	
Y-38	15 Jul	25.5	10000			180
Y-39	15 Jul	84.9	10000			180
	16 Jul	47.9	10000			
Y-40	16 Jul	48.9	3000			2000
	20 Jul	145	2200			
Y-41	20 Jul	145	1000			1800
	18 Oct	2300		10	10	
Y-42	14 Jul	5.1	8000			31
	18 Oct	2300		2.1	2.1	
Y-43	14 Jul	2.1	10000			18
	14 Jul	4.8	4200			
	16 Jul	47.3	450			
	20 Jul	145	180			
	18 Oct	2300		0.9	0.9	
Y-44	14 Jul	2.1	6000			11
	18 Oct	2300		0.6	0.6	
Y-45	14 Jul	2.1	3400			6
	14 Jul	4.8	1500			
	15 Jul	25.0	340			
	16 Jul	47.5	125			
	20 Jul	145	8			
	18 Oct	2300		0.2	0.2	
Y-46	14 Jul	2.0	1800			3.2
	15 Jul	25.0	180			
	18 Jul	95.4	10			
	18 Oct	2300		0.19	0.19	
Y-47	14 Jul	1.93	1600			2.7
	15 Jul	24.8	100			
	18 Oct	2300		0.11	0.11	
Y-48	14 Jul	1.92	1500			2.6
	15 Jul	24.9	25			
	16 Jul	47.3	25			
	18 Jul	95.4	5			
	20 Jul	145	1			
	18 Oct	2300		0.09	0.09	
Y-49	14 Jul	1.87	700			1.2
	18 Jul	95.4	5			
	18 Oct	2300		0.07	0.07	
Y-50	14 Jul	1.83	400			0.70
	15 Jul	25.0	30			
	18 Jul	95.3	0			
Y-51	14 Jul	1.78	280			0.49
	15 Jul	25.1	19			
	18 Jul	95.3	1			0.33
Y-52	14 Jul	1.75	210			
	15 Jul	25.1	13			
	18 Jul	95.3	1			
	18 Oct	2300		0.02	0.02	
Y-53	14 Jul	1.66	140			0.22
	15 Jul	25.1	10			
	18 Jul	95.3	0			
	18 Oct	2300		0.02	0.02	
Y-54	14 Jul	1.65	100			0.15
	15 Jul	25.1	5			
	18 Jul	95.3	1			
	18 Oct	2300		0.02	0.02	
Y-55	14 Jul	1.61	70			0.11
	15 Jul	25.2	4			
	18 Jul	95.3	1			
	18 Oct	2300		0.02	0.02	
Y-56	14 Jul	1.60	42			0.062
	15 Jul	25.2	3.4			
	18 Jul	95.2	1			
	18 Oct	2300		0.02	0.02	
Y-57	14 Jul	1.56	32			0.046
	15 Jul	25.2	2			
	18 Jul	95.2	1			
	18 Oct	2300		0.02	0.02	
Y-58	14 Jul	1.5	24			0.037
	15 Jul	25.2	1.5			
	18 Jul	95.2	1			
	18 Oct	2300		0.02	0.02	

TABLE 8.1 (Continued)

Station	Date	Time After Shot	Dose Rate Reading AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated 8-1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Y-59	14 Jul	1.50	20			0.03
	15 Jul	25.1	1			
	18 Jul	95.2	1			
	18 Oct	2300		0.02	0.02	
Y-60	14 Jul	1.45	11			0.015
	15 Jul	25.1	0.5			
	18 Jul	95.2	3			
	18 Oct	2300		0.02	0.02	
100 ft South of Y-60	14 Jul	1.4	10			
Z-1	20 Jul	145	600			1000
Z-2	18 Jul	95.5	320			150
	18 Oct	2300		10	10	
Z-3	15 Jul	25.2	10000			180
	18 Jul	95.6	160			
	18 Oct	2300		2.6	2.2	
Z-4	14 Jul	1.77	10000			16
	14 Jul	4.6	8000			
	15 Jul	25.2	2000			
	16 Jul	47.4	400			
	18 Jul	95.6	60			
	20 Jul	145	18			
	18 Oct	2300		1.0	0.9	
Z-5	14 Jul	1.73	8000			
	14 Jul	4.5	3400			13
	15 Jul	25.2	1000			
	18 Jul	95.6	36			
	18 Oct	2300		0.32	0.32	
Z-6	14 Jul	1.74	4300			6.8
	15 Jul	25.2	500			
	16 Jul	47.3	200			
	18 Jul	95.6	23			
	20 Jul	145	6			
	18 Oct	2300		0.18	0.18	
Z-7	14 Jul	1.70	2600			4.1
	14 Jul	4.5	1400			
	15 Jul	25.1	400			
	18 Oct	2300		0.11	0.11	
Z-8	14 Jul	1.68	1800			2.8
	15 Jul	25.1	200			
	18 Jul	95.7	9			
	18 Oct	2300		0.07	0.07	
Z-9	14 Jul	1.64	1200			1.8
	15 Jul	25.1	100			
	16 Jul	47.3	30			
	18 Jul	95.7	4.9			
	20 Jul	145	1			
	18 Oct	2300		0.04	0.04	
Z-10	14 Jul	1.62	650			0.96
	15 Jul	25.0	40			
	18 Jul	95.7	2.2			
	18 Oct	2300	0	0.03	0.03	
Z-11	14 Jul	1.58	500			0.73
	15 Jul	25.0	30			
	18 Jul	95.7	1.6			
	18 Oct	2300		0.02	0.02	
Z-12	14 Jul	1.55	360			0.52
	15 Jul	25.0	20			
	18 Jul	95.8	0.8			
	18 Oct	2300		0.02	0.02	
Z-13	14 Jul	1.55	360			0.34
	15 Jul	25.0	10			
	18 Oct	2300		0.02	0.02	
Z-14	14 Jul	1.52	170			0.24
	15 Jul	24.9	10			
	18 Oct	2300		0.02	0.02	
Z-15	14 Jul	1.45	120			0.16
	15 Jul	24.9	10			
	18 Oct	2300		0.02	0.02	
Z-16	14 Jul	1.41	90			0.12
	15 Jul	24.9	4			
	18 Oct	2300		0.02	0.02	
Z-17	14 Jul	1.37	60			0.08
	15 Jul	24.9	3			
	18 Oct	2300		0.02	0.02	
Z-18	14 Jul	1.3	28			0.036
	15 Jul	24.9	2			
	18 Oct	2300		0.02	0.02	
Z-19	14 Jul	1.35	28			0.036
	15 Jul	24.9	1			
	18 Oct	2300		0.02	0.02	
Z-20	14 Jul	1.28	22			0.027
	15 Jul	24.8	1			
	18 Oct	2300		0.02	0.02	
Z-21	14 Jul	1.25	10			0.012
	15 Jul	24.8	0			
	18 Oct	2300		0.02	0.02	
Z-22	14 Jul	1.18	5			0.006
	15 Jul	24.7	0			
	18 Oct	2300		0.02	0.02	
Z-23	14 Jul	1.15	2			0.002
	15 Jul	24.7	0			
	18 Oct	2300		0.02	0.02	
Z-24	14 Jul	1.12	1			0.001
	15 Jul	24.7	0			
	18 Oct	2300		0.02	0.02	
Z-31	15 Jul	26.1	10000			184
Z-32	15 Jul	26.1	3400			63
Z-33	15 Jul	26.2	1800			33
	18 Jul	95.0	120			
Z-34	14 Jul	2.2	10000			19
	15 Jul	26.2	1000			
	18 Jul	95.0	60			
Z-35	14 Jul	2.1	4600			8.5
	15 Jul	26.2	600			
	18 Jul	95.1	28			
	18 Oct	2300		1.2	1.1	
Z-36	14 Jul	2.1	1200			5.9
	15 Jul	26.2	360			
	18 Jul	95.1	19			
	18 Oct	2300		0.30	0.25	
Z-37	14 Jul	2.1	2300			62
	15 Jul	26.2	200			
	18 Jul	95.1	13			
	18 Oct	2300		0.13	0.12	
Z-38	14 Jul	2.1	1600			3.0
	15 Jul	26.2	110			
	18 Jul	95.2	6			
	18 Oct	2300		0.11	0.10	

TABLE 8.1 (Continued)

Station	Date	Time After Shot	Dose Rate Reading AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Calculated Hr1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Z-39	14 Jul	2.0	1200			2.1
	15 Jul	26.3	70			
	18 Jul	95.2	4.2			
	18 Oct	2300		0.07	0.06	
Z-40	14 Jul	2.0	1100			2.0
	15 Jul	26.3	40			
	18 Jul	95.2	2.3			
	18 Oct	2300		0.06	0.05	
Z-41	14 Jul	2.0	360			0.64
	15 Jul	26.3	28			
	18 Jul	95.2	1.6			
	18 Oct	2300		0.05	0.04	
Z-42	14 Jul	2.0	260			0.46
	15 Jul	26.3	18			
	18 Jul	95.3	0.8			
	18 Oct	2300		0.03	0.02	
Z-43	14 Jul	2.0	200			0.36
	15 Jul	26.3	13			
	18 Oct	2300		0.02	0.02	
Z-44	14 Jul	1.95	150			0.26
	15 Jul	26.3	10			
	18 Oct	2300		0.02	0.02	
Z-45	14 Jul	1.94	120			0.21
	15 Jul	26.4	7			
	18 Oct	2300		0.02	0.02	
Z-46	14 Jul	1.92	100			0.17
	15 Jul	26.4	5			
	18 Oct	2300		0.02	0.02	
Z-47	14 Jul	1.89	36			0.061
	15 Jul	26.4	3			
	18 Oct	2300		0.02	0.02	
Z-48	14 Jul	1.87	28			0.047
	15 Jul	26.4	2.2			
	18 Oct	2300		0.02	0.02	
Z-49	14 Jul	1.85	20			0.033
	15 Jul	26.4	1.6			
	18 Oct	2300		0.02	0.02	
Z-50	14 Jul	1.83	16			0.026
	15 Jul	26.4	1.2			
	18 Oct	2300		0.02	0.02	
Z-51	14 Jul	1.80	13			0.021
	15 Jul	26.5	0.08			
	18 Oct	2300		0.02	0.02	
Z-52	14 Jul	1.78	11			0.018
	15 Jul	26.5	0.06			
	18 Oct	2300		0.02	0.02	
Z-53	14 Jul	1.76	10			0.016
	15 Jul	26.5	0.05			
	18 Oct	2300		0.02	0.02	
Z-61	15 Jul	24.6	10000			170
Z-62	15 Jul	24.6	3000			51
Z-63	14 Jul	5.7	10000			42
	15 Jul	24.6	1400			15
Z-64	14 Jul	1.65	10000			
	14 Jul	5.7	4000			
	15 Jul	25.6	1000			
	18 Jul	94.6	30			
	20 Jul	146	26			
Z-65	14 Jul	1.64	4100			6.2
	14 Jul	5.8	2000			
	15 Jul	27.7	420			
	18 Jul	94.6	28			
	18 Oct	2300		110	100	
Z-66	14 Jul	1.60	3200			4.8
	14 Jul	5.8	1000			
	15 Jul	25.7	325			
	18 Jul	94.6	20			
	20 Jul	146	4.6			
	18 Oct	2300		25	25	
Z-67	14 Jul	1.58	2400			3.5
	15 Jul	24.7	170			
	18 Oct	2300		0.18	0.16	
Z-68	14 Jul	1.55	1800			2.6
	14 Jul	5.9	420			
	15 Jul	24.7	120			
	15 Jul	28.9	180			
	16 Jul	48.3	50			
	18 Jul	94.6	7			
	18 Oct	2300		0.14	0.11	
Z-69	14 Jul	1.51	1450			2.2
	15 Jul	24.7	105			
	15 Jul	28.9	100			
	18 Oct	2300		0.09	0.08	
Z-70	14 Jul	1.50	1200			1.8
	15 Jul	24.8	70			
	18 Jul	94.6	3.5			
	18 Oct	2300		0.06	0.06	
Z-71	14 Jul	1.45	1000			1.4
	14 Jul	5.9	220			
	15 Jul	24.8	65			
	16 Jul	47.6	20			
	18 Jul	94.7	2.8			
	20 Jul	145	0.2			
	18 Oct	2300		0.06	0.06	
Z-72	14 Jul	1.41	400			0.53
	14 Jul	6.0	190			
	15 Jul	24.8	40			
	16 Jul	48.4	10			
	18 Jul	94.7	1.8			
	18 Oct	2300		0.06	0.05	
Z-73	14 Jul	1.40	280			0.37
	14 Jul	6.0	140			
	15 Jul	24.8	40			
	16 Jul	48.4	10			
	18 Jul	94.7	1.2			
	18 Oct	2300		0.04	0.04	
Z-74	14 Jul	1.38	200			0.26
	14 Jul	6.1	80			
	15 Jul	24.8	20			
	18 Jul	94.7	0.4			
	18 Oct	2300		0.04	0.03	
Z-75	14 Jul	1.36	150			0.19
	14 Jul	6.2	26			
	15 Jul	24.9	10			
	18 Oct	2300		0.04	0.03	
Z-76	14 Jul	1.33	120			0.15
	14 Jul	6.2	18			
	15 Jul	24.9	6			
	18 Oct	2300		0.03	0.02	

TABLE E.1 (Continued)

Station	Date	Time After Shot	Dose Rate Reading AN/PDR-39A	AN/PDR-27J Shield Open	AN/PDR-27J Shield Closed	Extrapolated N+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Z-77	14 Jul	1.30	100			[illegible]
	14 Jul	6.3	12			
	15 Jul	24.9	3.8			
	18 Oct	2300		0.02	0.02	
Z-78	14 Jul	1.28	38			[illegible]
	14 Jul	6.3	8			
	15 Jul	24.9	2.6			
	18 Oct	2300		0.02	0.02	
Z-79	14 Jul	1.26	28			[illegible]
	15 Jul	24.9	1.8			
	18 Oct	2300		0.02	0.02	
Z-80	14 Jul	1.25	20			0.038
	14 Jul	6.5	4			
	15 Jul	25.0	1.4			
	18 Oct	2300		0.02	0.01	
Z-81	14 Jul	1.23	16			[illegible]
	14 Jul	6.5	2.6			
	15 Jul	25.0	1.0			
	18 Oct	2300		0.03	[illegible]	
Z-82	14 Jul	1.19	14			[illegible]
	14 Jul	6.6	1.6			
	15 Jul	25.0	0.08			
	18 Oct	2300		0.02	0.02	
Z-83	14 Jul	1.16	11			[illegible]
	14 Jul	6.6	1			
	15 Jul	25.0	0.06			
	18 Oct	2300		0.03	0.03	
Z-84	14 Jul	1.13	10			[illegible]
	14 Jul	6.7	0.8			
	15 Jul	25.0	0.05			
	18 Oct	2300		0.02	0.02	
Z-85	14 Jul	1.10	4.3			[illegible]
	14 Jul	6.7	0.4			
	15 Jul	25.0	0.04			
	18 Oct	2300		0.02	0.02	
Z-91	20 Jul	146	100			[illegible]
Z-92	14 Jul	0.46	13000			[illegible]
	14 Jul	5.0	13000			
	18 Oct	2300	10	5.1	5.0	
Z-93	14 Jul	4.9	8000			[illegible]
	15 Jul	24.5	8000			
	18 Oct	2300	3.8	2.3	2.3	
Z-94	14 Jul	4.8	2400			[illegible]
	15 Jul	24.5	1200			
	18 Oct	2300	1.4	1.3	1.1	
Z-95	14 Jul	1.80	10000			17
	14 Jul	4.8	1400			
	15 Jul	24.5	600			
	18 Oct	2300	0.8	0.46	0.46	
Z-96	14 Jul	1.75	3400			[illegible]
	14 Jul	4.7	80			
	15 Jul	24.5	400			
	18 Oct	2300	0.8	0.44	0.44	
Z-97	14 Jul	1.70	2200			[illegible]
	15 Jul	24.6	3000			
	18 Oct	2300	0.6	0.37	0.37	
Z-98	14 Jul	1.66	1400			[illegible]
	18 Jul	94.7	40			
	18 Oct	2300	0.6	0.45	0.40	
Z-99	14 Jul	1.58	1000			[illegible]
	18 Jul	94.7	40			
	18 Oct	2300	0.4	0.33	0.33	
Z-100	14 Jul	1.56	800			[illegible]
	18 Jul	94.7	35			
	18 Oct	2300	0.2	0.20	0.20	
Z-101	14 Jul	1.53	400			[illegible]
	18 Jul	94.7	35			
	18 Oct	2300		0.17	0.17	
Z-102	14 Jul	1.50	300			[illegible]
	18 Jul	94.6	5			
	18 Oct	2300		0.14	0.14	
Z-103	14 Jul	1.45	200			[illegible]
	18 Jul	94.6	4			
	18 Oct	2300		0.10	0.10	
Z-104	14 Jul	1.41	102			[illegible]
	18 Jul	94.6	0	0.09	0.09	
Z-105	14 Jul	1.40	100			[illegible]
	18 Jul	94.6	0			
	18 Oct	2300		0.05	0.05	
Z-106	14 Jul	1.34	96			[illegible]
	18 Oct	2300		0.05	0.05	
Z-107	14 Jul	1.31	44			[illegible]
	18 Oct	2300		0.03	0.03	
Z-108	14 Jul	1.28	32			[illegible]
	18 Oct	2300		0.03	0.03	
Z-109	14 Jul	1.25	22			[illegible]
	18 Oct	2300		0.03	0.03	
Z-110	14 Jul	1.21	16			[illegible]
	18 Oct	2300		0.02	0.02	
Z-111	14 Jul	1.16	10			[illegible]
	18 Oct	2300		0.02	0.02	
Z-120	19 Oct	2325		120	120	
Z-121	15 Jul	24.9	10000			[illegible]
	19 Oct	2325		19	19	
Z-122	15 Jul	28.8	3200			[illegible]
	19 Oct	2325		4.9	4.4	
Z-123	14 Jul	4.8	10000			[illegible]
	15 Jul	28.8	1200			
	18 Jul	95.0	200			
	19 Oct	2325		2.7	2.4	
Z-124	14 Jul	2.0	10000			[illegible]
	14 Jul	4.8	9800			
	14 Jul	4.8	600			
	18 Jul	95.0	200			
	20 Jul	146	18			
	19 Oct	2325		1.5	1.4	
Z-125	14 Jul	2.0	4600			[illegible]
	15 Jul	28.8	480			
	18 Jul	95.0	250			
	19 Oct	2325		1.1	1.0	
Z-126	14 Jul	2.4	2800			
	14 Jul	4.7	1800			
	15 Jul	28.8	260			
	16 Jul	48.3	100			
	18 Jul	95.0	45			
	20 Jul	146	6			
	19 Oct	2325		0.7	0.6	
Z-127	14 Jul	2.4	1600			

TABLE E.1 (Continued)

Station	Date	Time After Shot	Dose Rate Reading AN/PDR-39A	Dose Rate Reading AN/PDR-27A Shield Open	Dose Rate Reading AN/PDR-27A Shield Closed	Calculated H+1 Hour Dose Rate
		hours	mr/hr	mr/hr	mr/hr	r/hr
Z-127	14 Jul	4.7	1000			
	15 Jul	23.7	130			
	16 Jul	48.2	65			
	18 Jul	94.9	40			
	19 Oct	2325		1.2	1.1	2.0
Z-128	14 Jul	2.4	1000			
	20 Jul	146	2			
	19 Oct	2325		1.2	1.2	1.1
Z-129	14 Jul	2.3	560			
	15 Jul	28.7	60			
	19 Oct	2325		1.0	1.0	0.95
Z-130	14 Jul	2.3	480			
	15 Jul	28.7	46			
	18 Jul	94.9	5			
	19 Oct	2325		1.0	1.0	0.63
Z-131	14 Jul	2.3	340			
	15 Jul	28.7	36			
	18 Jul	94.9	5			
	19 Oct	2325		1.5	1.5	0.46
Z-132	14 Jul	2.2	240			
	15 Jul	28.7	22			
	18 Jul	94.9	0			
	19 Oct	2325		1.7	1.6	0.27
Z-133	14 Jul	2.2	140			
	15 Jul	28.7	12			
	19 Oct	2325		1.1	1.0	0.192
Z-134	14 Jul	2.2	100			
	15 Jul	28.7	10			
	19 Oct	2325		0.39	0.36	0.18
Z-135	14 Jul	2.2	96			
	15 Jul	28.6	6			
	19 Oct	2325		0.15	0.13	0.085
Z-136	14 Jul	2.1	46			
	15 Jul	28.6	3.9			
	19 Oct	2325		0.11	0.11	0.055
Z-137	14 Jul	2.1	30			
	15 Jul	28.6	2.7			
	19 Oct	2325		0.09	0.08	0.040
Z-138	14 Jul	2.1	22			
	15 Jul	28.6	1.9			
	19 Oct	2325		0.06	0.05	0.028
Z-139	14 Jul	2.0	16			
	15 Jul	28.5	1.6			
	19 Oct	2325		0.06	0.05	0.018
Z-140	14 Jul	2.0	10			
	15 Jul	28.5	1.2			
	19 Oct	2325		0.04	0.04	0.009
Z-141	14 Jul	2.0	5			
	15 Jul	28.5	0.8			
	19 Oct	2325		0.03	0.02	

TABLE E.2 SMALL BOY ON-SITE DOSES

Films recovered at E, G, I, and K stations on D+3 days and from M through Z on D+4 days.

Station	LAD Beta r	LAD Gamma r	EG&G Gamma r	REECo Gamma r
B 8		0.04		
B 14		0.035		
B 20		0.035		
B 28		0.04		
B 39		0.05		
B 40		0.035		
B 41		0.03		
B 44		0.085		
B 49	0.01	0.035		
B 50	0.01	0.015		
B 52		0.03		
B 56	0.01	0.035		
B 57		0.05		
B 61		0.045		
B 63		0.04		
B 66		0.04		
B 68		0.03		
B 71		0.035		
B 77		0.05		
B 81	0.01	0.045		
B 84	0.06	0.07		
B 85	0.095	0.095		
B 88	0.035	0.05		
B 90	0.035	0.065		
B 94	0.05	0.07		
B 97	0.05	0.05		
B 106	0.55	0.26		
B 107	0.29	0.29		
B 109	0.64	0.32		
B 110	0.56	0.37		
B 112	1.10	0.44		
B 113	0.10	0.53		
B 114	4.50	0.67		
B 117	1.75	0.94		
B 124	1.53	0.845		
B 127	1.50	0.92		
B 129	0.66	0.58		
B 130	2.60	0.90		
B 131	2.13	0.945		
B 132	2.45	0.81		
B 137	2.20	0.96		
B 139	2.20	0.99		
B 140	2.31	0.045		
B 142	4.70	1.10		
E 12	0.01	0.02		
E 54		0.07		
E 55		0.05		
E 56	0.02	0.05		
E 57	0.14	0.06		
E 58		0.07		
E 59		0.07		
E 60		0.07		
E 61		0.04		
E 64		0.07		
E 66		0.2		
E 67		0.2		
E 68		0.24		
E 69	0.48	0.34		
E 70		0.2		
E 71	0.17	0.42		
E 72		0.34		
E 73	3.6	1.4		
E 74	4.6	3.3		
E 75	7.5	3.9		
E 76	14	5.0		
E 77	3.8	4.2		
E 78	6.8	4.2		
E 79	8.9	4.3		
E 81	10	3.5		
E 82	7.7	3.8		
E 83	5.9	3.3		
E 84	9.8	3.5		
E 85		3.5		
E 86	8.1	3.1		
E 87	7.5	3.1		
E 88	7.5	3.8		
E 89		3.7		
E 90		3.5		
E 91	6.3	4.5		
E 92	8.9	4.2		
E 93	9.8	3.7		
E 94	19	4.2		
E 95	9.8	3.7		
E 96	12	3.7		
E 97		4.7		
E 98	7.7	2.5		
E 99	9.7	2.2		
E 100		1.5		
E 101		1.2		
E 102		1.4		
E 103	2.8	1.1		
E 104		1.1		
E 105		6.0		
E 106	1.0	0.6		
E 107	11	0.5		
E 109		0.47		
E 110		0.34		
E 111		0.39		
E 112	0.97	0.44		
E 114		0.24		
E 115	0.54	0.32		
E 116		0.24		
E 117		0.22		
E 118		0.15		
E 119		0.31		
E 120		0.13		
E 121		0.14		
E 122		0.19		
E 123	0.12	0.1		
E 124	0.1	0.1		
E 125		0.12		
E 127		0.07		
E 128		0.06		
E 129		0.06		
E 130		0.06		
E 131		0.06		
E 132	0.03	0.04		
G 2			0.5	0.06
G 6		0.07		
G 7		0.04	5.1	
G 11		0.07	0.63	
G 12		0.07		
G 13		0.07		
G 14		0.1		
G 15		0.3	0.63	0.14
G 16		0.07		
G 17		0.07		
G 19			0.8	0.58
G 20	4.7	1.9		
G 21	3.7	6.0		
G 22	28	22		
G 23	15	22		
G 24	11	18	20	14
G 25	21	18		
G 26	24	24		
G 27		35		
G 28	24	34		
G 29	51	35		
G 30	62	41	37	42
G 31	45	34		
I 2	0.02	0.07		
I 4			0.8	0.15
I 9	0.31	0.14	0.56	0.14
I 15	0.71	0.5		
I 16	4.8	2.4		
I 19				600
I 24			58	750
K 5			0.4	0.06
K 15			0.74	0.09
K 22		0.5		
K 23		3.7		
K 24	8.0	6.5		
K 25	18	16	13	0.12
K 26	20	25		
K 27	71	47		
K 28		84		
K 29	140	73		
K 30	170	95		
K 31	220	110		
K 32	150	110		
K 33	230	110		
K 34	240	170		
K 35	250	190	150	240
K 36	300	170		
K 37	160	140		
K 38	190	120		
K 39	140	120		
K 40	270	130		
K 41		100		
K 42		80		
K 43		70		
K 44		40		
K 45	70	40	30	34
K 46	50	35		
K 47	30	22		
K 49	19	12		
K 50	9.8	7.6		
K 51	9.8	4.5		
M 5			0.8	110
M 15			1.5	0.19
M 25			0.5	0.27
M 26		0.4		
M 27		1.2		
M 28	2.6	1.7		

TABLE E.2 SMALL BOY ON-SITE DOSES (Contd)

Films recovered at E, G, I, and K stations on D+3 days and from M through Z on D+4 days.

Station	LAD Beta r	LAD Gamma r	FLARE Gamma r	REECo Gamma r
M 29	5.1	2.8		
M 30	11	5.2		
M 31		16		
M 32		40	34	32
M 33	170	60		
M 34	180	100		
M 35	290	120		
M 36	200	110		
M 37		140		
M 38	460	140		
M 39	290	140		
M 40	500	160		
M 41	360	180		
M 42	130	160		
M 43	320	210		
M 44	150	220		
M 45	290	250	180	0.49
M 46	670	260		
M 47	580	320		
M 48	670	350		
M 49	910	420		
M 50	690	440		
M 51	530	400		
M 52	770	390		
M 53	300	400		
M 54	390	410		
M 55	600	380	260	0.41
M 56	650	440		
M 57	420	450		
M 58	450	470		
M 59	550	360		
M 60	280	350		
M 61	520	330		
M 62	340	320		
M 63	330	340		
M 64	550	380		
M 65	740	320	230	495
M 66	520	300		
M 67	450	250		
M 68	330	250		
M 69	430	230		
M 70	390	180		
M 71	130	120		
M 72	150	120		
M 73	110	100		
M 74	70	70		
M 75	74	56	44	54
M 76	43	44		
M 77	33	0.34		
M 78	21	19		
M 79	8.6	10		
M 80	13	7.1		
M 81	3.2	3.3		
P 10			3	0.45
P 15			0.7	0.12
P 23			0.76	0.17
P 29		0.2		
P 30	26	34		
P 31	0.15	0.5		
P 32		1.0		
P 33	0.59	1.2		
P 34	1.2	1.3		
P 35	1.5	2.1	2.3	1.6
P 36	4.6	3.3		
P 37	3.7	5.2		
P 38	11	11		
P 39	16	18		
P 40		0.2		
P 41	62	64		
P 42	130	92		
P 43	220	150		
P 44	310	240		
P 45	470	290	200	4.8
P 46		310		
P 47	490	430		
P 48	270	380		
P 49	360	480		
P 50	340	460		
P 51	420	490		
P 52	1,100	500		
P 53	870	530		
P 54	590	510		
P 55			320	4.5
P 56	1,200	540		
P 57	810	590		
P 58		620		
P 59	660	590		
P 60	610	590		
P 61	1,400	620		
P 62	770	570		
P 63		500		
P 64	450	490		
P 65	570	490	365	4.7
P 66	470	390		
P 67	470	340		
P 68	370	350		
P 69	400	240		
P 70		210		
P 71		160		
P 72		87		
P 73	22	34		
P 74	7.6	14		
P 75	4.7	6.4	1.0	0.21
P 77	1.9	2.6		
P 78		2.3		
P 79		2.1		
P 80		1.1		
P 81		0.84		
P 82		0.74		
P 84		0.05		
P 85		0.34		
P 86	1.7	0.3		
P 87		0.02		
P 88		0.2		
P 89		0.02		
P 90		0.02		
P 91		0.02		
R 18		0.02		
R 19		0.02		
R 20		0.02		
R 21		0.02		
R 22		0.02		
R 23		0.02		
R 24		0.02		
R 25		0.02		
R 26		0.02		
R 27		0.02		
R 28		0.02		
R 29		0.02		
R 30		0.05		
R 31		0.1		
R 32		0.1		
R 34		0.2		
R 35		2.0		
R 36	4	6.0		
R 37	11	15		
R 38	27	29		
R 39	73	56		
R 40	180	110		
R 41	320	230		
R 42	400	320		
R 43	400	410		
R 44	820	520		
R 45	490	680		
R 46	920	690		
R 47	820	680		
R 48	780	670		
R 49	650	570		
R 50	1,000	760		
R 51	1,300	670		
R 52	500	510		
R 53	490	570		
R 54	390	390		
R 55	440	430		
R 56	390	430		
R 57	280	260		
R 58	160	120		
R 59	54	51		
R 60	23	23		
R 61	21	16		
R 62	3.8	9.5		
R 63		6		
R 64	3.7	4.5		
R 65	0.66	2.6		
R 66	0.27	2.0		
R 67		1.8		
R 68		1.6		
R 69	0.1	1.4		
R 70	0.26	1.4		
R 71	0.15	1.2		
R 72		1.0		
R 73		0.9		
R 74		0.85		
R 75		0.7		
R 76		0.6		
R 77		0.5		
R 78		0.44		
R 79		0.42		
R 80		0.38		
S 10			0.55	0.14
S 18		0.35		
S 20		0.42	0.65	0.41
S 28		1.3		
S 29		1.6		
S 30			1.8	0.18
S 32		3.3		
S 33		4.5		
S 34	0.7	7.5		
S 35	18	18		
S 36	65	40		
S 37	101	76		
S 38	190	140		
S 39	305	240		
S 40	320	330	230	0.52
S 41	330	460		
S 42	350	720		
S 43	1,030	950		
S 44	1,260	970		
S 45	2,270	1,260		
S 46	3,000	1,130		
S 47	3,000	1,110		
S 48	2,100	970		
S 50	1,790	620	420	>1,000

TABLE E.2 SMALL BOY ON-SITE DOSES (Contd)

Films recovered at E, G, I, and K stations on D+3 days and from M through Z on D+4 days.

Station	LSD Beta r	LSD Gamma r	EURDL Gamma r	REECo Gamma r
S 51	1,720	580		
S 53	680	440		
S 54	570	280		
S 55	680	300		
S 56	870	340		
S 57	61	66		
S 58	6.7	28		
S 59	4.6	22		
S 60	2.9	18	13	100
S 61	2.0	15		
S 62	0.7	12		
S 63	0.5	11		
S 64		10		
S 65		7.1		
S 66		7.0		
S 67		5.5		
S 68		4.7		
S 69		3.8		
S 70			5.0	0.33
T 5		0.34	1.2	0.28
T 8		0.41		
T 9		0.48		
T 15	0.48	1.2	1.5	1.1
T 22		3.8		
T 23		4.4		
T 24		5.6		
T 25		6.0	5.8	4.6
T 26		8.0		
T 27		9.1		
T 28		11		
T 29		16		
T 30		20		
T 31		26		
T 32		32		
T 33		46		
T 34		60		
T 35	17	72	52	53
T 37	66	170		
T 38	350	460		
T 39	530	890		
T 40	340	1,300		
T 41	1,000	1,500		
T 42	500	1,600		
T 43		>3,000		
T 44		>3,000		
T 45		>3,000	>2,500	>1,000
T 46		>3,000		
T 47		>3,000		
T 48	300	600		
T 49	240	850		
T 50	280	590		
T 51	440	520		
T 52	1,200	640		
T 53	14	170		
T 54		140		
T 55		130	110	140
T 56		120		
T 57		110		
T 58		100		
T 59		100		
T 60		83		
T 61		73		
T 62		53	44	46
T 63		40		
T 64		27		
T 65		18		
T 66		15		
V 5			0.56	0.14
V 7			2.0	1.5
V 10		5.8		
V 11		8.6		
V 12		10		
V 13		12		
V 14		14		
V 15		16	21	140
V 16		19		
V 17		28		
V 18		32		
V 19		41		
V 20		56		
V 21		71		
V 22		99		
V 23		130		
V 24		160		
V 25		220	150	190
V 28		550		
V 29		560		
V 30		770		
V 31		1,000		
V 32		1,200		
V 34		>3,000		
V 35		>3,000	>2,500	2.8
V 36		>3,000		
V 37		>3,000		
V 38		>3,000		
V 39		>3,000		

Station	LSD Beta r	LSD Gamma r	EURDL Gamma r	REECo Gamma r
V 40		>3,000		
V 41		>3,000		
V 42	>3,000	3,000		
V 43	1,800	2,200		
V 44		2,700		
V 45		3,000		
V 46		1,700		
V 47		1,300		
V 48		1,000		
V 49			1,120	>1,000
V 50		1,000		
V 51		660		
Y 3			1.3	0.64
Y 9			4.1	3.8
Y 10		5.0		
Y 11		7.3		
Y 12		15		
Y 13		16		
Y 14		17	24	160
Y 15		23		
Y 16		30		
Y 17		42		
Y 18		57		
Y 19		80	71	68
Y 20		97		
Y 21		140		
Y 22		200		
Y 23		260	220	270
Y 24		360		
Y 25		270		
Y 26		640		
Y 27		1,100		
Y 28		1,200		
Y 29		2,000	1,750	>1,000
Y 30		>3,000		
Y 31		>3,000		
Y 32		>3,000		
Y 33		>3,000		
Y 46		>3,000		
Y 47		2,200		
Y 50		1,200		
Y 51		1,100		
Y 52		680		
Y 53		480		
Y 54		370		
Y 55		280		
Y 56		190		
Y 57		140		
Y 58		100		
Y 59		68		
Y 60		52		
Z 8		1,700		
Z 10			>2,500	>1,000
Z 14		590		
Z 15			338	[illegible]
Z 18		160		
Z 20		87	78	[illegible]
Z 21		61		
Z 23		14		
Z 37		>3,000		
Z 38		>3,000	>2,500	[illegible]
Z 39		>3,000		
Z 40		1,630		
Z 41		1,740		
Z 42		1,300		
Z 43		820	620	[illegible]
Z 44		621		
Z 45		428		
Z 47		241		
Z 48		166	140	[illegible]
Z 49		120		
Z 50		87		
Z 51		68		
Z 52		47		
Z 53		37		
Z 70		2,250		
Z 71		1,780		
Z 72		1,800	1,160	[illegible]
Z 73		1,150		
Z 74		800		
Z 75		580		
Z 76		430		
Z 77		310	610	[illegible]
Z 78		230		
Z 79		170		
Z 80		120		
Z 81		82		
Z 82		68		
Z 83		49		
Z 84		36		
Z 85		28		
Z 99		>3,000		
Z 100		2,700	>2,500	[illegible]
Z 101		2,600		
Z 102		1,400		
Z 103		1,115		

TABLE E.2 SMALL BOY ON-SITE DOSES

Films recovered at E, G, I, and K stations on D+3 days and from M through Z on D+4 days.

Station	LRD Beta r	LRD Gamma r	ELRIL Gamma r	REECo Gamma r
Z 104		720		
Z 105		580	350	560
Z 106		380		
Z 107		280		
Z 108		190		
Z 109		140		
Z 110		100	80	810
Z 131		1,950	1,400	>1,000
Z 132		1,500		
Z 133		980		
Z 134		620		
Z 135		500		
Z 136		340	240	300
Z 138		180		
Z 139		130		
Z 140		91		
Z 141		68		
Z 142		130		
Z 147		250		

TABLE E.3.1 OFF SITE RADIATION SURVEY ON ROUTE FROM AD TO AE

Distance from AD	D-10 Day Back-ground	D+1 Day		D+2 Days			D+4 Days		
		Time	Dose Rate Shield Closed	Time	Dose Rate Shield Open	Dose Rate Shield Closed	Time	Dose Rate Shield Open	Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr	mr/hr
5				1410		0.04			
7.5				1405		0.05			
10.0*	0.03								
13.5				1400		0.05	1500	0.2	
16.0	0.03								
16.5		1815	0.03						
17.0		0818	0.05						
17.5		0820	0.02						
17.8		0823	0.05						
18.0		0825	0.03						
18.5		0828	0.02	1350	0.04		1455	0.2	
19.0		0830	0.03						
19.5		0833	0.04						
19.8		0835	0.03						
20.0		0837	0.04						
20.5		0839	0.03						
21.0	0.01	0842	0.04						
21.5		0845	0.05						
21.8		0849	0.04						
22.0		0852	0.06						
22.5		0855	0.06						
23.0		0858	0.05						
23.5		0903	0.06	1340	0.07		1445	0.1	
23.8		0905	0.05						
24.0		0908	0.06						
24.5		0911	0.07						
25.0		0915	0.07						
25.5		0918	0.08						
25.8		0919	0.08						
26.0		0921	0.1						
26.5		0924	0.2						
27.0		0927	0.2	1328		0.1			
27.5		0930	0.3	1327		0.1	1440		0.1
27.8		0931	0.3						
28.0		0933	0.2	1325		0.1	1438		0.1
28.5		0935	0.2	1323	0.3	0.1	1436	0.1	0.1
29.0		0937	0.3	1321		0.2	1434		0.2
29.5		0939	0.3	1319		0.2	1432		0.1
29.8		0942	0.3						
30.0		0945	0.3	1317		0.3	1450		0.1
30.5		0948	0.3	1315		0.2	1340		0.1
31.0		0950	0.4	1314		0.2	1338		0.1
31.3		0953	0.5						
31.5		0955	0.5	1312		0.2	1337		0.1
32.0		0958	1.0	1310		0.3	1336		0.2
32.5		1001	1.5	1309		0.3	1334		0.2
33.0		1003	1.0	1307		0.4	1332		0.1
33.3		1005	1.5						
33.5	0.02	1008	1.0	1306	0.6	0.4	1330	0.3	0.1
34.0		1011	2.0	1304		0.6	1328		0.2
34.5		1013	1.5	1303		0.5	1327		0.2
35.0		1015	1.5	1301		0.6	1325		0.3
35.2		1017	1.0						
35.5*	0.1	1080	1.5	1300		0.6	1324		0.3
36.0		1083	1.0	1259		0.7	1322		0.3
36.5		1085	1.5	1257		0.6	1320		0.2
37.0		1027	1.5	1254		0.7	1318		0.3
37.3		1030	1.5						
37.5		1032	2.0	1253		0.5	1317		0.1
38.0		1035	1.0	1252		0.7	1316		0.2
38.5	0.01	1037	1.0	1251	1.7	0.6	1314	0.5	0.3
39.0		1039	1.5	1250		0.6	1311		0.3
39.5		1041	1.5	1248		0.6	1310		0.2
40.0		1043	1.3	1246		0.6	1309		0.3
40.5		1046	1.0	1245		0.5	1307		0.3
41.0		1048	1.0	1244		0.6	1305		0.1
41.5		1051	1.5	1243		0.6	1303		0.3
42.0		1053	1.5	1241		0.7	1301		0.2
42.5		1055	1.5	1240		0.7	1259		0.2
43.0		1058	1.3	1239		0.6	1257		0.3
43.5		1101	1.0	1238	1.7	0.7	1255	0.5	0.3
44.0		1103	1.2	1236		0.7	1254		0.3
44.5		1105	1.5	1235		0.4	1252		0.3
45.0		1107	1.0	1233		0.5	1251		0.2
45.5		1109	1.3	1232		0.6	1249		0.2
46.0		1112	1.5	1230		0.4	1247		0.3
46.5		1114	1.0	1229		0.6	1246		0.3
47.0		1117	1.0	1227		0.6	1244		0.1
47.5		1120	1.0	1225		0.6	1243		0.2
48.0		1123	1.5	1220		0.5	1241		0.2
48.5	0.05	1125	1.5	1218	1.6	0.5	1239	0.5	0.3
49.0		1127	1.0	1216		0.6	1237		0.3
49.5		1129	1.0	1215		0.6	1235		0.3
50.0		1131	1.0	1213		0.7	1233		0.2
50.5		1134	1.0	1211		0.8	1230		0.3
51.0		1136	1.0	1210		0.6	1228		0.3
51.5		1139	1.3	1208		0.6	1226		0.3
52.0		1142	1.0	1206		0.6	1225		0.3
52.5		1143	1.3	1205		0.6	1223		0.2
53.0		1145	1.0	1203		0.6	1221		0.3
53.5		1148	1.0	1201	1.3	0.6	1219	0.5	0.3
54.0		1151	0.8	1200		0.6	1215		0.2
54.5		1153	1.0	1158		0.5	1213		0.3
55.0		1155	1.0	1156		0.5	1211		0.3
55.5		1157	1.0	1154		0.5	1209		0.3
56.0		1159	0.8	1152		0.5	1207		0.2
56.5		1201	1.0	1150		0.4	1205		0.2
57.0		1204	0.5	1147		0.5	1204		0.1
57.5		1206	0.5	1145		0.4	1203		0.2
58.0		1207	0.7	1143		0.4	1202		0.1
58.5		1209	0.5	1140	1.0	0.3	1200	0.3	0.1

* Hidden Forest Road (AC).
* Toward AB.

TABLE E.3.2 OFF-SITE RADIATION SURVEY FROM AD TO AK

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr
0.0	0.01	0710	0.04	1445	0.02
0.5 to 1.5		0713 to 0716	0.03		
2.0 to 3.5		0718 to 0722	0.02		
4.0		0724	0.01	1435	0.02
4.5		0725	0.02		
5.0		0726	0.01		
5.5 to 8.0		0737	0.02		
8.5		0739	0.01		
9.0		0741	0.02	1425	0.02
9.5	0.01	0743	0.03		
10.0 to 12.5		0744 to 0752	0.02		
13.0		0753	0.01		
13.5		0755	0.02		
14.0		0756	0.02	1400	0.01
14.5	0.01	0759	0.01		
15.0 to 18.5		0802 to 0811	0.02		
19.0	0.02	0812	0.02	1356	0.02
19.5 to 22.0		0813 to 0820	0.02		
22.5 to 23.0		0822 to 0824	0.01		
23.5		0826	0.02		
24.0		0828	0.02	1345	0.02
24.5 to 28.5		0830 to 0845	0.02		
29.0		0851	0.02	1320	0.02
29.5	0.02	0852	0.02		
30.0 to 33.5		0855 to 0913	0.02		
34.0		0914	0.01	1300	0.02
34.5 to 38.5		0915 to 0926	0.02		
39.0		0928	0.02	1250	0.02
39.5	0.01	0929	0.02		
40.0 to 40.5		0931 to 0932	0.02		
41.0 to 41.5		0933 to 0934	0.01		
42.0 to 43.5		0935 to 0940	0.02		
44.0		0943	0.02	1237	0.02
44.5 to 48.0		0945 to 0955	0.02		

TABLE E.3.3 OFF-SITE RADIATION SURVEY FROM AK TO AJ

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr
0.0		1050	0.02		
0.5	0.02	1051	0.02	1143	0.02
1.0		1052	0.02		
2.0 to 5.0		1054 to 1100	0.01		
5.5		1100	0.01	1134	0.02
6.0 to 8.5		1102 to 1107	0.01		
9.0 to 10.0		1108 to 1111	0.02		
10.5		1112	0.02	1130	0.03
11.0	0.02	1113	0.02		
11.5 to 12.5		1114 to 1116	0.02		

TABLE E.3.4 OFF-SITE RADIATION SURVEY FROM AJ VIA AI TOWARD CALIENTE, NEVADA

Distance from AJ	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr
0		1118	0.02		
0.5		1119	0.02		
1.0		1120	0.03		
1.5		1125	0.04		
2.0		1130	0.04		
2.5		1136	0.04	1136	0.04
3.0		1137	0.05		
3.5		1139	0.04		
4.0		1141	0.05		
4.5		1143	0.05		
5.0		1145	0.04		
5.5		1147	0.05		
6.0		1148	0.05		
6.5		1149	0.05		
7.0		1150	0.07		
7.5		1152	0.06	1115	0.06
8.0	0.03	1154	0.06		
8.5		1155	0.07		
9.0		1156	0.1		
9.5		1159	0.1		
10.0		1200	0.1		
10.5		1201	0.1		
11.0		1203	0.08		
11.5		1204	0.08		
12.0		1205	0.06		
12.5		1207	0.06	1106	0.06
13.0	0.02	1209	0.06		
13.5		1230	0.06		
14.0		1231	0.05		
14.5		1234	0.05		
15.0		1236	0.05		
15.5		1238	0.05		
16.0		1241	0.06		
16.5		1244	0.06		
17.0		1245	0.05		
17.5		1246	0.06	1100	0.04
18.0		1247	0.05		
18.5		1248	0.05		
19.0		1249	0.06		
19.5		1250	0.06		
20.0		1252	0.06		
20.5		1254	0.07		
21.0		1258	0.06		
21.5		1259	0.06		
22.0		1300	0.06		
22.5		1302	0.08	1050	0.04
23.0		1305	0.08		
23.5		1308	0.05		
24.0		1312	0.05		
24.5		1315	0.05		
25.0		1317	0.06		
25.5		1318	0.05		
26.0		1319	0.06		
26.5		1320	0.04		
27.0		1322	0.04		
27.5		1232	0.04	1040	0.04
28.0	0.02	1324	0.04		
28.5		1326	0.04		
29.0		1327	0.05		
29.5		1329	0.03		
30.0		1331	0.04		
30.5		1333	0.03		
31.0		1334	0.04		
31.5		1337	0.04		
32.0		1339	0.04		
32.5		1340	0.04	1030	0.04
33.0		1341	0.04		
33.5		1342	0.04		
34.0		1348	0.05		
34.5		1349	0.05		
35.0		1350	0.05		
35.5*		1355	0.04		
36.0	0.03	1409	0.05		
36.5		1412	0.04	1017	0.06
36.5*				0945	0.08
37.0		1415	0.05		
37.5		1417	0.06		
38.0		1420	0.05		
38.5	0.03				
39				1010	0.06
41.5				1000	0.06
44	0.03			0950	0.03

* Elgin
* Chemile from Elgin toward NOAFR.

TABLE E.3.5 OFF-SITE RADIATION SURVEY ON ROUTE FROM AS VIA AG TO CALIENTE, NEVADA

Distance from AS	D-10 Day Back-ground	D+1 Day		D+2 Days			D+3 Days		
		Time	Dose Rate Shield Closed	Time	Dose Rate Shield Open	Dose Rate Shield Closed	Time	Dose Rate Shield Open	Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr	mr/hr
0	0.03	1211	1.0	1055		0.6	1115		0.3
0.5		1213	0.8	1052		0.4	1112		0.2
1.0		1216	0.8	1050		0.5	1109		0.1
1.5		1218	0.7	1048		0.4	1107		0.1
2.0		1220	0.7	1044		0.3	1104		0.3
2.5		1221	0.5	1042		0.4	1102		0.2
3.0		1223	0.5	1040		0.4	1100		0.2
3.5		1225	0.5	1037		0.2	1058		0.1
4.0		1227	0.5	1034		0.3	1056		0.2
4.5		1230	0.5	1032	0.8	0.4	1055	0.2	0.1
5.0		1233	0.4	1030		0.3	1053		0.1
5.5		1235	0.6	1028		0.2	1052		0.2
6.0		1237	0.5	1026		0.2	1050		0.2
6.5		1239	0.5	1024		0.3	1047		0.1
7.0		1241	0.4	1022		0.3	1046		0.1
7.5		1243	0.5	1020		0.4	1045		0.2
8.0		1246	0.6	1019		0.4	1044		0.3
8.5		1248	0.4	1017		0.3	1042		0.1
9.0		1250	0.4	1015		0.3	1040		0.2
9.5	0.03	1358	0.5	1013	1.0	0.4	1039	0.3	0.1
10.0		1351	0.8	1010		0.3	1038		0.3
10.5		1355	0.5	0997		0.3	1038		0.2
11.0		1357	0.4	0995		0.3	1035		0.1
11.5		1359	0.5	0993		0.4	1032		0.1
12.0		1401	0.5	0949		0.4	1031		0.2
12.5		1404	0.5	0946		0.3	1029		0.1
13.0		1407	0.4	0942		0.3	1027		0.1
13.5		1409	0.4	0939		0.3	1020		0.2
14.0		1508	0.3	0935	0.6	0.4	1015		0.2
14.5							1080	0.3	
19.5	0.03			0925	0.8		1600	0.2	
24.5				0915	1.0		0945	0.3	
29.5*				0905	0.5		0919	0.1	
30.5	0.04								
34.5				0855	0.3		0909	0.2	
39.5				0845	0.2		0900	0.08	
44.5							0845	0.04	

* = AG

TABLE E.3.6 OFF-SITE RADIATION SURVEY FROM ALAMO SOUTH VIA US 93

Distance from Alamo	UCLA Station Number	D-10 Day Back-ground	D+1 Day		D+2 Days	
			Time	Dose Rate Shield Closed	Time	Dose Rate Shield Open
miles		mr/hr	hours	mr/hr	hours	mr/hr
1.0			1152	0.1		
2.0			1150	0.14		
3.0			1147	0.2		
4.0			1145	0.32	1249	0.35
4.7	56-15				1252	0.41
5.0		< 0.5	1143	0.4		
6.0			1140	0.4		
7.0			1137	0.46		
7.3			1134	0.35		
8.0			1132	0.5		
8.5			1131	0.7		
8.6			1130	1.1	1258	1.3
9.0			1128	0.8	1301	1.3
9.5			1126	0.8		
10.0			1124	0.6		
10.3			1122	0.7		
10.6			1120	1.0	1305	1.0
11.0			1118	0.7		
11.5			1116	0.7		
12.0			1115	0.9		
12.5			1112	0.9		
12.8	56-11		1110	1.4	1312	1.7
13.0			1108	0.8		
13.5			1105	1.2		
14.0			1103	0.9	1314	0.9
14.5			1100	0.9		
15.0	56-10		1056	1.1	1316	1.3
15.5			1053	0.7		
16.0			1050	0.7		
16.5			1047	0.32		
17.0	56-9		1045	0.27	1322	0.38
17.5			1043	0.24		
18.0			1041	0.21		
18.5			1039	0.19		
18.9	56-8		1035	0.25	1327	0.28
19.0			1033	0.14	1328	0.26
19.5			1031	0.15		
20.0			1029	0.17		
20.5			1027	0.15		
20.9	56-7				1332	0.2
21.0		< 0.5	1024	0.17		
21.5			1021	0.15		
22.0			1018	0.17		
22.5			1016	0.16		
22.9	56-6		1014	0.17	1335	0.23
23.0			1011	0.13		
23.5			1009	0.1		
24.0			1007	0.12	1337	0.17
24.5			1004	0.11		
25.0	56-5		1002	0.1	1329	0.15
25.5			1000	0.08		
26.0			0958	0.07		
26.5			0955	0.08		
27.0	56-4		0953	0.07	1343	0.1
27.5			0950	0.05		
28.0			0946	0.05		
28.5			0945	0.04		
28.9	56-3		0940	0.05	1345	0.05
29.0					1346	0.05
31.0		< 0.5			1350	0.03
33.0					1353	0.03
41.0		< 0.5				

TABLE E.3.7 OFF-SITE RADIATION SURVEY FROM ALAMO NORTH VIA US 93 TO CALIENTE

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Open	D+5 Days Time	D+5 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr	hours	mr/hr
1.7		1200	0.11				
2.7		1202	0.09	1243	0.1		
3.7		1204	0.07				
4.7		1206	0.07				
5.7		1208	0.05				
6.7		1210	0.05				
7.7		1212	0.04	1237	0.07		
8.7	< 0.5						
18.7	< 0.5						
23						1359	0.02
27				1203	0.07		
28	< 0.5						
29		1318	0.07				
30		1320	0.1				
31		1325	0.16			1340	0.04
32		1328	0.22	1158	0.35		
33		1330	0.24				
34		1334	0.27			1334	0.06
35		1336	0.28				
36		1340	0.31				
37		1341	0.31	1151	0.42		
38	< 0.5	1345	0.3				
39		1349	0.25				
40		1351	0.25			1320	0.08
41		1354	0.3				
42		1357	0.27	1146	0:45	1314	0.08
43		1400	0.22				
44		1403	0.2			1310	0.08
45		1405	0.2				
46		1407	0.2				
47		1410	0.22	1140	0.38		
48	< 0.5	1414	0.18				
49		1417	0.15				
50		1420	0.1				
51		1422	0.08				
52		1425	0.08	1132	0.23		
55		1435	0.07			1247	0.02
56		1437	0.08				
57		1440	0.08	1126	0.1		

TABLE E.3.8 OFF-SITE RADIATION SURVEY FROM CALIENTE VIA US 93 TO AZ

Distance from Start	D-9 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Open	D+5 Days Time	D+5 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr	hours	mr/hr
1	< 0.5	1550	0.08	1101	0.12		
2		1552	0.07				
3		1554	0.01				
4		1556	0.07				
5		1557	0.06				
6		1600	0.06	1056	0.4		
7		1602	0.07			1040	0.02
8		1604	0.07				
9		1606	0.08				
10		1608	0.07				
11		1610	0.07	1050	0.15		
12	< 0.5	1612	0.06				
13		1614	0.07				
14		1616	0.06				

TABLE E.3.9 OFF-SITE RADIATION SURVEY FROM AZ NORTH TOWARD ELY, NEVADA

Distance from Start	USGS Station Number	D-8 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Closed	D+8 Days Dose Rate Shield Open
miles		mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
0.8	115-26		1223	0.08	1134	0.05	0.08
1.0			1225	0.08	1136	0.05	
2.0			1228	0.10	1138	0.05	
2.3	115-27		1230	0.06	1139	0.06	0.1
3.0			1232	0.07	1148	0.05	
3.3	115-28		1234	0.07	1150	0.05	0.06
4.0			1236	0.06	1155	0.05	
5.0			1238	0.05	1157	0.04	0.07
5.4	115-29		1240	0.08	1159	0.06	0.06
5.9			1242	0.05	1202	0.05	
6.9			1244	0.07	1205	0.05	
7.1	115-30		1245	0.07	1206	0.05	0.07
7.9			1248	0.06	1209	0.04	
9.0			1251	0.06	1212	0.06	
10.0		0.02	1253	0.07	1214	0.05	0.1
10.9			1256	0.07	1215	0.06	
11.9			1258	0.09	1219	0.07	
15.5			1313	0.10	1222	0.06	
16.6			1315	0.07	1224	0.06	
17.5			1317	0.07	1227	0.05	0.11
18.5			1319	0.10	1229	0.07	
19.5			1321	0.10	1231	0.06	
20.0		0.02					
20.5			1324	0.11	1233	0.06	
21.5			1325	0.09	1236	0.05	
22.5			1329	0.12	1239	0.07	0.1
23.5			1332	0.08	1246	0.05	
24.5			1334	0.09	1248	0.07	
25.5			1335	0.08	1250	0.06	
26.5			1337	0.08	1252	0.05	
27.5			1339	0.06	1255	0.05	0.1
28.5			1342	0.07			
29.5			1344	0.07			
30.0		0.03					
30.4			1346	0.06			
31.4			1348	0.07			
32.4			1350	0.06			
33.4			1352	0.06			

TABLE 2.3.9 (Cont'd)

Distance from Start	UCLA Station Number	D-8 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Closed	D+8 Days Dose Rate Shield Open
miles		mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
38.4[a]			1353	0.07			
39.4			1355	0.07			
36.4			1357	0.05			
37.4			1400	0.05			
38.4			1406	0.05			
39.4			1409	0.07			
40.0		0.01					
40.4			1411	0.05			
41.3			1413	0.07			
42.3			1415	0.05			
43.3			1417	0.05			
44.3			1419	0.05			
45.3			1421	0.06			
46.3			1423	0.07			
47.3			1424	0.07			
48.2			1426	0.06			
49.2			1428	0.07			
50.0		0.01					
50.2			1430	0.07			
51.2			1431	0.06			
52.2			1433	0.06			
53.2			1435	0.07			
54.2			1437	0.06			
55.2			1438	0.07			
56.2			1440	0.06			
57.2			1442	0.05			
58.2			1444	0.05			
59.2			1445	0.05			
60.0		0.01					
60.2			1447	0.06			
61.2			1449	0.06			
62.2			1451	0.07			
63.2			1453	0.05			
64.2			1455	0.06			
65.2			1457	0.05			
66.2			1459	0.06			
67.1			1500	0.07			
68.1			1502	0.05			
69.1			1504	0.06			
70.0		0.01					
70.1			1506	0.04			
71.1			1508	0.04			
72.1			1510	0.05			
73.1			1512	0.04			
74.1			1514	0.04			
75.1			1515	0.05			
76.1			1516	0.05			
77.1			1518	0.04			
78.1			1520	0.04			
79.1			1522	0.03			
80.0		0.04	1524	0.05			
81.0			1525	0.03			
82.0			1529	0.03			
83.0			1532	0.04			
83.9			1535	0.04			
85.0			1537	0.05			
86.0			1539	0.05			
87.0			1541	0.05			
87.9			1543	0.03			
88.8			1546	0.03			
90.0		0.04	1548	0.03			
90.9			1550	0.04			
91.9			1553	0.03			
92.9			1555	0.03			
93.9			1558	0.04			
94.9			1600	0.04			
95.9			1602	0.04			
96.9			1604	0.03			
97.9			1606	0.04			
98.9			1609	0.04			
99.9			1611	0.02			
100.0		0.04					
100.9			1614	0.02			
101.9			1616	0.02			
110.0		0.04					
120.0		0.06					

[a] Detour through Pioche.

TABLE 2.3.10 OFF-SITE RADIATION SURVEY FROM AX VIA AO TO CAMP, NEVADA

Distance from Start	UCLA Station Number	D-9 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Open	D+8 Days Dose Rate Shield Closed
miles		mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
	80-1		1030	0.01			
1		0.02	1032	0.02			
2	80-2		1034	0.02			
3 and 4			1036	0.02			
5			1038	0.02	1215	0.02	0.02
6			1039	0.02			
7	80-3		1040	0.02			
8 and 9			1042	0.02			
10	80-4		1043	0.02	1220	0.02	0.02
11		0.02	1044	0.02			
12			1045	0.02			
13	80-5		1046	0.02			
14			1047	0.02			
15			1048	0.02	1245	0.02	0.02
16	80-6		1049	0.02			
17 and 18			1052	0.02			
19	80-7		1054	0.02			
20		0.02	1055	0.02	1300	0.02	0.02
21[a]			1057	0.02			
22	80-8		1059	0.02			
23			1101	0.02			
24			1102	0.02			
25			1103	0.02	1315	0.02	0.02
26	80-9		1104	0.02			

TABLE E.3.10 (Cont'd)

Distance from Start	UCLA Station Number	D-9 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Open	D+8 Days Dose Rate Shield Closed
miles		mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
[illegible]			1105	0.02			
[illegible]	80-10		1108	0.02			
[illegible]		0.02	1110	0.02	1330	0.02	0.02
31 to 33			1112	0.02			
34	80-11		1114	0.02			
35			1115	0.02	1345	0.02	0.02
36			1116	0.02			
	80-12		1120	0.02			
	80-13		1125	0.02			
	80-14		1130	0.02			
	80-15		1135	0.02			

* AO

TABLE E.3.11 OFF-SITE RADIATION SURVEY FROM AS VIA US 91 TOWARD SV.

Distance from Start	D-11 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Closed	D+8 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
0		1300	0.01	1200	0.02	0.02
1	0.01	1301	0.01			
2 to 3		1302	0.02			
4				1145	0.02	0.02
5 to 8		1305	0.02			
9	0.01			1130	0.02	0.02
9 to 12*		1310	0.02			
14				1115	0.02	0.02
19	0.02					
21, 26.2				1100	0.02	0.02
28.2	0.02					
32.2, 37.5				1030	0.02	0.02
38.5	0.02					
42.4, 43.3				1000	0.02	0.02
48.3	0.02					
53.3				0930	0.02	0.02
58.2	0.01			0913	0.02	0.02
63.1				0900	0.02	0.02

* From Riverside toward Lake Mead.

TABLE E.3.12 OFF-SITE RADIATION SURVEY FROM AS TO AO

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr
1 to 7		0735	0.03
8 and 9		0740	0.02
10	0.03		
11 to 19		0800	0.02
20	0.02		
21 to 29		0815	0.02
30 and 31		0885	0.03
32 to 41		1000	0.02

TABLE E.3.13 OFF-SITE RADIATION SURVEY FROM ENTERPRISE, UTAH VIA UTAH 130, NEVADA 75, AND NEVADA 25 TO AS

Distance from Start	UCLA Station Number	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+8 Days Time	D+8 Days Dose Rate Shield Closed	D+8 Days Dose Rate Shield Open	D+5 Days Time	D+5 Days Dose Rate Shield Closed
miles		hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr
1		1085	0.03					
2.7		1089	0.03					
4.3		1092	0.03					
5.6		1095	0.03					
10.0	115-1	1044	0.03	0955	0.02	0.03		
11.4	115-2	1047	0.03	1000	0.03	0.05		
13.0	115-3	1052	0.03	1005	0.03	0.04		
14.5	115-4	1056	0.03	1016	0.03	0.03		
16.0	115-5	1100	0.03	1020	0.03	0.03		
17.6	115-6	1104	0.03	1023	0.03	0.03		
19.1	115.7	1108	0.04	1027	0.03	0.05		
20.6	115-8	1112	0.05	1030	0.03	0.05		
22.1	115-9	1116	0.05	1033	0.04	0.06		
23.7	115-10	1120	0.25	1038	0.04	0.06		
25.2	115-11	1124	0.06	1041	0.03	0.05		
26.6	115-12	1128	0.05	1044	0.04	0.06		
28.2	115-13	1132	0.06	1048	0.04	0.05		
29.8	115-14	1136	0.09	1051	0.04	0.06		
31.3	115-15	1140	0.07	1054	0.04	0.06		
32.8	115-16	1144	0.07	1058	0.04	0.05		
34.3	115-17	1148	0.08	1101	0.05	0.06		
35.9	115-18	1152	0.07	1105	0.04	0.06		
36.9*				1108	0.04	0.06		
37.1*		1653	0.04	1015	-	0.08	0955	0.03
38.1*		1650	0.05				0958	0.03
37.5	115-19	1647	0.06	1017		0.10	1000	0.03
37.7		1646	0.05					
38.7		1644	0.05					
39.0	115-20	1642	0.07	1021		0.10		
39.7		1640	0.06					
40.5	115-21	1638	0.07	1026		0.08		
41.0		1637	0.05	1027		0.13		
42.0	115-22	1634	0.05	1031		0.07		
43.0		1632	0.05					

TABLE E.3.13 (Contd)

Distance from Start	UCLA Station Number	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+4 Days Time	D+4 Days Dose Rate Shield Closed	D+4 Days Dose Rate Shield Open	D+5 Days Time	D+5 Days Dose Rate Shield Closed
miles		hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr
43.7	115-83	1630	0.08	1034		0.08		
43.8		1629	0.06					
44.6[a]		1626	0.06					
44.3	115-84	1625	0.08	1037		0.07		
45.8		1623	0.08	1039		0.16		
46.6		1621	0.07				1021	0.02
46.7	115-85	1620	0.09	1044		0.08		

[a] Junction of Nevada 25 and Nevada 73.
[b] 0.2 miles beyond junction of Nevada 25 and Nevada 73 toward Modena.
[c] 1.2 mile beyond junction of Nevada 25 and Nevada 73 toward Modena.

TABLE E.3.14 OFF-SITE RADIATION SURVEY FROM BEAVER, UTAH VIA UTAH 21 AND NEVADA 73 TO GR 6 AND 50

Distance from Beaver	UCLA Station Number	D-3 Day Back-ground	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+4 Days Time	D+4 Days Dose Rate Shield Closed	D+4 Days Dose Rate Shield Open
miles		mr/hr	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
1				1400	0.06	0800	0.03	0.05
2				1402	0.04	0802	0.035	0.06
3				1404	0.05	0804	0.045	0.04
4				1406	0.05	0806	0.03	0.04
4.3	200-2					0807	0.05	0.04
5				1408	0.06	0808	0.04	0.06
6.1				1410	0.06	0810	0.07	0.05
7.1			0.02	1412	0.06	0812	0.04	0.04
8.1				1414	0.05	0814	0.04	0.05
9.1				1416	0.05	0816	0.04	0.04
10.1				1418	0.06	0818	0.035	0.045
11.2				1420	0.06	0820	0.04	0.04
12.2				1422	0.03	0822	0.035	0.045
12.3	200-5					0822	0.035	0.04
13.2				1424	0.04	0824	0.03	0.04
14.2				1426	0.05	0826	0.03	0.045
15.3				1428	0.05	0828	0.03	0.03
16.3				1430	0.04	0830	0.045	0.03
17.3			0.03	1432	0.03	0832	0.04	0.03
18.3				1434	0.05	0834	0.03	0.04
19.4				1436	0.03	0836	0.03	0.04
20.1	200-8					0837	0.04	0.04
20.4				1438	0.04	0838	0.04	0.035
21.4				1440	0.035	0840	0.04	0.04
22.4				1442	0.03	0842	0.03	0.05
22.6	200-9					0842	0.03	0.045
23.5			—	1444	0.04	0844	0.035	0.04
24.5				1446	0.05	0846	0.035	0.04
25.5				1448	0.05	0848	0.03	0.04
26.5			0.03	1450	0.04	0850	0.03	0.04
27.5				1452	0.045	0852	0.03	
27.8	200-11					0853	0.03	
28.5				1454	0.04	1854	0.03	
29.6				1456	0.06	0856	0.03	
30.4	200-12					0857	0.045	
30.6				1458	0.05	0858	0.04	
31.6[a]								
32.6				1500	0.035			
32.9	200-13					1019	0.04	0.04
33.6				1502	0.03			
34.6				1504	0.04			
35.7	200-14			1506	0.06	1031	0.04[b]	0.04
36.7				1508	0.05	1034	0.04[b]	
37.8			0.01	1510	0.06			
38.0	200-15					1036	0.04	0.04
38.8				1512	0.06	1038	0.04[b]	
39.8				1514	0.08	1040	0.04[b]	
40.7	200-16			1515	0.07	1042	0.04	0.04
40.9				1516	0.06			
42.2				1518	0.07			
43.2				1520	0.08			
43.4	200-17			1521	0.08	1050	0.04	0.07
44.3				1522	0.07			
45.3				1524	0.06			
46.0	200-18			1525	0.06	1055	0.05	0.07
46.3				1526	0.06			
47.3				1528	0.06			
48.4			0.03	1530	0.07			
48.6	200-19			1531	0.08	1102	0.05	0.07
49.4				1532	0.07	1104	0.05[b]	
50.4				1534	0.06	1106	0.05[b]	
51.0	200-20			1535	0.07	1107	0.05	0.07
51.4				1536	0.07	1110	0.05[b]	
52.4				1538	0.07	1112	0.05[b]	
53.4				1540	0.06			
53.7	200-21			1541	0.07	1116	0.05	0.05
54.4				1542	0.04	1119	0.05[b]	
55.4				1544	0.05	1121	0.05[b]	
56.3	200-22			1545	0.05	1124	0.04	0.04
56.4				1546	0.05			
57.5				1548	0.06	1130	0.04[b]	
58.5			0.02	1550	0.05			
59.5				1552	0.04	1135	0.04[b]	
60.6				1554	0.07	1137	0.04[b]	
61.5	200-24			1555	0.04	1141	0.04	0.04
61.8				1556	0.05			
62.6				1558	0.05	1144	0.04[b]	
63.7				1600	0.04			
64.1	200-25			1601	0.04	1147	0.04	0.04
64.7				1602	0.04	1150	0.04	
65.8				1604	0.04	1153	0.04[b]	
66.6	200-26			1605	0.05	1156	0.04	0.04
66.8				1606	0.05			
67.6[c]								
67.8				1608	0.05	1200	0.04[b]	
68.8			0.02	1610	0.07	1203	0.04[b]	
69.2	200-27			1611	0.06	1210	0.04	0.04
69.8				1612	0.05			
70.8				1614	0.07	1213	0.04[b]	
71.8	200-28			1616	0.03	1227	0.04	0.04
72.8				1618	0.05			
73.8				1620	0.05	1233	0.04[b]	

TABLE 8.3.14 (Contd)

Distance from Begin miles	UCLA Station Number	D-3 Day Back-ground mr/hr	D-10 Day Back-ground mr/hr	D-1 Day Time hours	D-1 Day Dose Rate Shield Closed mr/hr	D-4 Days Time hours	D-4 Days Dose Rate Shield Closed mr/hr	D-4 Days Dose Rate Shield Open mr/hr
74.3	169-89			1601	0.04	1239	0.04	0.04
74.8				1628	0.04			
75.9				1684	0.05	1242	0.04[b]	
76.8	169-90			1686	0.05	1246	0.04[b]	
77.9				1688	0.05	1249	0.04[b]	
78.9				1690	0.04	1253	0.04[b]	
79.9		0.03		1692	0.035	1257	0.04[b]	
81				1694	0.04	1300	0.04[b]	
82				1696	0.045	1304	0.04[b]	
83				1698	0.04	1307	0.04[b]	
84				1640	0.05	1311	0.04[b]	
86.1				1644	0.05	1317	0.04[b]	
87.1				1646	0.04	1320	0.04[b]	
88.1				1648	0.035	1325	0.04[b]	
89.1				1650	0.035	1327	0.04[b]	
90.1		0.2		1652	0.04	1330	0.04[b]	
91.1				1654	0.04	1334	0.04[b]	
92.1				1656	0.045	1336	0.04[b]	
93.2				1658	0.04			
93.8						1343	0.04	
94.2				1700	0.04			
94.8						1347	0.04	
95.2				1702	0.045			
95.8						1350	0.04	
96.2				1704	0.045			
96.8						1353	0.03	
97.2				1706	0.04			
97.8						1356	0.03	
98.2				1708	0.05			
98.8						1400	0.03	
99.2				1710	0.045			
99.8						1403	0.03	
100.2		0.085		1712	0.04			
100.8						1407	0.03	
101.2				1714	0.035			
101.8						1411	0.03	
102.2				1716	0.05			
102.8						1413	0.03	
103.2				1718	0.095			
103.8						1417	0.03	
104.2				1720	0.035			
104.8						1421	0.03	
105.2				1722	0.04			
105.8						1426	0.03	
106.2				1724	0.045			
106.8						1431	0.03	
107.2				1726	0.04			
107.8						1435	0.03	
108.3				1728	0.03			
108.8						1439	0.03	
109.3[d]				1730	0.04			
111.4		0.085						
120.4		0.02						

[a] Milford.
[b] Within ± 0.3 miles of indicated mileage.
[c] AU.
[d] Garrison.

TABLE 8.3.15 OFF-SITE RADIATION SURVEY ON A CIRCLE ROUTE STARTING AT INTERSECTION OF USRE 19 AND USRE 56 VIA USRE 19 THROUGH LORD TO AT; WEST BY COUGAR SPAR MINE; SOUTH TO MOHAVE, VIA USRE 56 EAST TO START POINT (JCT USRE 56 AND 19).

Distance from Start miles	UCLA Station Number	D-11 Day Back-ground mr/hr	D-1 Day Time hours	D-1 Day Dose Rate Shield Closed mr/hr	D-4 Days Time hours	D-4 Days Dose Rate Shield Closed mr/hr	D-4 Days Dose Rate Shield Open mr/hr
1			0545	•			
2				•			
2.7	169-14		0549	0.085			
3				•			
4.1				0.03			
5.1				•			
5.2	169-15			•			
6.1				•			
7.1				•			
7.7	169-16			•			
8.1				•			
9.2				•			
10.1	169-17			•			
10.2		0.02	0606	0.03			
11.2				•			
12.2				•			
12.6	169-18			•			
13.3				•			
14.3				•			
15.0	169-19			•			
15.3				•			
16.3				•			
17.4				•			
17.5	169-20			•			
18.5				•			
19.5				•			
20.0	169-21			•			
20.5		0.03		•			
21.6				•			
22.6				•			
22.7	169-22			•			
23.6				•			
24.6				•			
25.3	169-23			•			
25.7				•			
26.7				•			
27.7				•			
27.8	169-24			•			
28.8				•			
29.8				•			
30.3	169-25			•			
30.8		0.02		•			
31.3[b]			0651	0.05			
32.8			0654	0.05			
33.8			0656	0.05			

TABLE E.3.15 (Cont'd)

Distance from Port miles	UCLA Station Number	D-11 Day Back-ground mr/hr	D+1 Day Time hours	D+1 Day Dose Rate Shield Closed mr/hr	D+8 Days Time hours	D+8 Days Dose Rate Shield Closed mr/hr	D+8 Days Dose Rate Shield Open mr/hr
30.4			0659	0.05			
30.4			0702	0.05			
30.4			0704	0.06			
31.4			0706	0.06			
32.4			0708	0.08			
33.4			0710	0.06			
34.4			0712	0.07			
35.4		0.02	0714	0.1			
36.4			0716	0.1			
43.9			0718	0.07			
44.9			0720	0.08			
45.9			0722	0.06			
46.9			0724	0.09			
47.9			0726	0.1			
48.9			0728	0.08			
49.9			0730	0.08			
50.9			0732	0.08			
51.9		0.02	0734	0.1			
52.9			0736	0.1			
53.9			0740	0.07			
54.9			0742	0.09			
55.9			0744	0.09			
56.9			0746	0.1			
57.7*			0748	0.1			
57.7			1856	0.08			
58.7			0750	0.08	1048	0.05	0.13
59.7			0752	0.09	1050	0.045	
60.7			0754	0.09	1052	0.04	
61.7		0.03	0756	0.09	1054	0.04	
62.7			0758	0.08	1056	0.05	
63.7			0800	0.1	1058	0.045	
64.7			0802	0.1	1100	0.05	
65.7			0804	0.1	1102	0.05	
66.7			0806	0.1	1104	0.06	
67.7			0811	0.07	1106	0.055	
68.7			0815	0.05	1108	0.045	
69.7			0823	0.08	1110	0.05	
70.7			0826	0.08	1112	0.04	
71.7		0.02	0830	0.1	1114	0.06	
72.6			0832	0.12	1116	0.05	0.1
73.7			0839	0.08	1118	0.06	
74.7			0842	0.09	1120	0.06	
75.7			0845	0.1	1122	0.05	
76.7			0847	0.09	1124	0.05	
77.7			0849	0.1	1126	0.06	0.06
78.7			0851	0.12	1128	0.05	
79.7			0853	0.1	1130	0.07	
80.7			0855	0.1	1132	0.06	
81.7		0.03	0857	0.13	1134	0.05	
82.7			0859	0.08	1136	0.05	0.12
83.7			0900	0.1	1138	0.06	
84.7			0902	0.13	1140	0.06	
85.7			0904	0.1	1142	0.08	
86.7			0906	0.1	1144	0.08	
87.7			0908	0.14	1146	0.06	0.03
88.7			0910	0.1	1148	0.055	
89.7			0912	0.12	1150	0.07	
90.7			0914	0.1	1152	0.065	
91.7			0916	0.11	1154	0.06	
92.7		0.02	0918	0.12	1156	0.065	0.11
93.7			0920	0.11	1158	0.07	
94.7			0922	0.1	1200	0.06	
95.7			0924	0.1	1202	0.07	
96.7			0926	0.1	1204	0.065	
97.7			0928	0.1	1206	0.07	
98.7			0930	0.1	1208	0.07	0.13
99.7			0934	0.11	1210	0.06	
100.7			0936	0.13	1212	0.065	
101.7			0938	0.11	1214	0.06	
102.7		0.03	0940	0.1	1216	0.065	
103.7			0942	0.12	1218	0.05	0.08
103.8			0944	0.1	1220	0.055	
105.0*			0945	0.11	1222	0.07	
106.0			0946	0.09	1224	0.06	
107			0948	0.07	1226	0.05	0.08
108			0950	0.07	1228	0.045	
109.1			0952	0.08	1230	0.06	
110.1			0954	0.07	1232	0.055	
111.1			0956	0.08	1234	0.04	
112.1		0.02	0958	0.07	1236	0.04	0.05
113.1			1000	0.07	1238	0.05	
114.1			1002	0.05	1240	0.055	
115.1			1004	0.05	1242	0.045	
116.1			1006	0.06	1244	0.05	
117.1			1008	0.06	1246	0.04	0.04
118.2			1010	0.06	1248	0.045	
119.4			1012	0.04	1250	0.04	
120.3			1014	0.05	1252	0.04	
121.4*			1016	0.05	1254	0.045	
122.5		0.035	1018	0.04	1256	0.03	0.05
123.5			1020	0.04	1258	0.035	
124.6				•	1300	0.035	
125.6			1024	0.04	1302	0.03	
126.6			1026	0.04	1304	0.03	
127.6				•	1306	0.03	0.035
128.7			1030	0.045	1308	0.035	
129.7				•	1310	0.04	
130.8			1034	0.04	1312	0.035	
131.8			1036	•	1314	0.04	
132.8		0.025		•	1316	0.035	0.04
133.9				•	1318	0.03	
134.9				•	1320	0.03	
135.9				•	1322	0.03	
137.0				•	1324	0.03	
138.0				•	1326	0.03	
139.0			1056	0.045	1328	0.03	
140			1058	0.04	1330	0.035	
141.1			1100	0.04	1332	0.03	
142.1				•	1334	0.03	
143.1		0.02	1104	0.05	1336	0.025	0.025
144.2				•	1338	0.03	
145.2			1108	0.04	1340	0.025	
146.2				•	1342	0.02	
147.2				•	1344	0.025	
148.3			1114	0.05	1346	0.03	0.03
149.3					1348	0.03	

TABLE 2.3.15 (Cont'd)

Distance from Start miles	UCLA Station Number	D-11 Day Background mr/hr	D+1 Day Time hours	D+1 Day Dose Rate Shield Closed mr/hr	D+4 Day Time hours	D+4 Day Dose Rate Shield Closed mr/hr	D+4 Day Dose Rate Shield Open mr/hr
130.3				[a]	1350	0.03	
132.7				[a]	1352	0.085	
134.4				[a]	1354	0.085	0.085
[illegible]		0.08		[a]	1356	0.085	
[illegible]			1126	0.04	1358	0.03	
[illegible]			1128	0.04	1400	0.03	
[illegible]				[a]	1402	0.085	
[illegible]			1132	0.04	1404	0.085	

[illegible]

[a] 0.05 mr/hr or less.
[b] Beam Stop Limits.
[c] See note "a" in Table 2.3.16 and location "A7" on map.
[d] Unknown.

TABLE 2.3.16 OFF-SITE RADIATION SURVEY FROM AU TO A7

Distance from Pad 21 miles	D-10 Day Background mr/hr	D+1 Day Time hours	D+1 Day Dose Rate Shield Closed mr/hr
1.1		1810	0.04
2.1		1812	0.05
3.1		1814	0.05
4.1		1816	0.035
5.1		1818	0.04
6.1		1820	0.04
7.1		1822	0.04
8.1		1824	0.05
9.1		1826	0.035
10.1	0.03	1828	0.06
11.1		1830	0.06
12.0		1832	0.07
13.1		1834	0.06
14.1		1836	0.05
15.1		1838	0.045
16.1		1840	0.07
17.1		1842	0.04
18.1		1844	0.08
19.1		1846	0.06
20.1	0.03	1848	0.05
21.1		1850	0.065
22.1		1852	0.07
23.1		1854	0.065
27.1[a]		1856	0.06

[a] Intersection with position 57.7 miles in Table 2.3.15.

TABLE 2.3.17 OFF-SITE RADIATION SURVEY FROM INTERSECTION OF GB 91 AND UCLA 18 NORTH VIA UCLA 18 TO A8[a]

Distance from Start miles	UCLA Station Number	D-9 Day Background mr/hr	D+1 Day Time hours	D+1 Day Dose Rate Shield Closed mr/hr	D+4 Days Time hours	D+4 Days Dose Rate Shield Closed mr/hr	D+4 Days Time hours	D+4 Days Dose Rate Shield Closed mr/hr
1			1828	0.08	0915	0.04	1526	0.08
2	132-2		1830	0.14	0917	0.06	1528	0.08
3			1832	0.15	0980	0.04	1530	0.08
4			1834	0.15	0983	0.04	1532	0.08
5			1836	0.16	0985	0.04	1534	0.08
6	132-3	0.12	1838	0.18	0986	0.045	1536	0.05
7			1840	0.15	0988	0.035	1538	0.05
8			1842	0.17	0989	0.03	1540	0.05
9	132-6		1844	0.18	0990	0.03	1542	0.05
10			1846	0.18	0992	0.04	1544	0.08
11	132-7		1848	0.18	0994	0.04		
12			1850	0.20	0996	0.055	1548	0.08
13	132-8		1852	0.18	0998	0.05	1550	0.05
			1134	0.12				
14			1854	0.18	0940	0.06	1552	0.08
15			1856	0.19	0942	0.03	1554	0.10
16	132-9		1858	0.19	0943	0.05	1556	0.12
			1140	0.13				
17			1859	0.21	0945	0.05	1558	0.12
18	132-10		1902	0.21	0947	0.04	1600	0.12
			1143	0.14				
19			1903	0.21	0949	0.15	1602	0.14
20			1905	0.21	0951	0.04	1604	0.14
21	132-11		1908	0.22	0953	0.04	1606	0.12
			1146	0.11				
22			1909	0.22	0955	0.06	1608	0.12
23	132-12		1912	0.27	0957	0.15	1610	0.14
24			1914	0.23	1000	0.06	1612	0.14
25			1915	0.23	1002	0.05	1614	0.15
26	132-13		1918	0.23	1004	0.06	1616	0.15
27			1920	0.23	1006	0.035	1618	0.18
28	132-14		1922	0.23	1008	0.15	1620	0.18
29			1924	0.24	1010	0.18	1622	0.17
30	132-15		1926	0.24	1014	0.15	1624	0.17
31			1928	0.24	1016	0.23	1626	0.16
32		0.20	1930	0.24	1018	0.14	1628	0.16
33	132-16		1932	0.24	1020	0.12	1630	0.16
34			1934	0.25	1022	0.12	1632	0.16
35	132-17		1936	0.26	1024	0.11	1634	0.16
36			1940	0.26	1026	0.22	1636	0.16
37[b]			1942	0.26	1028	0.05	1638	0.20
38	132-18		1944	0.26	1030	0.08	1640	0.20
39	132-19		1946	0.26	1032	0.075	1642	0.20
40			1948	0.26	1034	0.05	1643	0.20
41	132-20		1950	0.26	1036	0.05	1644	0.20
42			1952	0.26	1038	0.06	1648	0.20
43	132-21		1954	0.28	1040	0.05	1650	0.20
44			1958	0.28	1042	0.07	1652	0.08
45	132-22		2000	0.28	1044	0.075	1654	0.05
46		0.20	2002	0.30	1046	0.075	1656	0.05
47			2004	0.30	1048	0.075	1658	0.05
48			2006	0.24	1050	0.06	1700	0.05
49			2008	0.20	1052	0.07	1702	0.05

[a] This data not used in the construction of off-site contours.
[b] Enterprise.

TABLE 2.3.18 OFF-SITE RADIATION SURVEY FROM HURRICANE VIA UDAS 15 THROUGH CE VIA US 91 TO ST[illegible]

Distance from Start	UCLA Station Number	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles		mr/hr	hours	mr/hr	hours	mr/hr
[illegible]		0.05	0888	0.15	1424	0.05
[illegible]			0886	0.15	1426	0.05
[illegible]			0884	0.15	1428	0.03
[illegible]	165-2		0882	0.18	*	*
[illegible]			0880	0.15	1430	0.05
[illegible]			0918	0.15	1432	0.04
[illegible]			0915	0.2	1434	0.04
[illegible]			0913	0.2	1436	0.04
[illegible]	165-3		0911	0.2	*	*
9			0910	0.2	1440	0.08
9.5			0908	0.18	1442	0.1
10.5			0900	0.2	1444	0.1
11.5			0856	0.05	1446	0.09
12.5			0854	0.04	1448	0.08
13.5		0.02	0852	0.03	1450	0.08
14.5			0850	0.13	1452	0.08
15.5			0848	0.05	1454	0.08
16.5			0848	0.04	1456	0.08
17.5			0846	0.04	1458	0.08
18.5			0844	0.04	1500	0.08
19.5			0842	0.02	1502	0.08
20.5			0820	0.03	1504	0.1
21.5			0818	0.03	1506	0.1
22.5			0816	0.03	1508	0.08
23.5			0814	0.04	1509	0.05
24.5			0812	0.04	1510	0.05
25.5			0811	0.05	1512	0.05
26.5			0809	0.1	1514	0.05
27.5			0807	0.1	1516	0.05
28.5			0805	0.1	1518	0.05

* This data not used in the construction of off-site contours.
* Andersen Junction (CE).

TABLE 2.3.19 OFF-SITE RADIATION SURVEY FROM CE VIA US 91 TO CEDAR CITY, UTAH*

Distance from Start	UCLA Stations	D+1 Day Time	D+1 Day Dose Rate Shield Closed
miles		hours	mr/hr
1		1052	0.05
2		1054	0.06
3		1056	0.05
4		1058	0.06
5		1100	0.12
6		1102	0.10
7		1104	0.06
8		1106	0.12
9		1108	0.08
10		1110	0.08
11		1112	0.06
12		1114	0.10
13		1115	0.10
14		1117	0.10
15		1119	0.05
16		1122	0.07
17		1124	0.06
18		1126	0.08
19	165-7	1128	0.10
20*		1130	0.10
21		1132	0.08
22	165-8	1134	0.12
23		1136	0.12
24		1138	0.12
25	165-9	1140	0.13
26		1142	0.13
27	165-10	1143	0.14
28		1144	0.12
29	165-11	1146	0.11
30		1148	0.14
31		1150	0.14
32		1152	0.15
33		1154	0.15

* This data not used in the construction of off-site contours.
* Near Kanarraville.

TABLE 2.3.20 OFF-SITE RADIATION SURVEY FROM THE INTERSECTION OF US 91 AND UDAS 56 AT CEDAR CITY NORTH TO BEAVER, UTAH

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	Distance from Starting Point	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	miles	mr/hr	hours	mr/hr
1.8			*	21.9		1258	0.05
2.8		1214	0.04	22.9		1300	0.04
3.8			*	23.9		1302	0.04
4.9		1218	0.05	25.9		1304	0.05
5.9		1220	0.05	26.9		1306	0.05
6.9	0.02	1222	0.06	28.0		1308	0.03
7.9		1224	0.06	29.0	0.01	1310	0.04
8.9		1226	0.04	30.0		1312	0.04
9.9		1228	0.04	31.0		1314	0.07
10.9		1230	0.05	32.0		1316	0.04
11.9			*	33.0		1318	0.05
12.9		1234	0.05	34.0		1320	0.04
13.9			*	35.0		1322	0.05
14.9		1238	0.04	36.0		1324	0.04
15.9			*	37.0		1326	0.05
16.9	0.02	1240	0.05	38.0*		1328	0.04
17.9		1242	0.05	39.0	0.015	1330	0.05
19.9		1244	0.04	40.0		1332	0.04
20.9		1246	0.04	41.1		1334	0.04

TABLE E.3.20 (Cont'd)

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	Distance from Starting Point	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	miles	mr/hr	hours	mr/hr
46.1		1336	0.05	48.2		1348	0.05
46.2		1338	0.04	49.2	0.015	1350	0.05
46.3		1340	0.05	50.2		1352	0.04
46.1		1342	0.05	51.2		1354	0.05
46.1		1344	0.04	52.2		1356	0.05
47.2		1346	0.04	53.2		1358	0.05

* 0.03 mr/hr or less.
* Intersection of Utah 20.

TABLE E.3.21 OFF-SITE RADIATION SURVEY FROM JUNCTION OF US 89 AND UTAH 13, WEST VIA UTAH 13 TO JUNCTION WITH US 91, SOUTH VIA US 91 TO BEAVER, UTAH

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+5 Days Time	D+5 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
0		1245	0.04	1315	0.03
0.8	0.03	1247	0.04		0.03
1.8		1249	0.05	1330	0.03
2.9		1251	0.05		0.03
3.9		1253	0.05		0.03
4.9		1255	0.05	1335	0.04
6.0		1257	0.04		0.04
7.0		1259	0.05		0.04
8.0		1301	0.04	1340	0.04
9.1		1303	0.05		0.04
10.1		1305	0.05		0.04
11.1	0.04	1307	0.05		0.04
12.2		1309	0.04	1345	0.04
13.2		1311	0.04		
14.3		1313	0.04		0.04
15.3		1315	0.05		0.04
16.4		1317	0.06	1350	0.04
17.4		1319	0.05		0.04
18.4		1320	0.05		0.04
19.5		1321	0.05		0.04
20.4*					
20.5		1322	0.06	1355	0.04
21.4		1324	0.05		0.04
22.4		1326	0.06		0.04
23.4		1328	0.05		0.04
24.4	0.03	1330	0.05	1400	0.04
25.4		1332	0.06		0.04
26.4		1334	0.05		0.04
27.4		1336	0.05	1405	0.04
28.4		1338	0.06		0.04
29.4		1340	0.06		0.04
30.4		1342	0.05		0.04
31.4		1344	0.06	1410	0.04
32.4		1346	0.06		0.04
33.4		1348	0.05		0.04
34.4	0.04	1350	0.05	1415	0.04
35.4		1352	0.05		0.04
36.4		1354	0.05		0.04
37.4		1356	0.06	1420	0.04
38.4		1358	0.05		0.04
39.4		1400	0.05		0.04
40.4		1402	0.05	1425	0.04
41.4		1404	0.05		0.04
42.4		1406	0.06		0.04
43.4		1408	0.06		0.04
44.2		1410	0.04	1430	0.04

* Junction of US 91 and Utah 13.

TABLE E.3.22 OFF-SITE RADIATION SURVEY FROM JUNCTION OF US 6 AND 50 AND UTAH 140 AT KIRKLEY, UTAH, SOUTH VIA UTAH 140 AND UTAH 257 TO MILFORD, UTAH

Distance from Start	D-3 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+5 Days Time	D+5 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
5.2	0.02	1656	.04	2217	.04
6.3		1654	.05		.04
7.3		1652	.05		.04
8.3		1650	.05		.04
9.3		1649	.05		.04
10.4		1647	.06	2225	.04
11.4		1645	.06		.04
12.4		1643	.06		.04
13.4		1641	.06		.04
14.4	0.03	1639	.06		.04
15.5	0.03	1637	.05		.04
16.5		1635	.06	2230	.04
17.0*					
17.5		1633	.06		.05
18.5		1631	.06		.05
19.6		1629	.05		.05
20.6		1627	.05	2240	.05
21.6		1623	.07		.05
22.6		1621	.07		.05
23.6		1619	.06		.05
24.7	0.02	1617	.08		.05
25.7		1615	.08	2250	.03
26.7		1614	.06		.03
27.8		1613	.07		.03
28.8		1612	.06		.04
29.8		1610	.06		.04
30.8		1608	.06		.04
31.8		1606	.06	2305	.04
32.8		1604	.05		.04
33.9		1602	.05		.03

TABLE E.3.22 (Contd)

Distance from Start	D-3 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+4 Days Time	D+4 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
34.9		1600	.05		.03
35.9		1558	.06		.03
36.9		1556	.06		.03
37.9		1555	.06		.03
39.0	0.02	1554	.06		.03
40.0		1553	.05	2330	.03
41.0		1552	.05		.03
42.1		1551	.05		.03
43.1		1549	.05		.03
44.1		1547	.05		.03
45.1		1544	.05		.03
46.1		1542	.05		.03
47.2	0.01	1540	.05		.03
48.2		1538	.05		.03
49.2		1536	.05		.03
49.7[a]					
50.2		1534	.05	2345	.03
51.3		1532	.05	2350	.03
52.3		1530	.05		.03
53.3		1528	.06		.03
54.3		1527	.05		.03
55.3		1525	.05		.04
56.3	0.03	1523	.04		.04
57.4		1521	.05	0010	.04
58.4		1519	.05		.04
59.4		1517	.05		.04
60.4		1515	.05		.04
61.5		1513	.05		.04
62.5		1511	.05		.04
63.5		1509	.05		.04
64.5		1507	.06		.04
65.5	0.02	1505	.06		.03
66.5		1503	.06		.03
67.6		1501	.05	0020	.03
68.6		1500	.05		.03
69.6		1458	.05		.03
70.6		1456	.06		.03
71.2	0.03	1454	.04		.03
71.6		1452	.03	0030	.03

[a] Clear Lake.
[b] Black Rock.

TABLE E.3.23 OFF-SITE RADIATION SURVEY FROM JUNCTION OF US 91 AND UTAH 13 AT COVE FORT, UTAH; NORTH VIA US 91 TO NEPHI, UTAH; WEST VIA UTAH 132 AND US 6 AND 50 TO UTAH 140 AT HINCKLEY

Distance from Start	D-3 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+2 Days Time	D+2 Days Dose Rate Shield Closed	D+2 Days Dose Rate Shield Open	D+5 Days Time	D+5 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr
0.0		1658	0.05					
1.0							1455	0.04
2.0				1730	0.08	0.10		
2.1		1655	0.05				-	0.04
3.0							-	0.04
3.2		1652	0.08					
4.0							-	0.04
4.2				1726	0.04			
5.0							1510	0.04
5.3		1649	0.05					
6.0							-	0.04
6.3				1723	0.04	0.09		
6.8							-	0.04
7.4		1646	0.06					
8.0							-	0.04
8.4				1718	0.05			
9.0							1515	0.04
9.5		1643	0.08					
10.0	0.04						-	0.04
10.9							-	0.04
11.6				1715	0.06	0.08		
12.0		1640	0.06					
12.1							-	0.04
13.1							1520	0.04
14.1				1712	0.05		-	0.04
14.9							-	0.04
16.0							-	0.04
16.2		1637	0.09					
17.0							-	0.04
18.0							-	0.04
18.3				1708	0.05	0.10		
19.1							1530	0.04
20.4		1634	0.11					
21.0	0.03						-	0.04
22.0							-	0.04
22.9				1705	0.07			
23.0							1535	0.04
24.0							-	0.04
24.7		1631	0.05					
25.0				1702	0.06	0.08	-	0.04
26.0								0.04
26.4		1628	0.08					0.04
27.0				1658	0.04			0.04
27.1								
28.3							1540	0.04
28.9		1620	0.08					
29.3	0.03						-	0.04
30.1				1655	0.04	0.08		
30.5							-	0.04
31.6							1550	0.04
32.8		1616	0.08					
32.2				1552	0.05			
32.8							-	0.04
33.5							-	0.04
33.9		1613	0.10					
34.2							1600	0.04
34.3				1649	0.06	0.10		
34.5[a]								
38.0		1608	0.08					
36.4							-	0.04
36.6				1645	0.05			
37.4							-	0.04
38.3							1620	0.04

TABLE E.3.33 (Cont'd)

Distance from Start miles	D-3 Day Back-ground mr/hr	D+1 Day Time hours	D+1 Day Dose Rate Shield Closed mr/hr	D+8 Days Time hours	D+8 Days Dose Rate Shield Closed mr/hr	D+8 Days Dose Rate Shield Open mr/hr	D+5 Days Time hours	D+5 Days Dose Rate Shield Closed mr/hr
38.4		1606	0.08	1642	0.08	0.07	1630	0.04
38.8								0.04
40.0	0.03							
40.4								
40.5		1603	0.08	1638	0.06		-	0.04
40.9							-	0.04
41.3								
42.5								
42.6		1555	0.05	1612	0.04	0.07	1635	0.04
43.1		1550	0.08				-	0.04
43.4								
44.5				1609	0.05			
44.7		1547	0.05	1606	0.06	0.08	-	0.04
45.6								
46.0				1603	0.05		-	0.04
46.8								
47.4								
48.3		1540	0.05				1640	0.04
48.4								
48.9		1537	0.05				-	0.04
49.4				1558	0.06	0.10	-	0.04
50.4								
51.0		1535	0.05				-	0.04
51.3							1645	0.04
52.3				1555	0.06			
52.7								
53.1		1532	0.05				-	0.04
53.5							-	0.04
54.4				1553	0.06	0.11		
54.8								
55.2		1528	0.05				-	0.04
55.4							1690	0.04
56.4				1550	0.05		1655	0.04
57.3		1525	0.07					
57.8								0.03
58.3								0.03
59.3	0.02			1546	0.05	0.10		
59.4[a]							1715 to 1725	0.03
60.3 to 67.2								0.03
68.3	0.03						1725 to 1735	0.03
69.5 to 76.2								0.03
77.3	0.03						1800 to 1910	0.03
78.4 to 88.4								0.03
89.3	0.03						1920 to 1935	0.03
90.3 to 96.3								0.03
97.3[b]	0.03						1940 to 1955	0.03
99.3 to 104.4								0.03
105.4	0.02						2010 to 2080	0.03
106.4 to 113.5								0.03
114.5	0.03						2085 to 2100	0.03
115.5 to 123.6								0.03
124.6	0.03						2105 to 2125	0.03
125.6 to 131.8								0.03
132.9[c]	0.02						2135	0.03
133.5 to 134.5							2140 to 2150	0.04
135.5 to 137.8							2155	0.04
148.9	0.03						2160 to 2218	0.04
151.0 to 157.0								

[a] Fillmore.
[b] Delta.
[c] Nephi.
[d] Junction Utah 132 and US 6 and 50.

TABLE E.3.34 OFF-SITE RADIATION SURVEY FROM JCT US 91 AND US 89 AT SPRINGVILLE, UTAH; SOUTH VIA US 91 TO JCT US 91 AND UTAH 11; SOUTHEAST VIA UTAH 11 TO JCT UTAH 11 AND US 89 (NEAR MENDON).

Distance from Start miles	D+4 Days Time hours	D+4 Days Dose Rate Shield Closed mr/hr
0.2	1726	0.03
1.2	1728	0.10
2.2	1730	0.05
3.2	1731	0.05
6.2	1737	0.03
7.2	1739	0.06
8.2	1740	0.03
9.2	1741	0.04
10.2	1742	0.01
11.3	1743	0.02
12.2	1748	0.03
13.2	1749	0.04
14.2	1750	0.03
17.2	1751	0.05
18.2	1752	0.04
19.2	1754	0.05
20.3	1755	0.06
21.2	1756	0.05
22.3	1757	0.05
23.2	1758	0.04
24.2	1759	0.01
25.4	1800	0.03
26.4	1801	0.06
27.4	1802	0.03
28.4	1803	0.05
29.4	1804	0.04
31.4	1806	0.05

Distance from Start miles	D+4 Days Time hours	D+4 Days Dose Rate Shield Closed mr/hr
32.5	1807	0.06
33.5	1808	0.03
34.5	1809	0.03
35.5	1810	0.03
36.5	1811	0.02
37.5	1812	0.04
39.4[a]		
40.5	1817	0.04
41.5	1818	0.05
42.5	1819	0.03
43.6	1820	0.06
44.6	1821	0.03
45.6	1822	0.04
46.6	1823	0.05
47.6	1824	0.03
48.6	1825	0.04
49.6	1826	0.06
50.6	1827	0.05
51.8	1828	0.04
52.8	1829	0.06
55.2	1832	0.02
57.2	1834	0.06
59.2	1836	0.06
61.2	1838	0.04
64.9	1842	0.04
67.6	1844	0.05
70.8	1847	0.05

[a] NEPHI.

TABLE E.3.25 OFF-SITE RADIATION SURVEY FROM BC WEST VIA UTAH 22 TO BB; NORTH VIA US 89 TO SALINA, UTAH

Distance from Start	D-10 Day Back-ground	D-11 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+2 Days Time	D+2 Days Dose Rate Shield Closed	D+2 Days Dose Rate Shield Open	D+3 Days Time	D+3 Days Dose Rate Shield Closed	D+5 Days Time	D+5 Days Dose Rate Shield Closed	D+5 Days Dose Rate Shield Open
miles	mr/hr	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
0	0.02		1035	0.04				1315	0.04			
0.1			1037	0.03				1317	0.04			
1.1			1039	0.03				1318	0.04			
2.1			1041	0.03				1320	0.04			
3.1			1043	0.03				1322	0.04			
4.2			1045	0.05				1324	0.04			
5.2			1047	0.05				1326	0.03			
6.2			1049	0.04				1328	0.03			
7.3			1051	0.04				1329	0.03			
8.3			1053	0.04				1331	0.03			
9.3			1055	0.04				1333	0.03			
10.4			1057	0.04				1335	0.03			
11.4			1059	0.03				1337	0.03			
12.9			1100	0.03				1341	0.03			
14.9	0.02		1101	0.03				1343	0.03			
15.9			1103	0.04				1345	0.03			
17.0[a]			1104	0.04				1347	0.04			
18.0			1106	0.04				1349	0.04			
19.1			1108	0.04				1350	0.04			
20.1			1110	0.04				1351	0.04			
21.1			1111	0.04				1353	0.04			
22.2			1113	0.04				1355	0.04			
23.2			1115	0.04				1357	0.04			
24.2			1116	0.04				1358	0.04			
25.3			1117	0.04				1400	0.04			
26.3			1118	0.04				1401	0.04			
27.3	0.02		1120	0.04				1403	0.04			
28.4			1121	0.05				1405	0.04			
29.4			1122	0.04				1407	0.04			
30.5			1124	0.04				1408	0.04			
31.5			1126	0.04				1410	0.04			
32.5			1128	0.04				1411	0.04			
33.6			1130	0.04				1412	0.04			
34.6			1133	0.05				1414	0.04			
35.6			1135	0.04				1416	0.04			
36.7			1137	0.04				1418	0.04			
37.7			1139	0.04				1419	0.04			
38.7			1141	0.04				1420	0.04			
39.8			1143	0.05				1421	0.04			
40.8			1145	0.04				1422	0.04			
41.8			1147	0.03				1423	0.04			
42.9	0.02		1149	0.04				1425	0.04			
43.9			1151	0.04				1427	0.04			
44.9			1153	0.04				1429	0.04			
46.0			1155	0.04				1431	0.04			
47.0			1157	0.04				1433	0.04			
48.0			1159	0.04				1435	0.04			
49.1			1201	0.04				1437	0.04			
50.1			1203	0.05				1439	0.04			
51.1			1205	0.04				1441	0.04			
52.2			1207	0.04				1443	0.04			
53.2			1209	0.04				1445	0.04			
54.2	0.02		1211	0.04				1447	0.04			
55.3			1213	0.04				1449	0.04			
56.3			1215	0.04				1453	0.04			
57.9		0.03										
64.1			0743	0.03	0843	0.03	0.07			0831	0.01	0.03
66.2		0.03	0745	0.03	0846	0.05				0834	0.03	0.07
68.3			0747	0.03	0849	0.06	0.15			0836	0.02	0.06
70.3			0750	0.04	0852	0.04				0840	0.02	0.04
72.4			0752	0.04	0854	0.06	0.12			0843	0.02	0.05
74.5			0755	0.04	0857	0.06				0845	0.03	0.07
75.1[b]												

[a] BB.
[b] Salina.

E.3.26 OFF-SITE RADIATION SURVEY FROM KANAB, UTAH VIA US 89 TO BW*

Distance from Start	D+1 Day Time	D+1 Day Dose Rate Shield Closed
miles	hours	mr/hr
1	1606	0.18
2	1608	0.20
3	1610	0.22
4	1612	0.22
5	1614	0.21
6	1616	0.23
7	1618	0.22
8	1619	0.22
9	1622	0.22
10	1624	0.22
11	1626	0.22
12	1628	0.20
13	1630	0.24
14	1632	0.24
15	1634	0.19
16	1636	0.20
17	1640	0.20

* This data not used in the construction of off-site contours.

TABLE E.3.27 OFF-SITE RADIATION SURVEY FROM JK VIA US 89 TO UTAH 20

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
0.6		0658	0.03	0915	0.04
1.6		0659	0.03	0917	0.04
2.6		0701	0.03	0919	0.04
3.7		0703	0.03	0921	0.04
4.7		0704	0.03	0923	0.04
5.8		0706	0.03	0925	0.04
6.8		0708	0.04	0927	0.04
7.8		0709	0.03	0929	0.04
8.9	0.03	0711	0.03	0931	0.04
9.9		0713	0.04	0933	0.04
11.0		0715	0.04	0935	0.04
12.0		0718	0.03	0937	0.04
14.1		0800	0.03	0939	0.04
15.2		0803	0.03	0940	0.04
16.2		0805	0.03	0941	0.04
17.2		0807	0.03	0947	0.04
18.2		0809	0.03	0949	0.03
19.2		0812	0.04	0953	0.03
20.2*	0.02	0815	0.04	1005	0.03
21.3		0816	0.03	1007	0.03
22.3		0817	0.03	1009	0.03
23.3		0819	0.04	1012	0.03
24.6		0822	0.04	1015	0.03
25.6		0824	0.04	1017	0.03
26.7		0826	0.04	1019	0.03
27.7		0828	0.04	1021	0.03
29.9		0830	0.04	1023	0.03
30.9	0.02	0832	0.04	1030	0.03
31.9		0834	0.04	1036	0.03
33.0		0836	0.04	1038	0.03
34.0		0838	0.04	1040	0.03
35.0		0840	0.04	1042	0.03
36.1		0842	0.04	1044	0.03
37.1		0844	0.04	1046	0.03
38.2		0846	0.03	1048	0.03
39.2		0848	0.03	1049	0.03
40.3	0.03	0850	0.03	1051	0.04

* BL

TABLE E.3.28 OFF-SITE RADIATION SURVEY FROM JK VIA UTAH 14 TOWARD CEDAR CITY

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
0.2		0657	0.03	0855	0.03
1.2		0655	0.03	0850	0.03
2.2	0.03	0654	0.04	0849	0.03
3.2		0652	0.03	0847	0.04
4.2		0650	0.03	0843	0.03
5.2		0648	0.04	0841	0.03
6.2		0647	0.03	0839	0.03
7.2		0645	0.03	0837	0.03
8.2		0644	0.04	0835	0.03
9.2		0643	0.04	0832	0.04
10.2		0640	0.03	0830	0.04
11.2		0638	0.03	0829	0.05
12.2	0.04	0637	0.04	0827	0.03
13.2		0635	0.03	0825	0.03
14.2		0633	0.03	0815	0.04
15.2		0631	0.04	0753	0.03
16.2		0630	0.03	0749	0.03
17.1		0628	0.03	0747	0.03
18.2		0625	0.03	0745	0.03
19.2		0623	0.03	0743	0.04
20.2		0621	0.03	0741	0.03
21.2		0620	0.03	0739	0.03
22.2	0.03	0618	0.03	0737	0.04
23.2		0616	0.04	0735	0.03
24.2		0615	0.04	0733	0.03
25.1		0613	0.03	0731	0.03
26.2		0610	0.04	0729	0.03
27.2		0608	0.03	0727	0.03
28.2		0605	0.03	0725	0.03
29.2		0603	0.03	0723	0.03
30.2		0600	0.04	0721	0.03
31.2		0559	0.03	0719	0.03
32.2	0.03	0556	0.04	0717	0.03
33.2		0554	0.03	0715	0.03
34.2		0552	0.03	0714	0.03
35.2		0550	0.03	0712	0.03
36.3		0547	0.03	0710	0.03
37.3		0545	0.03	0708	0.03
38.3		0543	0.03	0706	0.03
39.3		0541	0.03	0704	0.03
40.3		0537	0.03	0702	0.03
41.3	0.02	0535	0.03	0700	0.03

TABLE E.3.29 OFF-SITE RADIATION SURVEY FROM JUNCTION OF US 91 AND UTAH 20, EAST VIA UTAH 20 TO JUNCTION OF US 89 AND UTAH 20, AND VIA US 89 TO EB.

Distance From Start	D-10 Day Back-ground	D+1 Day		D+3 Days	
		Time	Dose Rate Shield Closed	Time	Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
0	0.03	0910	0.04	1105	0.04
1		0912	0.04	1107	0.04
2		0914	0.04	1109	0.04
3.1		0916	0.04	1111	0.04
4.1		0918	0.04	1113	0.03
5.2		0920	0.04	1114	0.03
6.2		0922	0.04	1115	0.02
7.2		0924	0.04	1120	0.04
8.2		0926	0.04	1121	0.04
9.3		0928	0.04	1125	0.03
10.3		0930	0.04	1127	0.03
11.3	0.03	0932	0.04	1129	0.04
12.4		0933	0.04	1131	0.04
13.4		0934	0.04	1133	0.04
14.4		0936	0.04	1135	0.03
15.5		0938	0.04	1137	0.03
16.5		0940	0.04	1139	0.03
17.5		0942	0.04	1141	0.03
18.6		0944	0.04	1143	0.03
19.6		0946	0.04	1145	0.03
20.6		0948	0.04	1147	0.03
21.5*					
22.2		0950	0.04	1149	0.04
23.3		0951	0.03	1151	0.02
24.3		0954	0.04	1153	0.03
25.3		0956	0.03	1155	0.04
26.4		0957	0.03	1156	0.03
27.4		0959	0.03	1157	0.03
28.4		1000	0.04	1158	0.03
29.5		1002	0.03	1159	0.05
30.5		1003	0.03	1201	0.04
31.5		1005	0.04	1203	0.03
32.6		1006	0.03	1205	0.03
33.6		1007	0.03	1207	0.03
34.6		1008	0.03	1209	0.03
35.7		1009	0.03	1211	0.03
36.7		1010	0.03	1213	0.03
37.7		1011	0.04	1215	0.03
38.8		1013	0.04	1217	0.03
39.9		1015	0.04	1219	0.04
40.9		1018	0.03	1221	0.04
42.0		1020	0.03	1223	0.04
43.0		1021	0.04	1305	0.04
44.0		1023	0.04	1307	0.04
44.3		1025	0.04	1309	0.04

* Junction of US 89 and Utah 20.

TABLE E.3.30 OFF-SITE RADIATION SURVEY FROM JUNCTION OF UTAH 24 AND UTAH 62 SOUTH VIA UTAH 62, TO BC AND SOUTH VIA UTAH 22 TO BD

Distance from Start	D-9 Day Back-ground	D+6 Days	
		Time	Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr
0			
2	0.03	0925	0.02
3.9 to 9.9	0.02	0928 to 0937	
11.9	0.03	0940	0.02
14 to 22.1		0943 to 0957	0.02
24.1	0.03	1000	0.02
26.1 to 30		1003 to 1010	0.03
32.0	0.03	1013	0.03
33.0*			
34 to 40		1015 to 1023	0.03
42.1	0.03	1026	0.03
44.1 to 46.1		1030 to 1032	0.03
48.1 to 50.1		1035 to 1038	0.02
52.1	0.03		
54.1 to 60.1		1045 to 1054	0.02
62.1	0.03		
64.1 to 72.1		1103 to 1119	0.02
74.1	0.03	1123	0.03

* BC.

TABLE E.3.31 OFF-SITE RADIATION SURVEY FROM CANNONVILLE, UTAH VIA UTAH 54 TO BOULDER, UTAH; VIA UTAH 117 TO TRAMDALE; VIA UTAH 24 TO LOA, UTAH

Distance from Start	D-11 Day Back-ground	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	mr/hr	hours	mr/hr	hours	mr/hr
0.0 to 3.6			0800 to 0806	0.02	0930 to 0937	0.02
4.6[a]						
5.6			0808	0.02	0945	0.02
7.6	0.02		0810	0.02	0950	0.02
9.8			0812	0.02	1000	0.02
11.6 to 13.6			0815 to 0819	0.03	1005 to 1010	0.02
15.6			0823	0.03	1014	0.03
17.6	0.02		0825	0.03	1019	0.03
19.6 to 21.6			0827 to 0830	0.03	1025 to 1030	
23.6 to 25.6			0832 to 0834	0.03	1034 to 1040	0.02
27.6			0836	0.03	1045	0.03
29.6	0.02		0838	0.03	1050	0.03
31.6 to 33.6			0840 to 0843	0.02	1100 to 1105	0.03
34.6[b]		0.02				
35.7 to 37.7			0903 to 0910	0.02	1115 to 1120	0.03
39.8		0.02	0914	0.02	1125	0.03
41.8 to 47.2			0917 to 0934	0.02	1130 to 1145	0.03
49.2		0.02	0937	0.02	1150	0.03
51.2 to 57.1			0942 to 1003	0.02	1156 to 1211	0.02
59.1		0.02	1006	0.02	1217	0.02
61.1			1010	0.02	1221	0.02
62.3[c]						
64.6			1020	0.02	1227	0.02
66.4 to 68.5			1025 to 1030	0.02	1232 to 1236	0.03
70.5		0.02	1035	0.02	1245	0.03
72.5			1041	0.02	1250	0.03
74.5 to 76.5			1048 to 1056	0.03	1256 to 1304	0.03
78.5			1100	0.03	1833	0.03
80.5		0.02	1103	0.03	1837	0.04
82.8 to 88.5			1111 to 1130	0.03	1842 to 1858	0.04
90.5		0.02	1135	0.03	1902	0.04
92.5 to 94.5			1140 to 1145	0.03	1907 to 1911	0.04
96.5			1145	0.02	1917	0.04
97.5[d]						
98.5 to 104.5			1155 to 1207	0.02	1922 to 1935	0.04
105.5[e]						
106.6 to 108.6[f]			1212 to 1215	0.03	1939 to 1944	0.04
110.6[f]		0.03	1219	0.03	1949	0.04
111.6[f]						
112.6 to 116.6[f]			1250 to 1256	0.03	1953 to 2001	0.04
117.6[f]						
118.6[f]			1258	0.03	2007	0.04
120.6[f]		0.03	1305	0.03	2011	0.04

[a] Henrieville.
[b] Escalante.
[c] Boulder.
[d] Clover.
[e] Tenmile.
[f] Bicknell; for readings north of Bicknell on D+6 Days see Table E.3.33.

E.3.32 OFF-SITE RADIATION SURVEY FROM LOA, UTAH; WEST VIA UTAH 24 VIA SIGURD, UTAH TOWARD RICHFIELD, UTAH

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
1.0 to 6.7		1307 to 1315	0.03	1737 to 1743	0.04
8.7	0.03	1317	0.03	1745	0.04
10.7 to 16.7		1319 to 1325	0.03	1747 to 1753	0.04
18.8	0.03	1327	0.03	1755	0.03
20.8 to 22.8		1329 to 1331	0.03	1757 to 1759	0.03
24.8		1333	0.03	1801	0.04
26.9		1335	0.03	1803	0.04
28.8	0.04	1337	0.03	1805	0.04
30.8 to 36.9		1339 to 1345	0.03	1807 to 1815	0.04
39.0	0.03	1347	0.04	1817	0.04
41.1		1350	0.04	1820	0.04
42.9[a] to 50.9		1355 to 1415	0.04		

[a] Sigurd.

TABLE E.3.33 OFF-SITE RADIATION SURVEY , JUNCTION OF US 6 AND 91 AND UTAH 24, VIA UTAH 24 TO LOA, UTAH

Distance from Start	D-10 Day Back-ground	D+6 Days Time	D+6 Days Dose Rate Shield Closed	D+6 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	mr/hr
0.1	0.02	0731	0.02	0.03
2.1		0733	0.03	0.05
4.2		0734	0.01	0.03
6.2		0739	0.04	0.06
8.3		0741	0.04	0.05
10.4	0.02	0744	0.02	0.03
12.4		0746	0.03	0.05
14.5		0748	0.01	0.03
16.5		0751	0.01	0.03
18.6		0754	0.03	0.03
20.7	0.03	0756	0.03	0.04
22.7		0759	0.03	0.05
24.8		0801	0.01	0.02
26.9		0804	0.02	0.03
28.9		0806	0.01	0.02
31.0	0.03	0808	0.03	0.03
32.0		0811	0.02	0.03
35.1		0813	0.03	0.04
37.2		0815	0.04	0.05
39.3		0818	0.02	0.03
41.3	0.03	0821	0.04	0.07
43.4		0824	0.02	0.04
45.4		0826	0.01	0.03
47.5		0829	0.03	0.03
49.5		0831	0.02	0.04
51.6	0.02	0834	0.01	0.04
53.6		0837	0.03	0.05

TABLE E.3.33 (Cont'd)

Distance from Start	D-10 Day Back-ground	D+6 Days Time	D+6 Days Dose Rate Shield Closed	D+6 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	mr/hr
54.6[a]				
55.7		0855	0.03	0.03
57.7		0900	0.03	0.03
59.8		0903	0.03	0.03
61.9	0.03	0905	0.03	0.03
63.9		0908	0.03	0.03
66.0		0912	0.03	0.04
68.1		0916	0.04	0.04
70.1		0920	0.04	0.05
72.2		0924	0.06	0.05
74.3	0.04	0928	0.03	0.03
76.4		0932	0.03	0.05
78.5		0935	0.03	0.03
80.6		0945	0.03	0.03
82.7		1008	0.06	0.06
84.8	0.03	1014	0.05	0.05
86.9		1019	0.04	0.06
89.0		1034	0.03	0.04
91.1		1041	0.05	0.06
99.2[b]				
93.3		1046	0.04	0.08
95.3	0.03	1051	0.05	0.06
97.4		1055	0.04	0.05
100.7		1102	0.05	0.07
102.8		1105	0.04	0.06
104.9		1108	0.04	0.05
107.0	0.04	1111	0.03	0.06
109.1		1113	0.02	0.04
112.2		1129	0.04	0.06
114.4[c]		1132	0.05	0.06
116.4[d]		1137	0.04	0.07
118.6[e]	0.04	1139	0.02	0.05
119.8[d]				
120.7[e]		1143	0.05	0.06
122.8[e,f]		1146	0.03	0.05
125.9[e]		1156	0.05	0.07
128.1[e,f]				

[a] Hankeville.
[b] Fruita.
[c] Few readings in this area on D+1 and D+3 days, see Table E.3.31.
[d] Dickwell.
[e] Lyman.
[f] Lom.

TABLE E.3.34 OFF-SITE RADIATION SURVEY FROM JUNCTION OF UTAH 72 AND UTAH 10, SOUTH VIA UTAH 72 TO JUNCTION OF UTAH 72 AND UTAH 24.

Distance from Start	D-10 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed	D+3 Days Dose Rate Shield Open	D+6 Days Time	D+6 Days Dose Rate Shield Closed	D+6 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr	mr/hr
0	0.02	1200	0.05	1130	0.05	0.08	1311	0.03	0.06
2.2		1205	0.03	1135	0.05		1305	0.04	0.07
4.3		1210	0.05	1139	0.06	0.03	1300	0.04	0.06
6.4		1215	0.05	1144	0.05		1256	0.05	0.09
8.5		1225	0.05	1159	0.05	0.08	1252	0.05	0.07
10.6	0.03	1230	0.04	1203	0.05		1247	0.05	0.09
12.8		1234	0.05	1208	0.05	0.07	1244	0.04	0.09
14.9		1240	0.05				1240	0.05	0.06
17.0		1245	0.05				1235	0.04	0.08
19.1		1249	0.05				1231	0.03	0.08
21.2	0.04	1253	0.05				1228	0.04	0.08
23.3		1257	0.05				1224	0.04	0.08
25.4		1302	0.04				1220	0.05	0.08
27.4		1307	0.04				1215	0.03	0.05
29.5		1310	0.03				1211	0.04	0.04
32.6	0.03	1315	0.04				1207	0.05	0.06
34.7		1320	0.03				1203	0.05	0.07

TABLE E.3.35 OFF-SITE RADIATION SURVEY FROM JUNCTION OF US 89 AND UTAH 10 VIA UTAH 10 TO JUNCTION UTAH 10 AND US 6 AND 50 AT PRICE, UTAH

Distance from Start	D-11 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed	D+3 Days Dose Rate Shield Open	D+4 Days Time	D+4 Days Dose Rate Shield Closed	D+6 Days Time	D+6 Days Dose Rate Shield Closed	D+6 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
1.5	0.03	0801	0.04	0901	0.05	0.07			1735	0.04	0.05
3.6		0805	0.04	0904	0.06				1732	0.04	0.06
5.7		0808	0.03	0907	0.04	0.08			1729	0.02	0.05
7.8		0812	0.04	0910	0.05				1725	0.03	0.05
9.9		0815	0.03	0913	0.06	0.08			1722	0.03	0.05
12.0	0.03	0817	0.03	0916	0.04				1719	0.04	0.06
14.1		0820	0.03	0919	0.02	0.09			1715	0.03	0.08
16.1		0823	0.03	0922	0.04				1712	0.02	0.04
18.2		0825	0.04	0925	0.05	0.06			1709	0.03	0.04
20.3		0828	0.04	0927	0.05				1707	0.05	0.04
22.4	0.04	0831	0.04	0930	0.13	0.18			1703	0.05	0.08
24.5		0833	0.06	0933	0.12				1659	0.07	0.07
26.6		0837	0.05	0935	0.06	0.09			1656	0.05	0.05
28.7		0840	0.05	0938	0.06				1653	0.05	0.09
30.7		0843	0.04	0941	0.08	0.15			1649	0.03	0.08
32.8	0.04	0845	0.04	0943	0.10				1645	0.05	0.07
34.9		0847	0.05	0946	0.06	0.08			1543	0.04	0.07
37.0[a]		0850	0.03	0948	0.04				1317	0.03	0.03
39.1		0852	0.03	0951	0.04	0.07			1321	0.01	0.03
41.1		0854	0.03	0953	0.04				1324	0.02	0.02
43.2	0.03	0858	0.03	0956	0.04	0.06			1330	0.03	0.03
45.3		0900	0.04	0958	0.03				1333	0.02	0.02
47.4		0903	0.02	1001	0.04	0.08			1336	0.04	0.06
49.5		0906	0.04	1003	0.04				1339	0.02	0.03
51.6		0910	0.03	1006	0.03	0.06			1344	0.02	0.03
53.6	0.03	0912	0.03	1009	0.04				1346	0.03	0.03
55.7		0915	0.04	1012	0.03	0.03			1349	0.04	0.05
57.8		0917	0.04	1015	0.03				1352	0.03	0.04

TABLE E.3.35 (Contd)

Distance from Start	D-11 Day Back-ground	D+1 Day Time	D+1 Day Dose Rate Shield Closed	D+2 Days Time	D+2 Days Dose Rate Shield Closed	D+2 Days Dose Rate Shield Open	D+4 Days Time	D+4 Days Dose Rate Shield Closed	D+6 Days Time	D+6 Days Dose Rate Shield Closed	D+6 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
59.9		0980	0.03	1017	0.04	0.06			1355	0.04	0.03
62.0		0984	0.03	1021	0.04				1400	0.02	0.04
64.1	0.03	0926	0.01	1025	0.04	0.06			1403	0.02	0.03
66.2		0931	0.02	1028	0.04				1407	0.03	0.03
68.3		0940	0.03						1410	0.04	0.05
70.5		0941	0.03						1412	0.02	0.04
72.7		0945	0.04						1415	0.03	0.05
74.7	0.04	0948	0.03						1418	0.04	0.04
76.8		0951	0.02						1421	0.03	0.05
79.9		0955	0.04						1427	0.04	0.06
82.0		0958	0.04						1431	0.04	0.05
84.1		1000	0.03						1435	0.03	0.05
86.2	0.03	1003	0.03						1438	0.05	0.07
87.8[a]							0906	0.05			
88.6							0910	0.05			
89.3		1007	0.03						1442	0.06	0.10
89.8							0913	0.06			
90.8							0915	0.06			
91.4		1010	0.02						1446	0.05	0.08
91.8							0920	0.05			
92.8							0923	0.06			
93.5		1012	0.03						1449	0.05	0.07
93.8							0925	0.05			
94.8							0927	0.05			
95.5	0.03	1015	0.03						1452	0.04	0.07
95.8							0930	0.04			
96.8							0933	0.04			
97.6		1018	0.02						1454	0.03	0.05
97.8							0935	0.04			
98.8							0938	0.04			
99.7		1020	0.03						1457	0.05	0.07
99.8							0941	0.04			
100.8							0944	0.04			
101.8		1022	0.03				0947	0.02	1500	0.04	0.07
102.8							0950	0.02			
103.8							0953	0.04			
103.9		1025	0.03						1503	0.03	0.07
104.8							0957	0.04			
105.8							1000	0.05			
105.9	0.03	1027	0.02						1505	0.04	0.06
106.8							1003	0.05			
107.8							1007	0.05			

[a] Junction T2.
[b] Huntington

TABLE E.3.36 OFF-SITE RADIATION SURVEY FROM JUNCTION US 89 AND UTAH 31 AT FAIRVIEW, UTAH: EAST VIA UTAH 31 TO HUNTINGTON, UTAH

Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed
miles	hours	mr/hr	miles	hours	mr/hr
0.1	0700	0.01	23.0	0807	0.05
1.0	0702	0.01	24.0	0809	0.05
2.0	0707	0.01	25.0	0811	0.07
3.0	0711	0.05	26.0	0813	0.07
4.0	0713	0.03	27.0	0816	0.05
5.0	0718	0.04	28.0	0819	0.05
6.0	0723	0.05	29.0	0821	0.19
7.0	0727	0.05	30.0	0825	0.19
8.0	0730	0.03	31.0	0827	0.19
9.0	0734	0.05	32.0	0830	0.19
10.0	0736	0.05	33.0	0832	0.05
11.0	0738	0.05	34.0	0835	0.05
12.0	0741	0.05	35.0	0837	0.084
13.0	0743	0.05	36.0	0839	0.084
14.0	0746	0.05	37.0	0842	0.05
15.0	0748	0.05	38.0	0845	0.05
16.0	0750	0.05	39.0	0847	0.05
17.0	0753	0.05	40.0	0850	0.05
18.0	0755	0.05	41.0	0853	0.19
19.0	0757	0.03	42.0	0856	0.084
20.0	0800	0.03	43.0	0900	0.084
21.0	0802	0.05	44.0	0903	0.084
22.0	0805	0.05			

TABLE E.3.37 OFF-SITE RADIATION SURVEY FROM JUNCTION US 6 AND 50 AND UTAH 10 EAST VIA US 6 AND 50

Distance from Start	D-11 Day Back-ground	D-10 Day Back-ground	D+4 Days Time	D+4 Days Dose Rate Shield Closed	D+4 Days Dose Rate Shield Open
miles	mr/hr	mr/hr	hours	mr/hr	mr/hr
2.5	0.03		1455	0.05	0.11
3.5		0.03	1500	0.04	0.07
11.1			1510	0.04	0.10
13.1			1517	0.04	0.06
15.2			1520	0.05	0.05
17.3		0.05	1558	0.05	0.07
19.3			1601	0.04	0.07
21.4			1604	0.05	0.07
23.6			1606	0.06	0.09
25.6			1610	0.05	0.10
27.7		0.04	1625	0.05	0.07
29.8			1427	0.05	0.09
32.0			1630	0.06	0.13
34.2			1640	0.06	0.15
36.3			1642	0.05	0.11
38.5		0.03	1645	0.03	0.10
39.4[a]					
40.7			1652	0.05	0.10
42.8			1658	0.04	0.06
45.9			1700	0.05	0.07
47.0		0.03	1706	0.03	0.07

TABLE E.3.37 (Contd)

Distance from Start	D-11 Day Back-ground	D-10 Day Back-ground	D-5 Days		
			Time	Dose Rate Shield Closed	Dose Rate Shield Open
miles	mr/hr	mr/hr	hours	mr/hr	mr/hr
48.1			1709	0.04	0.08
51.2			1712	0.04	0.06
53.3			1715	0.02	0.05
55.5			1719	0.04	0.03
57.5		0.04	1724	0.03	0.06
59.5			1728	0.02	0.03
61.4[a]					
61.6			1734	0.03	0.05
63.7			1736	0.03	0.08
65.5			1740	0.02	0.04
67.3			1745	0.02	0.06

[a] Roadside Geyser.
[b] Junction Utah 24.

TABLE E.3.38 OFF-SITE RADIATION SURVEY FROM THISTLE, UTAH VIA US 6 AND 50 TO PRICE, UTAH

Distance from Start	D-9 Day Back-ground	D-4 Days		D-5 Days		
		Time	Dose Rate Shield Closed	Time	Dose Rate Shield Closed	Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
0						
1		1015	0.05			
2		1017	0.05			
3		1020	0.03			
4		1023	0.02			
4.7				1350	0.05	0.15
5		1025	0.05			
6		1027	0.05			
6.8		-	-	1341	0.06	0.10
7		1030	0.04			
8		1033	0.04			
8.9	0.03	-	-	1338	0.05	0.11
9		1035	0.04			
10		1037	0.04			
11		1040	0.08			
11.1		-	-	1334	0.08	0.15
12		1043	0.06			
13		1045	0.05			
13.2		-	-	1331	0.07	0.18
14		1047	0.03			
15		1100	0.02			
15.6		-	-	1326	0.07	0.10
16		1102	0.03			
17		1105	0.05			
17.7		-	-	1321	0.06	0.09
18		-	-			
19		1107	0.02			
19.7	0.04	-	-	1317	0.05	0.09
20		1109	0.03			
21		1111	0.04			
21.7		-	-	1312	0.08	0.3
22		1114	0.04			
23		1116	0.04			
23.9		-	-	1307	0.05	0.15
24		1118	0.04			
25[a]		1120	0.04			
26		1123	0.04			
26.1		-	-	1303	0.10	0.05
27		1125	0.05			
28		1129	0.05			
28.2		-	-	1259	0.08	0.4
29		1131	0.05			
30		1135	0.05			
30.3	0.03	-	-	1257	0.11	0.07
31		1139	0.05			
32		1142	0.05			
32.5		-	-	1248	0.08	0.16
33		1144	0.05			
34		1149	0.04			
34.9		-	-	1244	0.05	0.18
35		1152	0.04			
36		1155	0.06			
37		1158	0.08	1241	0.03	0.2
38		1200	0.07			
39		1203	0.06			
39.1		-	-	1237	0.05	0.16
40		1205	0.06			
41		1207	0.06			
41.3	0.04	-	-	1234	0.05	0.3
42		1210	0.08			
43		1213	0.33			
44		1215	0.19			
44.4		-	-	1231	0.12	0.5
45		1218	0.16			
45.5		-	-	1229	0.12	0.6
46		1220	0.04			
47		1222	0.04			
47.6		-	-	1226	0.13	0.18
49.7		-	-	1222	0.08	0.4
51.8	0.03	-	-	1217	0.04	0.2
53.9		-	-	1211	0.04	0.10
55		1243	0.04			
56				1203	0.04	0.09

[a] Soldier Summit.

TABLE 2.3.39 OFF-SITE RADIATION SURVEY FROM JUNCTION OF US 40 AND ROAD ON WEST SIDE OF STRAWBERRY RESERVOIR; SOUTHERLY VIA STRAWBERRY RESERVOIR ROAD TO JUNCTION OF US 50 AND US 89.

Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed
miles	hours	mr/hr	miles	hours	mr/hr
0.0	0900	0.04	16.3	0932	0.39
1.0	0901	0.05	17.3	0934	0.28
2.6	0904	0.04	18.3	0935	0.16
3.6	0905	0.04	19.3	0936	0.16
4.6	0907	0.06	20.3	0937	0.16
5.6	0908	0.04	21.3	0940	0.15
6.6	0909	0.06	22.3	0942	0.10
7.6	0910	0.09	23.3	0945	0.11
8.8	0913	0.09	24.3	0947	0.15
10.3	0917	0.28	25.3	0947	0.19
11.3	0920	0.39	26.9	0953	0.16
12.3	0923	0.49	27.6	0955	0.13
13.3	0926	0.39	28.6	0957	0.12
14.3	0928	0.39	29.7	1000	0.17
15.3	0930	0.39	30.6	1001	0.17

TABLE 2.3.40 OFF-SITE RADIATION SURVEY FROM JUNCTION US 6 AND 50 AND UTAH 33 AT CASTLE GATE, UTAH; NORTH VIA UTAH 33 TO JUNCTION US 40 AND UTAH 33

Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed
miles	hours	mr/hr	miles	hours	mr/hr
0.0	1315	0.05	23.0	1408	0.07
1.0	1317	0.05	24.0	1404	0.08h
2.0	1319	0.05	25.0	1407	0.09
3.0	1321	0.06	26.0	1410	0.19
4.0	1323	0.06	27.0	1414	0.19
5.0	1325	0.07	28.0	1416	0.19
6.0	1327	0.08h	29.0	1418	0.19
7.0	1329	0.06	30.0	1420	0.19
8.0	1331	0.06	31.0	1422	0.19
9.0	1333	0.06	32.0	1424	0.09
10.0	1335	0.05	33.0	1426	0.09
11.0	1337	0.05	34.0	1428	0.09
12.0	1339	0.05	35.0	1430	0.09
13.0	1341	0.05	36.0	1432	0.08h
14.0	1343	0.08h	37.0	1433	0.08h
15.0	1345	0.19	38.0	1435	0.08h
16.0	1347	0.19	39.0	1437	0.08h
17.0	1349	0.19	40.0	1439	0.06
18.0	1351	0.08h	41.0	1440	0.06
19.0	1353	0.07	42.0	1442	0.06
20.0	1355	0.06	43.0	1444	0.05
21.0	1357	0.06	44.0	1446	0.05
22.0	1400	0.06			

TABLE 2.3.41 OFF-SITE RADIATION SURVEY FROM JUNCTION US 89 AND UTAH 10 AT SALINA, UTAH, NORTH VIA US 89 TO JUNCTION US 189 AND US 89 AT PROVO, UTAH; NORTH VIA US 189 TO JUNCTION US 89 AND US 40 AT HEBER, UTAH

Distance from Start	D-9 Day Back-ground	D+4 Days Time	D+4 Days Dose Rate Shield Closed	D+5 Days Time	D+5 Days Dose Rate Shield Closed	D+5 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
0.9	0.03			0855	0.02	0.05
4.0				0900	0.03	0.09
6.1				0902	0.02	0.05
7.4				0905	0.03	0.05
10.3				0908	0.03	0.07
15.5	0.03			0944	0.05	0.11
17.6				0948	0.04	0.09
19.6				0950	0.02	0.06
21.9				0954	0.03	0.07
24.9				1000	0.02	0.05
27.0	0.03			1004	0.03	0.07
29.0				1007	0.02	0.06
32.7				1042	0.02	0.04
35.0				1045	0.04	0.07
37.1				1048	0.03	0.05
37.7						
39.2	0.03			1052	0.03	0.06
41.3				1054	0.06	0.10
43.5				1057	0.05	0.11
44.3		0610	0.06			
45.3		0611	0.04			
45.4				1059	0.04	0.10
46.4		0613	0.025			
47.4		0614	0.04	1102	0.02	0.06
48.5		0615	0.03			
49.5	0.03	0617	0.05	1105	0.04	0.09
50.5		0618	0.03			
51.5				1108	0.04	0.11
51.6		0619	0.05			
52.6		0620	0.03			
55.6				1114	0.05	0.09
55.7		0624	0.02			
56.7		0625	0.04			
57.7				1116	0.04	0.14
57.8		0626	0.05			
58.8		0627	0.05			
59.7				1119	0.06	0.15
59.8		0630	0.03			
60.9		0631	0.05			
61.8	0.04			1122	0.04	0.10
61.9		0632	0.07			
63.0		0633	0.04			
63.9				1125	0.04	0.10
64.0		0635	0.02			
65.0		0636	0.05			
65.9				1128	0.05	0.12
66.1		0637	0.03			
67.1		0638	0.10			

TABLE E.3.41 (Cont'd)

Distance from Start	D-9 Day Back-ground	D+4 Days Time	D+4 Days Dose Rate Shield Closed	D+5 Days Time	D+5 Days Dose Rate Shield Closed	D+5 Days Dose Rate Shield Open
miles	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
68.0				1131	0.05	0.15
68.1		0640	0.06			
69.1		0641	0.13			
70.1				1134	0.10	0.05
70.2		0642	0.11			
71.2		0643	0.07			
72.1	0.03			1138	0.05	0.15
72.3		0646	0.06			
73.3		0648	0.03			
74.2				1141	0.05	0.16
74.3		0649	0.05			
75.4		0650	0.06			
76.3				1144	0.05	0.16
76.4		0651	0.06			
77.0		0652	0.05			
78.3				1146	0.06	0.19
78.5		0653	0.05			
79.6		0655	0.03			
80.4				1150	0.06	0.15
80.6		0657	0.06			
81.7		0700	0.03			
82.4	0.03			1154	0.04	0.10
82.7		0701	0.03			
83.7		0703	0.03			
84.5				1157	0.04	0.13
84.7		0705	0.02			
85.8		0706	0.02			
86.6				1200	0.04	0.09
86.8		0707	0.03			
87.8		0708	0.03			
88.6				1203	0.04	0.09
88.7[a]		0711	0.05			
89.9		0713	0.02			
90.9		0715	0.03			
91.9		0716	0.05			
92.9		0717	0.02			
93.9		0718	0.03			
95.0		0719	0.02			
96.0		0720	0.03			
97.0		0722	0.02			
97.9		0723	0.03			
98.6		0727	0.03			
99.6		0728	0.05			
100.6		0729	0.04			
101.7		0731	0.04			
102.9		0733	0.04			
106.9		0737	0.03			
107.9		0739	0.03			
110.0[b]						
114.0		0750	0.04			
115.1		0752	0.04			
116.1		0753	0.04			
117.1		0754	0.03			
118.0		0755	0.04			
119.6		0758	0.03			
120.8		0759	0.02			
121.7		0801	0.03			
122.7		0802	0.03			
123.8		0803	0.04			
124.8		0804	0.03			
125.9		0806	0.04			
126.9		0807	0.03			
127.9		0808	0.03			
129.0		0809	0.05			
130.0		0810	0.04			
131.1		0811	0.02			
132.1		0812	0.03			
133.2		0813	0.03			
134.2		0815	0.02			
135.2		0818	0.03			
136.3		0820	0.05			
137.3		0821	0.04			
138.4		0822	0.04			
139.4		0823	0.05			

[a] Ephraim - Junction Utah 11 and US 89.
[b] Thistle.
[c] Provo.

TABLE E.3.42 OFF-SITE RADIATION SURVEY FROM HEBER, UTAH VIA US 40 TO DUCHESNE, UTAH.

Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed
miles	hours	mr/hr	miles	hours	mr/hr
0.9	0830	0.05	29.4	1620	0.19
1.9	0840	0.04	30.4	1618	0.19
3.0	0841	0.03	31.4	1616	0.19
4.0	0842	0.03	32.4	1614	0.19
5.1	0844	0.04	33.4	1612	0.19
6.1	0845	0.04	34.4	1610	0.19
7.2	0846	0.03	35.4	1608	0.19
8.2	0847	0.04	36.4	1606	0.19
9.3	0848	0.04	37.4	1604	0.19
10.3	0849	0.03	38.4	1602	0.12
11.3	0850	0.04	39.4	1600	0.12
12.3	0851	0.05	40.4	1557	0.14
13.4	0852	0.03	41.4	1555	0.156
14.4	0853	0.04	42.4	1553	0.156
15.5	0854	0.05	43.4	1551	0.16
16.5	0855	0.03	44.4	1549	0.16
17.5	0856	0.04	45.4	1547	0.16
18.6	0857	0.04	46.4	1545	0.20
19.4	0858	0.06	47.4	1543	0.20
20.4	0859	0.07	48.4	1541	0.20
21.4[a]	1636	0.19	49.4	1539	0.20
22.4	1634	0.19	50.4	1536	0.30
23.4	1632	0.19	51.4	1534	0.40
24.4	1630	0.19	52.4	1532	0.40
25.4	1628	0.19	53.4	1530	0.40
26.4	1626	0.19	54.4	1527	0.18
27.4	1624	0.19	55.4	1525	0.156
28.4	1622	0.19	56.4	1522	0.19

TABLE E.3.42 (Contd)

Distance from Start	D+4 Days Time	Dose Rate Shield Closed	Distance from Start	D+4 Days Time	Dose Rate Shield Closed
miles	hours	mr/hr	miles	hours	mr/hr
57.4	1520	0.09	65.4	1504	0.06
58.4	1518	0.09	66.4	1502	0.06
59.4	1516	0.19	67.4	1500	0.05
60.4	1514	0.19	68.4	1458	0.05
61.4	1512	0.19	69.4	1456	0.05
62.4	1510	0.19	70.4	1454	0.05
63.4	1508	0.384	71.4	1452	0.05
64.4	1506	0.084	72.4	1450	0.05
			73.4	1448	0.05

* DA.

TABLE E.3.43 OFF-SITE RADIATION SURVEY FROM JCT US 40 AND UTAH 134 AT DUCHESNE EAST VIA US 40 TO JCT US 40 AND UTAH 121 AT ROOSEVELT, UTAH; VIA US 121 TOWARD NEOLA, UTAH.

Distance from Start	D+4 Days Time	Dose Rate Shield Closed	Distance from Start	D+4 Days Time	Dose Rate Shield Closed
miles	hours	mr/hr	miles	hours	mr/hr
1.0	1040	0.10	20.8	1112	0.10
2.1	1042	0.11	21.9	1114	0.08
3.1	1044	0.11	22.9	1116	0.07
4.2	1046	0.10	24.0	1118	0.10
5.2	1048	0.09	25.0	1120	0.10
6.3	1050	0.08	26.1	1123	0.08
7.3	1051	0.10	27.1	1127	0.07
8.3	1052	0.09	28.1*		
9.4	1053	0.09	29.1	1132	0.07
10.4	1054	0.07	29.5	1134	0.06
11.4	1056	0.07	30.5	1136	0.06
12.5	1057	0.07	31.6	1138	0.06
13.6	1059	0.06	32.6	1140	0.09
14.5	1101	0.08	33.7	1142	0.09
15.6	1103	0.09	34.7	1144	0.08
16.6	1105	0.09	35.7	1146	0.06
17.6	1107	0.08	36.8	1148	0.09
18.7	1109	0.07	37.8	1150	0.10
19.8	1110	0.08	38.8	1152	0.10

* Roosevelt.

TABLE E.3.44 OFF-SITE RADIATION SURVEY FROM JCT US 40 AND UTAH 134 AT DUCHESNE, UTAH; NORTH VIA UTAH 134 TO JCT UTAH 134 AND UTAH 35; WEST VIA UTAH 35, TO JCT UTAH 35 AND ALTERNATE US 189 AT FRANCIS, UTAH.

Distance from Start	D+4 Days Time	Dose Rate Shield Closed	Distance from Start	D+4 Days Time	Dose Rate Shield Closed
miles	hours	mr/hr	miles	hours	mr/hr
0	1340	0.07	32.7	1443	0.07
1	1342	0.05	33.7	1445	0.07
2	1343	0.11	34.7	1447	0.10
3	1345	0.10	35.7	1449	0.12
4	1346	0.08	36.7	1500	0.12
5	1347	0.10	37.9	1502	0.05
5.7	1348	0.08	38.7	1503	0.08
6.7	1350	0.06	39.7	1504	0.07
7.7	1351	0.09	40.7	1505	0.03
8.7	1352	0.09	41.7	1510	0.05
9.7	1354	0.07	42.1	1512	0.07
10.7	1355	0.08	43.7	1513	0.08
11.7	1357	0.07	44.7	1514	0.06
12.7	1354	0.11	45.7	1515	0.03
13.7	1415	0.15	46.7	1516	0.04
14.7	1417	0.15	47.7	1518	0.05
15.7	1418	0.20	48.7	1519	0.03
16.7	1420	0.20	49.7	1520	0.04
17.7	1421	0.25	50.7	1521	0.06
18.7	1423	0.25	51.9	1522	0.05
19.7	1425	0.20	52.7	1523	0.04
20.7	1427	0.07	53.7	1525	0.07
21.7	1430	0.04	54.7	1527	0.05
22.7	1433	0.04	56.7	1528	0.04
23.7	1435	0.07	58.7	1529	0.04
24.7	1436	0.07	60.7	1530	0.06
25.7	1437	0.07	62.7	1535	0.04
27.7*	1438	0.11	64.7	1545	0.06
28.7	1439	0.14	66.7	1550	0.04
29.7	1440	0.12	68.7	1555	0.04
30.7	1441	0.11	70.7	1605	0.04
31.7	1442	0.06			

* Tabiona

TABLE E.3.45 OFF-SITE RADIATION SURVEY FROM JCT ALTERNATE US 189 AND UTAH 15 AT KAMAS, UTAH; VIA UTAH 150 TO EVANSTON, WYOMING.

Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed
miles	hours	mr/hr	miles	hours	mr/hr
0.6	1742	0.07	18.8	1806	0.04
2.1	1745	0.06	19.8	1807	0.04
3.1	1745	0.06	20.9	1809	0.04
4.2	1747	0.04	21.9	1810	0.04
5.2	1748	0.06	22.9	1812	0.05
6.2	1750	0.09	24.0	1815	0.07
7.3	1751	0.06	25.0	1820	0.04
8.4	1753	0.04	26.1	1834	0.04
9.4	1754	0.03	30.1	1840	0.04
10.4	1755	0.07	36.2	1849	0.03
11.5	1756	0.04	42.3	1855	0.04
12.5	1757	0.03	49.0	1902	0.04
13.5	1758	0.05	55.5	1908	0.04
14.6	1800	0.04	63.4	1923	0.03
15.6	1802	0.07	69.4	1930	0.03
16.6	1803	0.05	75.4	1939	0.02
17.7	1805	0.04	79.4	1945	0.03

TABLE E.3.46 OFF-SITE RADIATION SURVEY FROM JUNCTION, BEAR RIVER AND US 30 S NEAR EVANSTON, WYOMING; EAST TO JCT US 30 AND WYOMING 530 AT GREEN RIVER, WYOMING; SOUTH ON WYOMING 530 TOWARD MCKINNON, WYOMING.

Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Gamma and Beta	Distance from Start	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Gamma and Beta
miles	hours	mr/hr	mr/hr	miles	hours	mr/hr	mr/hr
1.1	0640	0.03		55.8	0815	0.02	0.05
2.1	0642	0.03		57.8	0818	0.02	
4.1	0645	0.03		59.8	0821	0.02	0.10
6.1	0650	0.03		61.8	0824	0.02	0.05
8.1	0652	0.04		63.8	0827	0.02	0.10
10.1	0655	0.04		68.9	0855	0.04	0.10
12.1	0658	0.04		70.9	0859	0.02	0.10
14.1	0701	0.04		72.9	0903	0.02	0.10
16.1	0705	0.04	0.15	74.9	0906	0.02	0.10
18.1	0710	0.04	0.15	76.9	0909	0.05	0.05
20.1	0714	0.04	0.10	78.9	0913	0.05	0.10
22.1	0716	0.03	0.10	80.9	0916	0.02	0.10
24.1	0720	0.03	0.10	82.9	0920	0.02	0.05
26.1	0723	0.03	0.10	85.2	0923	0.02	0.05
28.1	0726	0.03	0.10	86.0	0926	0.02	0.10
30.1	0729	0.03	0.10	88.2	0930	0.02	0.10
32.1	0735	0.03	0.10	92.8			
37.0				97.8	0953	0.02	0.10
39.8	0750	0.03		102.8	0958	0.03	0.15
41.8	0755	0.03		107.8	1006	0.02	0.10
43.8	0757	0.03	0.10	112.8	1013	0.05	0.15
45.8	0800	0.03	0.05	114.8	1017	0.05	0.15
49.8	0805	0.03	0.05	119.8	1022	0.02	0.20
51.8	0808	0.02	0.05	124.8	1029	0.05	0.25
53.8	0812	0.02	0.05	138.8	1050	0.05	0.30

[a] Lyman.
[b] Green River.

TABLE E.3.47 OFF-SITE RADIATION SURVEY FROM ST. GEORGE, UTAH, SOUTH VIA UTAH 64, VIA MT. TRUMBULL, ARIZONA, VIA TUWEEP, ARIZONA, NORTH VIA SHOWT CREEK, ARIZONA, TO HURRICANE, UTAH.[a]

Distance from Start	D-1J Day Back-ground	D+1 Days Time	D+1 Days Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
1.8	0.5	0730	0.05	0705	0.25
2.8		0732	0.04	0707	0.24
3.8		0734	0.04	0709	0.25
4.8		0736	0.04	0711	0.26
5.8		0738	0.02	0713	0.29
6.8		0740	0.06	0714	0.31
7.8		0742	0.03	0716	0.31
8.8		0744	0.05	0718	0.28
9.8		0746	0.05	0720	0.27
10.8	<0.5	0748	0.04	0722	0.28
11.8				0723	0.30
12.8				0724	0.30
13.8				0726	0.32
14.8				0728	0.32
15.8				0730	0.31
16.8				0732	0.29
17.8	<0.5			0734	0.30
18.8				0736	0.30
19.8				0738	0.30
20.8	0.1			0740	0.30
21.8				0742	0.30
22.8				0744	0.30
23.8				0746	0.27
24.8				0748	0.27
25.8				0750	0.27
26.8				0752	0.28
27.8				0754	0.32
28.8				0756	0.28
29.8				0758	0.28
30.8	<0.5			0800	0.30
31.8				0802	0.28
32.8				0804	0.26
33.8				0806	0.27

TABLE E.1.47 (Cont'd)

Distance from Start	D-11 Day Back-ground	D+1 Days Time	D+1 Days Dose Rate Shield Closed	D+1 Days Time	D+1 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	hours	mr/hr
34.8				0808	0.27
35.8				0810	0.25
36.8				0812	0.25
37.8				0814	0.25
38.8				0816	0.24
39.8				0818	0.25
40.8	0.5			0820	0.20
41.8				0822	0.18
42.8				0824	0.20
43.8				0826	0.24
44.8				0828	0.21
45.8				0830	0.04
46.8				0832	0.03
47.8				0834	0.12
48.8				0836	0.15
49.8				1025	0.03
50.8				1027	0.04
51.8				1028	0.04
52.8				1030	0.03
53.8				1032	0.04
54.8				1034	0.04
55.8				1036	0.03
	D-10 Day Back-ground mr/hr				
56.8	0.04			1038	0.02
57.8				1040	0.02
58.8				1042	0.02
59.8				1044	0.02
60.8				1046	0.02
61.8				1048	0.02
62.8				1050	0.02
63.8				1052	0.02
64.8				1054	0.01
65.8 [1]				1056	0.15
66.8	0.02			1058	0.18
67.8 [4]				1100	0.14
68.8				1102	0.18
69.8				1104	0.14
70.8				1106	0.04
71.8				1108	0.03
72.8				1110	0.03
73.8				1112	0.03
74.8				1114	0.03
75.8				1116	0.06
76.8	0.05			1118	0.06
77.8				1120	0.18
78.8				1122	0.10
79.8				1124	0.13
80.8				1126	0.18
81.8				1128	0.15
82.8				1130	0.17
83.8				1132	0.16
84.8				1134	0.16
85.8				1136	0.13
86.8	0.05			1138	0.18
87.8				1140	0.09
88.8				1142	0.10
89.8				1144	0.04
90.8				1146	0.04
91.8				1148	0.02
92.8				1150	0.02
93.8				1152	0.02
94.8				1154	0.03
95.8				1156	0.03
96.8				1158	0.04
97.8				1200	0.03
98.8	0.08			1202	0.02
99.8				1204	0.04
100.8				1206	0.04
101.8				1208	0.04
102.8				1210	0.04
103.8				1214	
to				to	
125.8 [7]	0.1 [6]			1258	0.02
126.8	0.1			1300	0.02
127.8				1304	
to				to	
134.8				1316	0.02
135.8				1318	0.02
136.8	0.12			1320	0.02
137.8				1322	0.02
138.8				1324	0.02
139.8				1326	0.04
140.8				1328	0.02
141.8		1013	0.18	1330	0.02
142.8		1011	0.18	1332	0.02
143.8		1009	0.18	1334	0.03
144.8		1007	0.15	1336	0.02
145.8		1005	0.2	1338	0.02
146.8	0.1	1003	0.2	1340	0.02
147.8		1000	0.2	1342	0.02
148.8		0958	0.2	1346	0.02
149.8		0956	0.1	1348	0.02
150.8		0954	0.05	1350	0.04

[1] This data not used in the construction of off-site contours.
[2] AV.
[3] Crest of road on Mt. Trumbull.
[4] Junction of Tuweep, Fredonia and Mt. Trumbull roads.
[5] At 106.8 and 116.8 miles.
[6] Intersection with Short Creek--Pipe Springs National Monument road.

TABLE E.3.48 OFF-SITE RADIATION SURVEY FROM AV TO AM.*

Distance from Start	D-10 Day Back-ground	D+1 Days Time	D+1 Days Dose Rate Shield Closed	Distance from Start	D-10 Day Back-ground	D+1 Days Time	D+1 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	miles	mr/hr	hours	mr/hr
1		0838	0.06	17		0910	0.03
2	0.16	0840	0.05	18		0912	0.02
3		0842	0.05	19		0914	0.03
4		0844	0.05	20		0916	0.03
5		0846	0.05	21		0918	0.02
6		0848	0.06	22	0.06	0920	0.03
7		0850	0.05	23		0922	0.04
8		0852	0.06	24		0924	0.05
9		0854	0.06	25		0926	0.05
10		0856	0.04	26		0928	0.03
11		0858	0.04	27		0930	0.03
12	0.09	0900	0.03	28		0932	0.03
13		0902	0.03	29		0934	0.03
14		0904	0.03	30		0936	0.03
15		0906	0.05	31		0938	0.03
16		0908	0.04	32	0.05	0940	0.02

* This data not used in construction of off-site contours.

TABLE E.3.49 INTERSECTION OF US 89 AND US 89A AT KANAB, UTAH, SOUTH VIA US 89A VIA BI TO BO.

Distance from Start	D-10 Day Back-ground	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Distance from Start	D-10 Day Back-ground	D+4 Days Time	D+4 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	miles	mr/hr	hours	mr/hr
1	0.02			31	0.03		
2		0956	0.02	32		1046	0.02
11	0.02			37.4*			
12		1015	0.02	41	0.03		
21	0.03			51	0.03	1120	0.02
22		1029	0.02	61	0.03	1137	0.03
				71	0.03	1155	0.02
				81	0.03	1211	0.03

* BI.

TABLE E.3.50 OFF-SITE RADIATION SURVEY FROM BI, EAST VIA US 89A TO RITTER SPRINGS, ARIZONA.

Distance from Start	D-10 Day Back-ground	D+4 Days Time	D+4 Days Dose Rate Shield Closed	Distance from Start	D-10 Day Back-ground	D+4 Days Time	D+4 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	miles	mr/hr	hours	mr/hr
0	0.02	1313	0.02	30	0.02	1348	0.02
10	0.02	1325	0.02	40	0.02	1400	0.02
20	0.02			50	0.02	1414	0.01
22		1340	0.01	58	0.02		

TABLE E.3.51 OFF-SITE RADIATION SURVEY FROM RITTER SPRINGS, ARIZONA, NORTH VIA US 89 TO BF.

Distance from Start	D-11 Day Back-ground	D+1 Days Time	D+1 Days Dose Rate Shield Closed	Distance from Start	D-11 Day Back-ground	D+1 Days Time	D+1 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	miles	mr/hr	hours	mr/hr
3.0		1909	0.02	35.0	0.02		
5.0	0.04			43.0		1956	0.02
15.0	0.02	1922	0.02	45.0	0.02		
20.0*				53.0		2009	0.02
25.0	0.02	1934	0.02	55.0	0.02		
33.0		1945	0.02				

* Page.

TABLE E.3.52 OFF-SITE RADIATION SURVEY FROM RITTER SPRINGS, ARIZONA SOUTH VIA US 89 TO FLAGSTAFF, ARIZONA.

Distance from Start	D-11 Day Back-ground	D+2 Days Time	D+2 Days Dose Rate Shield Open	D+2 Days Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr
0		1125	0.03	0.02		
1.0		1128		0.03		
3.0		1132		0.04		
4.0		1133		0.03		
5.0		1135		0.03		
6.0		1137		0.05		
7.0		1139		0.04		
8.0		1141		0.03		
9.0		1143		0.04		
10.0		1145		0.04		
11.0		1147		0.04		
12.0	0.04	1149		0.03		
13.0		1151		0.03		
15.0		1155		0.03		
16.0		1157		0.03		
17.0		1159		0.04		
18.0		1201		0.03		
19.1		1203		0.03		
20.1		1205		0.04		
22.0	0.02					
22.1		1207		0.03		
24.0					1855	0.02
24.1		1209		0.04		
26.1		1211		0.04		

TABLE E.3.52 (Contd)

Distance from Start	D-11 Day Back-ground	D+2 Days Time	D+2 Days Dose Rate Shield Open	D+2 Days Dose Rate Shield Closed	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr	mr/hr	hours	mr/hr
28.1		1213		0.03		
30.1		1215		0.04		
32.0	0.02					
32.1		1217		0.04		
34.0					1845	0.02
34.1		1219		0.03		
36.0		1221		0.03		
37.0		1223		0.03		
40.0		1225		0.04		
42.0	0.02					
42.1		1227		0.04		
44.0					1832	0.02
44.1		1229	0.03	0.03		
46.0		1231		0.03		
47.0*						
48.1		1233		0.05		
50.0		1235		0.04		
51.2		1237		0.03		
52.0	0.02	1239		0.03		
53.1		1241		0.03		
55.1		1242		0.04		
57.1		1243		0.04		
59.1		1245		0.03		
60.0					1819	0.02
61.1		1247		0.03		
62.0	0.03				1809	0.01
63.1		1249	0.04	0.04		
65.2		1251		0.04		
67.2		1253		0.04		
69.2		1257		0.03		
71.2		1259		0.03		
73.2		1301		0.03		
74.0	0.03					
75.2		1303		0.03		
77.2		1307		0.04		
79.2		1309		0.03		
81.2		1311	0.05	0.05		
83.2		1313		0.04		
84.0	0.02					
87.2		1315		0.06		
89.2		1317		0.04		
91.2		1319		0.03		
93.2		1321		0.05		
94.0	0.02					
95.2		1323		0.05		
97.2		1325		0.04		
99.2		1327		0.04		
101.2		1329		0.04		
103.2		1331		0.03		
104.0	0.03					
105.2		1333		0.03		
107.2		1335		0.03		
109.2		1337		0.03		
111.2		1339		0.03		

* BL

TABLE E.3.53 OFF-SITE RADIATION SURVEY FROM BM VIA ARIZONA 64 TO WILLIAMS, ARIZONA

Distance from Start	D-11 Day Back-Ground	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr
0	0.03	1455	0.02
10	0.02	1511	0.02
18		1521	0.01
20	0.02		
28		1534	0.01
30	0.02		
38		1555	0.02
40	0.02		
48		1611	0.02
50	0.03		
58		1628	0.02
59.3	0.02		

TABLE E.3.54 OFF-SITE RADIATION SURVEY FROM BO TOWARD BM

Distance from Start	D-12 Day Back-ground	D+3 Days Time	D+3 Days Dose Rate Shield Closed
miles	mr/hr	hours	mr/hr
0	0.02	1147	0.01
10	0.03	1206	0.02
18		1218	0.02
20	0.03		
28		1233	0.03
30	0.02		
38		1245	0.02
40	0.01		
48		1257	0.02
50	0.02		
54.5	0.03		

TABLE E.3.55 OFF-SITE RADIATION SURVEYS ON ROUTES NOT COVERED AFTER JULY 14, 1962

Route	Distance from Start	Dose Rate (Shield Closed)							
		2 July	4 July	6 July		9 July		10 July	11 July
	miles	mr/hr	mr/hr	mr/hr	hours	mr/hr	hours	mr/hr	mr/hr
1. [illegible] to [illegible]	0	0.02							
	10	0.03							
	20	0.02							
2. [illegible] to Nunab, Utah	6		0.02						
	16		0.03						
	26		0.03						
	36		0.02						
	46		0.02						
3. [illegible] to JK	9		0.02						
4. [illegible] to [illegible]	10		0.02						
	20		0.02						
	30		0.02						
	40		0.02						
	50		0.02						
	60		0.02						
	70		0.02						
5. [illegible] west via Utah 15 to US 91 to Cedar City	10		0.02						
	33		0.02						
	43		0.02						
	53		0.02						
	63		0.02						
	74		0.02						
	84		0.02						
6. North Las Vegas, Nevada via US 91 toward Mesquite, Nevada	10		<0.5						
	20		<0.5						
	30		<0.5						
	40		<0.5						
	50		<0.5						
7. Intersection of US 91 and Nevada 12 toward Overton, Nevada	9		<0.5						
	20		<0.5						
8. Intersection of US 6 and US 93 near Ely, Nevada toward Currant, Nevada	8.6			0.05	1122				
	18.6			0.05	1146				
	28.6			0.05	1203				
	38.6			0.05	1220				
	48.6			0.06	1240				
9. US 6 from Currant to Warm Springs, Nevada	10					0.2*	1733		
	20					0.2*	1748		
	30					0.7*	1806		
	40					1.0*	1820		
	50					0.7*	1836		
	60					0.2*	1855		
10. Intersection of US 6 and Nevada 38, toward Elko, Nevada	10			0.05					
	20			0.07					
	30			0.04					
	40			0.04					
	50			0.02					
	58			0.03					
	68			0.02					
	73			0.01					
	88			0.02					
	98			0.02					
	108			0.02					
	118			0.02					
11. Intersection of Alternate US 50 and US 93, south to Ely, Nevada	0					0.04			
	9					0.03			
	19					0.03			
	29					0.03			
	39					0.05			
	48.6					0.04			
12. Ely, Nevada, west via US 50 and south via Nevada 20 to Currant, Nevada	1.0					0.05			
	11					0.04			
	21					0.06			
	31					0.05			
	41					0.04			
	51					0.04			
	61					0.02			
	71					0.03			
	81					0.01			
	91					0.03			
	101					0.6			
	111					0.03			
	121					0.02			
13. AF west via Nevada 25 to VX, through Hyla and Adaven to Nevada 38	11					0.02			
	24					0.05*			
	34*					0.04*			
	48					1.0*			
	58					1.0*			
	69					0.5*			
	80*					--			
	86					0.3*			
	96					0.2*			
	102*					--			
	106					0.1*			
	116					0.1*			
	123*					--			
	130							0.05	
	141							0.03	
	151							0.05	
14. Intersection of US 6 and 50 and Nevada 73, east toward Delta, Utah	9.3								0.02
	19.5								0.02
	29.8								0.02
	40.1								0.02
	50.4								0.01
	60.8								0.01
	73.1								0.02
	83.4								0.02

* Probably contamination from events before 14 July
* Tempiute Turnoff
* VX
* Through Hyala
* Through Adaven

TABLE E.4.1 OFF-SITE DOSES FROM AD TO AE

LED films set out on D-10 days.

Distance from Start	UCLA Station	Duration of Exposure After Shot	Beta Dose	Gamma Dose
miles		hours	r	r
11.0[a]		123		0.030
17.8	35-10	30.5		0.015
19.8	35-11	30.5		0.015
21.8	35-12	30.5		0.015
23.8	35-13	30.5	0.01	0.03
25.8	35-14	30.5	0.025	0.03
26.5		123	0.095	0.095
27.8	35-15	30.5		0.065
29.8	35-16	30.5	0.07	0.08
30.5[b]		123	0.19	0.095
31.0[b]		122	0.21	0.18
34.0[b]		122	0.24	0.185
34.5[b]		122	0.22	0.165
31.3	35-17	30.5	0.25	0.11
33.0		122	0.635	0.335
33.3	35-18	30.5	0.31	0.19
35.0		122	1.000	0.46
35.5		122	0.98	0.46
36.5		122	1.03	0.57
35.2	35-19	30.5	0.79	0.27
37.3	35-20	30.5	0.84	0.26
41.5		122	2.33	0.53
42.0		122	1.225	0.55
42.5		122	1.155	0.555
44.0		121	0.96	0.56
46.0		121	1.480	0.485
51.5		120	0.95	0.42
53.5		126	0.23	0.13
57.0		120	0.40	0.27
57.5		120	0.375	0.265
58.0		120	0.19	0.28

[a] Side road toward Hidden Forest (AC)
[b] Side road toward AB

TABLE E.4.2 OFF-SITE DOSES FROM AD TO AK TO AJ VIA AI TOWARD CALIENTE, NEVADA

LED films set out on D-10 days and recovered on D+6 days.

Distance from Start	Beta Dose	Gamma Dose
miles	r	r
12.0		0.02
13.5		0.03
19.5		0.035
24.5		0.015
27.5		0.02
38.5		0.025
48.0[a]		
58.5		0.04
59.0		0.035
61.56[b]		
69.0	0.125	
70.0	0.04	
73.0	0.03	
73.5	0.04	
76.5	0.025	
77.5	0.05	0.065
78.0	0.05	
78.5	0.07	0.04
87.0	0.015	
87.5	0.01	
98.0[c]		
105.0		0.04
113.0	0.015	0.05
115.0	0.02	

[a] AK
[b] AJ
[c] AI

TABLE E.4.3 OFF-SITE DOSES FROM AE VIA AG TO CALIENTE, NEVADA

LED films set out on D-10 days.

Distance from Start	Duration of Exposure After Shot	Beta Dose	Gamma Dose
miles	hours	r	r
7.0	119	0.820	0.20
15.5	119	0.350	0.170
16.0	119	0.430	0.180
20.5	119	0.170	0.150
21.5	119	0.210	0.110
22.0	119	0.525	0.140
22.5	119	0.160	0.140
23.5	119	0.190	0.110
24.0	118	0.23	0.14
25.0	118	0.19	0.12
26.5	118	0.730	0.14
27.0	118	0.245	0.14
27.5	118	0.17	0.14
29.5[a]			
34.5	118	0.115	0.07
38.5	118	0.06	0.07

[a] AG

TABLE E.4.4 OFF-SITE DOSES FROM AE SOUTH VIA U. S. 93 TOWARD AJ

LED films set out on D-9 days; the UCLA film was recovered at 27 hours and the others recovered on D+5 days.

Distance from Start	UCLA Station	Beta Dose	Gamma Dose
miles		r	r
1.0		2.13	0.945
4.0		0.01	0.035
7.0		0.01	0.045
12.0		0.01	0.05
13.6[a]			
16.9		0.01	0.45
27.9		0.045	0.03
29.9			0.055
32.9		0.37	0.14
35.9		0.15	0.12
40.9		1.99	0.98
43.0	56-3	0.44	0.02
44.9	56-4	0.03	0.02
46.9	56-5	0.05	0.035
47.9		0.015	0.045
49.0	56-6	0.05	0.04
49.9		0.04	0.04
51.0	56-7	0.11	0.035
53.0	56-8	0.25	0.065
54.9	56-9		0.08
56.9	56-10	0.40	0.21
59.1	56-11	0.40	0.22
59.9			0.035
61.3	56-12		0.18
63.3	56-13	0.185	0.12
63.9		0.015	0.03
65.3	56-14		0.07
67.2	56-15	0.75	0.07
70.9		0.01	0.05
71.9[b]			
72.9		2.00	1.18
92.9		0.22	0.30

[a] Caliente
[b] Alamo

TABLE E.4.5 OFF-SITE DOSES FROM AE NORTH TOWARD ELY, NEVADA

REMOo films set out on D-6 days and recovered on D+5 days.

Distance from Start[a]	Gamma Dose
miles	r
19.5	0.04
20.5	0.04
21.5	0.04
23.5	0.04
24.5	0.04
41.3	0.035

[a] Stations on remainder of route were below detectable dose.

TABLE E.4.6 OFF-SITE DOSES FROM ELY WEST VIA U. S. 50 AND SOUTH VIA NEVADA 20 TO CURRANT, NEVADA[a]

Distance from Start	Gamma Dose	Distance from Start	Gamma Dose
miles	r	miles	r
36.0	0.045	72.0	0.055
37.0	0.04	73.0	0.05
38.0	0.04	74.0	0.105
39.0	0.04	77.0	0.055
40.0	0.04	78.0	0.065
41.0	0.05	79.0	0.065
42.0	0.05	80.0	0.06
43.0	0.045	81.0	0.065
44.0	0.05	82.0	0.065
45.0	0.055	83.0	0.08
46.0	0.05	84.0	0.08
47.0	0.04	85.0	0.065
48.0	0.04	86.0	0.065
49.0	0.05	87.0	0.065
50.0	0.045	88.0	0.055
51.0	0.04	89.0	0.08
52.0	0.04	90.0	0.065
53.0	0.05	91.0	0.065
54.0	0.035	92.0	0.05
55.0	0.04	93.0	0.05
56.0	0.04	94.0	0.06
57.0	0.05	95.0	0.04
58.0	0.045	96.0	0.05
59.0	0.05	97.0	0.065
60.0	0.045	98.0	0.055
61.0	0.05	99.0	0.065
63.0[b]		102.0	0.07
64.0	0.05	103.0	0.05
65.0	0.045	104.0	0.055
66.0	0.05	105.0	0.065
67.0	0.05	106.0	0.05
68.0	0.05	107.0	0.05
69.0	0.05	108.0	0.05
70.0	0.05	109.0	0.05
71.0	0.05	110.0	0.045
		111.0	0.045

[a] Readings at other positions along this route (121 miles) were below detectable dose.
[b] Intersection of U. S. 50 and Nevada 20

TABLE E.4.7 OFF-SITE DOSES FROM ROUTE U. S. 50, FROM CURRANT, NEVADA, TO WARM SPRINGS, NEVADA

REECo films set out on D-6 days and recovered on D+5 days.

Distance from Start	Gamma Dose	Distance from Start	Gamma Dose
miles	r	miles	r
29.0	0.065	44.0	0.05
30.0	0.065	45.0	0.055
31.0	0.065	46.0	0.05
32.0	0.065	47.0	0.05
33.0	0.075	48.0	0.055
34.0	0.06	49.0	0.065
35.0	0.05	50.0	0.065
36.0	0.065	51.0	0.065
37.0	0.05	52.0	0.05
38.0	0.05	53.0	0.05
39.0	0.05	54.0	0.04
40.0	0.05	55.0	a
41.0	0.055	56.0	0.05
42.0	0.055	57 to 63	a
43.0	0.055	64.0	0.05

a Below detectable dose

TABLE E.4.8 OFF-SITE DOSES FROM AF NORTHWEST VIA NEVADA 25 TO VX NORTHEAST THROUGH RAILROAD VALLEY THROUGH HYALA, NEVADA, SOUTHEAST THROUGH HUMBOLDT NATIONAL FOREST TO ADAVEN

REECo films set out on D-6 days.

Distance from Start	Duration of Exposure After Shot	Gamma Dose
miles	hours	r
0 to 43.0[a]		
44.0	94	0.05
45.0	94	0.08
46.0	94	0.12
47.0	94	0.15
48.0	94	0.18
49.0	94	0.19
50.0	94	0.19
51.0	94	0.22
52.0	94	0.19
54.0	94	0.16
55.0	95	0.19
56.0	95	0.17
57.0	95	0.14
58.0	95	0.15
59.0	95	0.13
60.0	95	0.10
61.0	95	0.11
62.0	95	0.09
63.0	95	0.09
64.0	95	0.09
65.0	95	0.10
66.0	95	0.10
67.0	95	0.10
68.0	95	0.10
69.0	95	0.10
70.0	95	0.11
71.0	95	0.10
72.0	95	0.09
73.0	95	0.09
75.0	95	0.08
76.0	95	0.17
77.0	95	0.09
78.0	95	0.10
79.0	95	0.11
80.0[b]		
81.0	95	0.09
83.0	96	0.09
84.0	96	0.09
85.0	96	0.08
86.0	96	0.065
87.0	96	0.065
88.0	96	0.055
89.0	96	0.065
90.0	96	0.075
91.0	96	0.065
92.0	96	0.065
93.0	96	0.065
94.0	96	0.075
95.0	96	0.065
96.0	97	0.05
97.0	97	0.055
99.0	97	0.05
100.0	97	0.05
101.0	97	0.04
102.0[c]	97	0.03
103.0	98	0.09
104.0	98	0.04
105.0	98	0.05
106.0	98	0.05
107.0	98	0.065
108.0	98	0.05
109.0	98	0.04
110.0	98	0.04
111.0	98	0.08
112.0	98	0.05
114.0	98	0.055
115.0	98	0.05
116.0	98	0.05
117.0	99	0.05
118.0	99	0.05
119.0	99	0.055
120.0	99	0.05
121.0	99	0.10
122.0	99	0.05
123.0	99	0.04
124.0	99	0.05

[a] Below detectable dose
[b] VX
[c] Hyala

TABLE E.4.9 OFF-SITE DOSES FROM AH VIA U. S. 91 TO JT

LSD films set out on D-11 days and recovered on D+3 days.

Distance from Start	Beta Dose	Gamma Dose
miles	r	r
37.5	0.055	0.025
49.3		0.04
59.2		0.05
62.1		0.04
80.6		0.03

TABLE E.4.10 OFF-SITE DOSES FROM AN EAST TOWARD MODENA, UTAH

LSD films set out on D-9 days.

Distance from Start	UCLA Station	Duration of Exposure After Shot	Beta Dose	Gamma Dose
miles		hours	r	r
0.9	115-25	38	0.02	0.09
2.5	115-24	38	0.02	[illegible]
3.0		119		[illegible]
4.1	115-23	38	0.01	[illegible]
5.5	115-22	38	0.025	[illegible]
7.4	115-21	38	0.07	0.05
8.7	115-20	38	0.01	[illegible]
10.0		119	0.01	[illegible]
10.2	115-19	38	0.015	[illegible]
13.0		115		[illegible]
15.0		118		[illegible]
22.0		115		[illegible]

TABLE E.4.11 OFF-SITE DOSES FROM BEAVER, UTAH, VIA UTAH 21 AND NEVADA 73 TO U. S. 6 AND U. S. 50

LSD films set out on D-10 days, REECo films set out on D-3 days; UCLA films recovered at 37 hours, all others on D+3 days.

Distance from Start	UCLA Station	Beta Dose	Gamma Dose
miles		r	r
3.0		0.01	0.09
4.3	200-2		0.07
9.1			0.015
12.3	200-5		0.015
13.2			0.02
18.3			0.01
20.1	200-8		a
22.8	200-9		0.005
27.5			0.03
27.8	200-11		
29.6			0.02
30.4	200-12		0.01
30.6			0.02
32.6[a]			
32.9	200-13		0.03
34.6			0.04
35.7	200-14		0.01
38.0	200-15		0.01
38.8		0.01	0.005
40.7	200-16	0.025	0.01
43.4	200-17		0.015
46.0	200-18		0.01
46.3		0.02	0.01
47.3		0.01	0.00
48.6	200-19		0.00
51.0	200-20		0.01
53.4		0.015	0.01
53.7	200-21		0.01
56.3	200-22		0.01
61.5	200-24		0.01
64.1	200-25		a
66.6	200-26		0.01
67.8		0.005	0.04
68.8[a]			
69.2	200-27		0.01
71.8	200-28		a
74.4	200-29		0.015
76.9	200-30		0.01
79 to 120.4[b]			a

[a] Below detectable dose
[b] Milford
[c] AU
[d] REECo films. LSD films at all other stations

TABLE E.4.12 OFF-SITE DOSES FROM AU TO AT

LSD films set out on D-10 days and recovered on D+3 days.

Distance from Start	Beta Dose	Gamma Dose
miles	r	r
1.1		0.015
3.1	0.015	0.02
4.1	0.01	0.015
7.1		0.035
11.1		0.035
12.1		0.04
13.1		0.015
15.1	0.02	0.01
16.1	0.01	0.03
18.1	0.025	0.04
23.1		0.03
28.1		0.015

TABLE 2.4.13 OFF-SITE DOSES FROM NE NORTH VIA UTAH 18 TO AS

LED films set out on D-9 days and recovered on D+3 days.

Distance from Start miles	Gamma Dose r
5.0	0.015
18.0	0.010
38.0	0.020
39.0	0.020
37.5*	
41.0	0.010
42.0	0.010
45.0	0.020
47.0	0.020

*Enterprise

TABLE 2.4.14 OFF-SITE DOSES FROM INTERSECTION OF UTAH 19 AND UTAH 56 VIA UTAH 19 THROUGH LUND TO AT, WHERE BY COUGAR SPAR MINE, SOUTH TO MODENA, UTAH 56 EAST TO STARTING POINT

LED films set out on D-11 days; UCLA film recovered at 44 hours; others on D+3 days.

Distance from Start miles	UCLA Station	Beta Dose r	Gamma Dose r
2.0			0.01
2.7	165-14		0.015
5.1			0.02
6.1			0.015
8.1			0.02
11.2			0.01
13.3			0.025
15.3			0.025
31.7*			
33.8			0.02
34.8			0.015
35.8			0.035
36.8			0.015
37.8			0.015
38.8			0.04
40.8		0.01	0.01
41.8		0.01	0.03
43.9			0.03
46.9		0.01	0.03
47.9		0.01	0.04
49.9		0.01	0.03
51.9			0.03
53.9			0.01
55.9		0.01	0.03
56.5*			—
56.9			0.015
57.7		0.015	0.015
58.7			0.03
59.7			0.025
60.7		0.01	0.025
63.7			0.025
65.7			0.025
66.7			0.025
67.7		0.025	0.03
68.7			0.035
69.7		0.02	0.02
70.7			0.04
71.7			0.035
72.6		0.01	0.025
73.7		0.015	0.03
76.7		0.01	0.025
78.7		0.015	0.025
79.7		0.01	0.03
80.7		0.035	0.015
81.7		0.01	0.025
82.7			0.03
83.7		0.01	0.03
84.7			0.03
85.7			0.005
86.7		0.02	0.01
87.7		0.01	0.01
89.7		0.015	0.015
91.7		0.01	0.04
92.7			0.04
93.7			0.01
94.7		0.015	0.016
95.7		0.015	0.025
99.7		0.01	0.03
102.7		0.01	0.03
103.7		0.02	0.01
106.0*			
114.1			0.04
117.1			0.035
120.3			0.045
123.3			0.04
126.6			0.02
128.7			0.01
133.9			0.02
135.9			0.015
142.1			0.035
147.9			0.03

*Lund
*AT
*Modena

TABLE 2.4.15 OFF-SITE DOSES FROM INTERSECTION OF U. S. 91 AND UTAH 56 AT CEDAR CITY, NORTH TO BEAVER, UTAH

Distance from Start miles	Beta Dose r	Gamma Dose r
1.9		0.025
3.9		0.03
4.9		0.035
5.9	0.01	0.01
9.9		0.015

TABLE 2.4.15 OFF-SITE DOSES FROM INTERSECTION OF U. S. 91 AND UTAH 56 AT CEDAR CITY, NORTH TO BEAVER, UTAH (Contd)

LED films set out on D-10 days and recovered on D+3 days.

Distance from Start miles	Beta Dose r	Gamma Dose r
10.9	0.01	
11.9		0.015
13.9		0.01
14.9		0.035
17.9		0.01
23.0		0.01
25.0		0.025
26.0		0.015
27.0		0.03
28.0		0.03
30.0		0.02
32.0		0.025
37.0		0.02
38.0*		0.025
43.0	0.01	0.02
49.1		0.03
51.1		0.025
52.1		0.015
53.1		0.01

*Intersection of Utah 20

TABLE 2.4.16 OFF-SITE DOSES FROM JUNCTION OF UTAH 24 AND UTAH 62 SOUTH VIA UTAH 62 TO BC AND SOUTH VIA UTAH 22 TO SD

LED films set out on D-9 days.

Distance from Start miles	Duration of Exposure After Shot hours	Beta Dose r	Gamma Dose r
2.0	142		0.04
3.9	142		0.03
7.9	142		0.02
11.9	142		0.015
14.0	142	0.01	0.02
16.0	142		0.02
18.0	142		0.03
20.0	142		0.03
22.1	142		0.04
24.1	143		0.035
26.1	143	0.015	0.04
28.1	143	0.01	0.02
32.0	143		0.04
33.0*			
36.0	143		0.045
42.1	143		0.04
48.1	143		0.02
50.1	143		0.02
52.1	143		0.03
54.1	143		0.025
56.1	143	0.01	0.03
58.1	143		0.035
62.1	143		0.02
64.1	144		0.02
66.1	144		0.02
68.1	144		0.15
74.1	144		0.02

*BC

TABLE 2.4.17 OFF-SITE DOSES FROM CARBONVILLE, UTAH, VIA UTAH 54 TO BOULDER, UTAH; VIA UTAH 117 TO TEASDALE; VIA UTAH 24 TO LOA, UTAH

LED films to 27.6 miles set out on D-11 days; remainder set out on D-10 days.

Distance from Start miles	Duration of Exposure After Shot hours	Gamma Dose r
0.0	22	0.04
1.6	22	0.025
3.6	22	0.015
5.6	22	0.02
11.6	22	0.02
17.6	22	0.015
21.6	22	0.015
23.6	22	0.015
27.6	22	0.035
33.9*		
34.7	22	0.055
36.6	22	0.02
41.8	22	0.04
43.8	22	0.04
45.8	22	0.035
49.2	22	0.04
49.1	22	0.02
51.1	22	0.035
53.2		
54.6	22	0.035
66.6	22	0.025
68.5	22	0.025
70.5	22	0.015
72.5	22	0.025
74.5	22	0.025
76.5	22	0.04
78.5	22	0.045
80.5	22	0.015
82.8	22	0.015
84.6	22	0.035
86.5	22	0.025
88.5	22	0.025
90.5	22	0.025
104.5	22	0.025
108.6	22	0.035
110.6	22	0.030
112.6		
114.6	22	0.07
116.6	22	0.035
118.6	22	0.04
120.6	22	0.02

*Escalante
*Boulder
*Teasdale

TABLE E.4.18 OFF-SITE DOSES FROM LOA, UTAH, WEST VIA UTAH 24 TO SIGURD, UTAH

LED films set out on D-10 days.

Distance from Start	Duration of Exposure After Shot	Beta Dose	Gamma Dose
miles	hours	r	r
2.7	126		0.065
4.6	126		0.03
8.7	126		0.045
10.7	126		0.02
12.7	126		0.055
14.7	126		0.04
18.8	126		0.04
20.8	126	0.025	0.02
22.8	126		0.02
28.8	127		0.03
30.8	127	0.015	0.02
33.0	127		0.04
39.0	127	0.02	0.04
41.0	127		0.05

TABLE E.4.19 OFF-SITE DOSES FROM TRIPLE, UTAH, VIA U. S. 6 AND 50 TO PRICE, UTAH

Distance from Start	Gamma Dose
miles	r
5.2	0.04
7.3	0.04
9.4	0.08
11.5	0.065
13.6	0.065
15.7	0.055
17.9	0.04
20.0	0.04
22.1	0.04
24.5	0.05
26.7*	0.065
33.1	0.055
35.3	0.04
37.3	0.03
43.8	0.04
50.2	0.03

*Soldier Summit

TABLE E.4.20 OFF-SITE DOSES FROM MT. CARMEL, UTAH, NORTH VIA UTAH 64, MT. TRUMBULL, ARIZONA, TUWEEP, ARIZONA, NORTH VIA SHORT CREEK, ARIZONA, TOWARD HURRICANE, UTAH

LED films set out on D-12 days and recovered on D+1 days.

Distance from Start	Gamma Dose
miles	r
22.9	0.035
39.9	
49.4*	
68.5*	
70.8	0.015
73.8	0.015
89.8	0.025
98.8	0.007
125.6*	
136.2	0.015
137.2	0.02

*Mt. Trumbull
*Tuweep
*Short Creek

TABLE E.4.21 OFF-SITE DOSES FROM JUNCTION OF U. S. 89 AND UTAH 10 NE SALINA, UTAH, NORTH VIA U. S. 89 TO TRIPLE, UTAH

LED films set out on D-9 days and recovered on D+5 days.

Distance from Start	Gamma Dose
miles	r
0.9	0.03
6.1	0.03
7.4*	0.03
10.3	0.03
17.6	0.04
19.6	0.03
21.9	0.05
27.0	0.04
29.0*	0.03
35.0	0.05
39.2	0.04
41.3	0.03
43.4	0.03
45.4	0.04
49.5	0.04
51.5	0.04
57.7	0.04
59.7*	0.04
61.8	0.04
65.9	0.04
70.1	0.04
72.1	0.04
74.2	0.04
80.4	0.05
82.4	0.04
84.5	0.04
86.6	0.03

*Axtell
*Manti
*Fairview

TABLE E.4.22 OFF-SITE DOSES FROM INTERSECTION OF U. S. 89 AND U. S. 89A NE KANAB, UTAH, SOUTH VIA U. S. 89A VIA BI TO BQ

LED films set out on D-10 days.

Distance from Start	Duration of Exposure After Shot	Beta Dose	Gamma Dose
miles	hours	r	r
3.0	94		0.02
4.0	95		0.02
8.0	95		0.01
10.0	95	0.035	
11.0	95	0.02	
13.0	95		0.02
14.0	95		0.015
16.0	95		0.015
18.0	95		0.045
22.0	95		0.04
23.0	95		0.02
25.0	95		0.03
26.0	95		0.03
27.0	95		0.02
28.0	95		0.035
29.0	95	0.01	0.015
31.0	95		0.015
37.4*			
39.0	95	0.01	0.015
40.0	96		0.015
43.0	96		0.02
44.0	96		0.015
45.0	96		0.015
46.0	96		0.025
47.0	96		0.02
48.0	96		0.025
49.0	96		0.01
51.0	96		0.005
54.0	96		0.025
55.0	96		0.01
56.0	96		0.025
58.0	96		0.025
59.0	96		0.025
62.0	96		0.015
64.0	96	0.01	0.015
65.0	96		0.03
68.0	96		0.01
69.0	96		0.02
70.0	96		0.025
71.0	96		0.01
72.0	96		0.01
77.0	97		0.02
78.0	97		0.02
80.0	97		0.01
81.0	97		0.02
83.0	97		0.025

*BI

TABLE E.4.23 OFF-SITE DOSES FROM BI, EAST VIA U. S. 89A TO BITTER SPRINGS, ARIZONA

LED films set out on D-10 days.

Distance from Start	Duration of Exposure After Shot	Gamma Dose
miles	hours	r
0.0	98	0.025
2.0	98	0.025
4.0	98	0.025
6.0	98	0.01
8.0	98	0.02
12.0	98	0.005
16.0	99	0.025
18.0	98	0.035
22.0	99	0.02
32.0	98	0.015
34.0	98	0.015
36.0	98	0.03
52.0	98	0.03
54.0	99	0.02

TABLE E.4.24 OFF-SITE DOSES FROM INTERSECTION OF U. S. 89 AND U. S. 66 EAST OF FLAGSTAFF, ARIZONA, NORTH VIA U. S. 89 TO BF.

LED films set out on D-12 days and recovered on D+3 days.

Distance from Start	Gamma Dose
miles	r
9	0.015
11.0	0.025
15.0	0.025
17.0	0.01
23.0	0.03
35.0	0.04
63*	
70.0	0.045
76.0	0.025
78.0	0.02
94.0	0.01
98.0	0.03
102.0	0.025
104.0	0.03
111*	
114.0	0.03
116.0	0.02
118.0	0.03
122.0	0.02
124.0	0.02
130*	
158.0	0.02
162.0	0.02
166.0	0.015

*BF
*Bitter Springs
*Page

TABLE E.4.25 OFF-SITE DOSES FROM [illegible] VIA ARIZONA 64 TO WILLIAMS, ARIZONA

LSD films set out at D-11 days.

Distance from Shore	Duration of Exposure After Shot	Gamma Dose
[illegible]	hours	r
[illegible]	76	0.03
[illegible]	76	0.015
[illegible]	76	0.02
[illegible]	76	0.01
[illegible]	76	0.02
24.0	76	0.03
26.0	76	0.015
28.0	76	0.02
40.0	76	0.02
50.0	77	0.02
52.0	77	0.03

TABLE E.4.26 OFF-SITE DOSES FROM [illegible] TOWARD [illegible]

LSD films set out on D-12 days.

Distance from Start	Duration of Exposure After Shot	Gamma Dose
miles	hours	r
4.0	73	0.01
6.0	73	0.03
10.0	73	0.02
12.0	73	0.02
14.0	73	0.03
16.0	73	0.02
22.0	73	0.02
30.0	73	0.025
32.0	73	0.02
36.0	73	0.005
38.0	73	0.02
42.0	73	0.01
44.0	73	0.02
48.0	73	0.025
52.0	74	0.015
54.5	74	0.02

TABLE E.4.27 OFF-SITE DOSES, MISCELLANEOUS ROUTES

Distance from Start	Date Film Set Out	Date Recovered	Beta Dose	Gamma Dose	Type of Film
miles			r	r	
From North Las Vegas toward Glendale					
4.0	D-10	D+6	0.035	0.035	LSD
From intersection of U. S. 91 and Nevada 12 toward Overton					
5.0	D-10	D+6		0.035	LSD
6.0	D-10	D+6	0.20	0.21	LSD
9.0	D-10	D+6		0.01	LSD
From [illegible] to Kanab, Utah					
10.0	D-11	D+4		0.04	LSD
20.0	D-11	D+4		0.025	LSD
36.0	D-11	D+4		0.02	LSD
38.0	D-11	D+4		0.025	LSD
40.0	D-11	D+4		0.04	LSD
From [illegible] to JK					
5.0	D-11	D+4		0.02	LSD
19.0	D-11	D+4		0.03	LSD
From [illegible] West via Utah 15 to U. S. 91 to Cedar City					
10.0	D-10	D+5		0.015	LSD
12.0	D-10	D+5		0.025	LSD
13.0	D-10	D+5		0.03	LSD
59.0	D-10	D+5		0.01	LSD
68.0	D-10	D+5		0.02	LSD
69.0	D-10	D+5		0.03	LSD
78.0	D-10	D+5		0.01	LSD
From [illegible] to [illegible]					
4.0	D-11	D+4		0.03	LSD
28.0	D-11	D+4		0.045	LSD
48.0	D-11	D+4		0.02	LSD
62.0	D-11	D+4		0.03	LSD
From [illegible] to [illegible]					
26.0	D-12	D+3		0.04	LSD
18.0	D-12	D+3		0.055	LSD
16.0	D-12	D+3		0.065	LSD
12.0	D-12	D+3		0.035	LSD
8.0	D-12	D+3		0.035	LSD
From junction of U. S. 89 and Utah 13, West via Utah 13 to junction with U. S. 91 South via U. S. 91 to Beaver, Utah					
15.3	D-9	D+5		0.03	LSD
18.4	D-9	D+5		0.01	LSD
38.4	D-9	D+5		0.02	LSD
From junction of U. S. 91 and Utah 13 at Cove Fort, Utah, North to Nephi, Utah[a]					
17.0	D-3	D+5		0.03	REECo
20.4	D-3	D+5		0.03	REECo
50.0	D-3	D+5		0.03	REECo
62.3	D-3	D+5		0.04	REECo
From [illegible] North via U. S. 89 to Richfield, Utah					
24.2	D-10	D+3		0.02	LSD
48.0	D-10	D+3		0.02	LSD
From Kanab, Utah, via U. S. 89 to [illegible]					
14.0	D-11	D+4		0.03	LSD
From Cedar City, Utah, via JK via U. S. 89 to Utah 20					
4.0	D-10	D+3		0.01	LSD
53.3	D-10	D+3		0.025	LSD
From junction of U. S. 91 and Utah 20, East via Utah 20 to junction of U. S. 89 and Utah 20, and via U. S. 89 to [illegible]					
30.5	D-10	D+3		0.035	LSD
40.9	D-10	D+3		0.01	LSD
44.3	D-10	D+3		0.01	LSD
From AV (near Diamond Butte) to AW					
10.4	D-10	D+3		0.025	LSD
13.4	D-10	D+3		0.015	LSD
15.4	D-10	D+3		0.015	LSD
From intersection of U. S. 93 and Alternate U. S. 50 South to Ely, Nevada, (56.6 miles): Below detectable dose (REECo film)					

[a] Doses at remaining stations on this route were below detectable dose levels.

Pages 269 through 274 were deleted.