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PALO VERDE NUCLEAR GENERATING STATION
P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

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January 28, 1992

Mr. John B. Martin
Regional Administrator, Region V
United States Nuclear Regulatory Commission
1450 Maria Lane, Suite 210
Walnut Creek, California 94596-5368

Dear Mr. Martin:

Subject: Docket Nos. STN 50-528/529/530
License Nos. NPF-41/51/65
Palo Verde Nuclear Generating Station (PVNGS)
Units I, II and III
1992 Annual Emergency Plan Exercise 90 Day Submittal
File: 92-002-493

Attached for your review and comment are the "Exercise Objectives and Extent of Play" for the 1992 PVNGS Annual Emergency Plan Exercise. This information is being provided at this time in order to conform to the 90 day submittal requirement that is necessary prior to conduct of the Exercise. Our Exercise is currently scheduled for April 29, 1992.

The information enclosed is considered confidential and should be withheld from public disclosure until the conclusion of the Exercise.

If you have any questions or require additional information, please do not hesitate to contact me at (602) 393-6280.

Very truly yours,

H. F. Bieling

Harry F. Bieling
Manager,
Emergency Planning

HFB/JEM/cb

Enclosures

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Page Two
1992 Annual Emergency Plan Exercise 90 Day Submittal
January 28, 1992

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2.0 OBJECTIVES AND EXTENT OF PLAY

2.1 Objectives

The following objectives have been chosen to be demonstrated during this exercise. These objectives have been chosen from a plan, maintained by the PVNGS Emergency Planning Department, that places objectives on a six year rotation. The criteria in which to evaluate the accomplishment of these objectives can be found in Section 4.4 of this manual.

2.1.1 Arizona Public Service (APS)/Palo Verde Nuclear Generating Station (PVNGS)

A. General Objectives

1. Demonstrate the capability to assess plant conditions.
2. Demonstrate the capability to classify the event per EPIP-02.
3. Demonstrate the capability to identify projected trends and potential consequences.
4. Demonstrate the capability to alert and notify PVNGS emergency response personnel in a timely manner.
5. Demonstrate the capability to mobilize PVNGS emergency response personnel within the time frames specified in the Emergency Plan.
6. Demonstrate the capability of PVNGS to notify State and county agencies within 15 minutes of emergency declaration.
7. Demonstrate the capability to determine actual or potential offsite radiological hazards.
8. Demonstrate the capability to make timely Protective Action Recommendations to offsite agencies.
9. Demonstrate the capability to track plume passage.
10. Demonstrate the proper use of radiation monitoring instruments and dosimetry.
11. Demonstrate the proper use of sampling equipment and contamination control techniques.

12. Demonstrate the capability to draw and analyze a PASS sample during simulated adverse radiological conditions.
13. Demonstrate the capability to respond effectively to a contaminated injured individual within the plant.
14. Demonstrate the capability to coordinate with ambulance and hospital personnel for handling, transport, and treatment of a contaminated injured individual.

B. Facility Objectives

1. EOF

- a. Demonstrate the adequacy of the Emergency Plan and Emergency Plan Implementing Procedures both in terms of management control and workability of the procedures for the EOF.
- b. Demonstrate the adequacy of communication links between CR/STSC, TSC, government emergency facilities, Survey Teams, and the EOF.
- c. Demonstrate the effectiveness and availability of appropriate emergency equipment and supplies.
- d. Demonstrate the adequacy of security access control.
- e. Demonstrate activation and staffing of the EOF in a timely fashion.
- f. Demonstrate the functional adequacy of the EOF.

2. TSC

- a. Demonstrate the adequacy of the Emergency Plan and Emergency Plan implementing Procedures both in terms of management control and workability of the procedures for the TSC.
- b. Demonstrate the adequacy of communication between the CR/STSC, OSC, EOF, inplant response teams, and the TSC.
- c. Demonstrate the effectiveness and availability of appropriate emergency equipment and supplies.
- d. Demonstrate the adequacy of security access control.

- e. Demonstrate activation and staffing of the TSC in a timely fashion.
- f. Demonstrate the functional adequacy of the TSC.
- g. Demonstrate the capability to perform core damage assessment and to project the time left until the core is uncovered.

3. CR/STSC

- a. Demonstrate the adequacy of the Emergency Plan and Emergency Plan Implementing Procedures both in terms of management control and workability of the procedures for the CR/STSC.
- b. Demonstrate the adequacy of communication between the TSC, OSC, EOF, inplant response teams, and the CR/STSC.
- c. Demonstrate activation and staffing of the STSC in a timely fashion.
- d. Demonstrate the functional adequacy of the STSC.

4. OSC

- a. Demonstrate the adequacy of the Emergency Plan and Emergency Plan Implementing Procedures both in terms of management control and workability of the procedures for the OSC.
- b. Demonstrate the adequacy of communication links between inplant response teams, the TSC/STSC, and the OSC.
- c. Demonstrate the effectiveness and availability of appropriate emergency equipment and supplies.
- d. Demonstrate activation and staffing of the OSC in a timely fashion.
- e. Demonstrate the functional adequacy of the OSC.
- f. Demonstrate the capability to evacuate to and function from the backup OSC.

5. JENC

- a. Demonstrate the adequacy of the Emergency Plan and the Joint Public Information Procedures both in terms of management control and workability of the procedures for the JENC.
- b. Demonstrate the adequacy of communication links between government emergency facilities, the utility's emergency facilities, and the JENC.
- c. Demonstrate the effectiveness and availability of appropriate emergency equipment and supplies.
- d. Demonstrate the adequacy of security access control.
- e. Demonstrate activation and staffing of the JENC in a timely fashion.
- f. Demonstrate the functional adequacy of the JENC.

2.1.2 State of Arizona/Maricopa County

A. Core objectives

1. Mobilization of Emergency Personnel

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

2. Facilities: Equipment, Displays, and Work Environment

Demonstrate the adequacy of facilities, equipment, displays, and other materials to support emergency operations.

3. Direction and Control

Demonstrate the capability to direct and control emergency operations.

4. Communications

Demonstrate the capability to communicate with all appropriate personnel at facilities and in the field.

5. Plume Dose Projection

Demonstrate the capability to develop dose projections and protective action recommendations regarding evacuation and sheltering.

6. Plume Protective Action Decision Making

Demonstrate the capability to make ~~to make~~ timely and appropriate protective action decisions (PAD).

7. Alert and Notification

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume exposure pathway emergency planning zone (EPZ) and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

8. Public Instructions and Emergency Information

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

9. Emergency Information - Media

Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information to the news media.

10. Emergency Information - Public Inquiry

Demonstrate the capability to establish and operate public inquiry in a coordinated and timely manner.

11. Implementation of protective actions - use of KI for emergency workers

Demonstrate the capability and resources to implement potassium iodide (KI) protective actions for emergency workers.

12. Implementation of Protective Actions - Special Populations

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

B. Scenario dependent objectives

13. Implementation of Protective Actions - Schools

Demonstrate the capability and resources necessary to implement protective actions for school children within the plume exposure pathway emergency planning zone (EPZ).

14. Traffic and Access Control

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

15. Relocation Centers - Monitoring, Decontamination, and Registration

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination, and registration of evacuees.

16. Congregate Care

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for congregate care of evacuees.

17. Medical Services - Transportation

Demonstrate the adequacy of vehicles, equipment, procedures, and personnel for transporting contaminated, injured, or exposed individuals.

18. Medical Services - Facilities

Demonstrate the adequacy of the equipment, procedures, supplies, and personnel of medical facilities responsible for treatment of contaminated, injured, or exposed individuals.

C. Other objectives demonstrated every six years

19. Supplementary Assistance (Federal/Other)

Demonstrate the capability to identify the need for external assistance and to request such assistance from Federal and other support organizations.

2.2 Extent of Play

2.2.1 Facility Activation

A. Utility Response

1. Unit 2 Control Room

The Control Room will not be used. Instead, the Control Room Simulator will be used to simulate the Control Room. An off-shift Control Room staff will be used to represent the on-shift plant operator organization.

2. Simulator Satellite Technical Support Center (STSC)

The Simulator STSC will be fully activated.

3. Technical Support Center (TSC)

The TSC will be fully activated.

4. Unit 2 Operations Support Center (OSC)

The OSC will be fully activated.

5. Emergency Operations Facility (EOF)

The EOF will be fully activated.

6. Forward News Center (FNC)

The FNC will be fully activated at the Notification of Unusual Event classification and will deactivate when the JENC is activated.

7. Corporate Emergency Center (CEC)

The CEC will not be activated.

B. State/County Response

1. State Emergency Operations Center (EOC)

The State EOC (including the Public Inquiry Center) will be fully activated.

2. Maricopa County Emergency Operations Center (EOC)

The County EOC will be fully activated.

3. Joint Emergency News Center (JENC)

The JENC will be fully activated.

4. Radiological Emergency Assistance Team (REAT)

REAT Forward will be simulated, and no Field Survey Teams will be dispatched.

5. Reception and Care Center

One Reception and Care Center will be activated.

2.2.2 General Response Activities

- A. The Notification Alert Network (NAN) will be used.
- B. Government response organizations will be alerted.
- C. Participating state and county response agencies will be mobilized.
- D. Participating state and county response organizations will be deployed.
- E. Utility Offsite Survey Teams will be activated. One State survey team will be activated to be detailed for Reception and Care Center monitoring.
- F. Primary and backup communications systems will be used as required by the exercise.
- G. Use of the siren portion of the PVNGS Site Warning Siren/Public Address System will be simulated. The public address portion of this system will be used.
- H. Use of the offsite Siren Alerting System will be simulated. Siren sounding will not occur. Emergency Broadcast System (EBS) messages will be generated and distributed, but not broadcast. Warnings will be disseminated among the exercise participants through the emergency communications system and to the representative resident group through a supplemental warning team for the evacuation.
- I. Onsite assembly, accountability, and evacuation will be simulated.
- J. Inplant and onsite teams will don protective clothing as appropriate to the scenario.

- K. A simulated contaminated injured individual will be treated onsite and transported offsite for treatment at Maryvale Samaritan Medical Center by ground transportation.
- L. The CEC will not respond. CEC activity simulation will be provided by controllers for the duration of the Exercise.
- M. The JENC staff will produce coordinated press releases and conduct oral briefing of actual and simulated media personnel.

Evaluation of Drill/Exercise Objectives

Instructions:

In order to ensure the validity of the evaluation, all Exercise Controllers and Evaluators will use the same criteria for evaluating objectives.

On the forms, each of the stated objectives for this Exercise are provided, depending on the area of evaluation. Each Evaluator during the conduct of the Exercise should observe as much of the Player's actions as is possible while recording key events or items on the Event Log. These observations and notes must then form the basis for determining whether a particular objective can be categorized as:

- Demonstrated - **D**
- Not Demonstrated - **ND**
- Demonstrated With Issue - **DWI**
- Not Applicable - **NA**
- Not Observed - **NO**

Specific evaluation criteria is listed with each stated objective, however, the following general criteria is to be used to correlate the above categories with your objective evaluations and observations:

- **Demonstrated (D)** - Personnel and equipment generally performed better than expected. Any errors or problems were minor in nature and were either corrected on the spot or since they had no impact on the emergency response, were noted to be corrected at a later date.
- **Not Demonstrated (ND)** - Personnel and equipment consistently failed to perform as required. Serious deficiencies were noted which severely impaired the capability to perform a required function.
- **Demonstrated With Issue (DWI)** - Personnel and equipment were generally able to perform and complete a required function, however, certain aspects failed to meet expectations. (For example, an emergency facility is able to perform its intended functions, however, one of its staffing positions did not have a qualified individual arrive to oversee its activities.)
- **Not Applicable (NA)** - Activities associated with a particular objective were not applicable to the area being evaluated.
- **Not Observed (NO)** - Activities associated with a particular objective were not performed (or not observed) and thus could not be evaluated.

Location: _____ Evaluator Name: _____

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

1. **Demonstrate the capability to assess plant conditions.**

Evaluation Criteria:

Minimum criteria for this objective:

- Adequate instrumentation or sampling data was made available.
- Current procedures, tech specs and plant drawings were available.
- Personnel did not become too deeply involved in a specific activity to the exclusion of others.
- Personnel were effective in resolving differences of opinion regarding technical issues and actions to be taken.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

2. Demonstrate the capability to classify the event per EPIP-02.

Evaluation Criteria:

Minimum criteria for this objective:

- Current controlled copy of EPIP-02 was available and used.
- Information and data necessary to correctly classify events was readily available and used by personnel to classify events.
- Event classification was made in a timely manner IAW EPIP-02.
- EPIP-02 criteria for event classification was adequate to insure proper classification of all events.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

3. Demonstrate the capability to identify projected trends and potential consequences.

Evaluation Criteria:

Minimum criteria for this objective:

- Adequate data from instrumentation, sampling and verbal reports was available and used.
- Current procedures, tech specs and plant drawings were available and used.
- Personnel developed probable accident sequences and accurately identified probable consequences for each sequence.
- Personnel did not become too deeply involved in a specific activity to the exclusion to others.
- Personnel were effective in resolving differences of opinion regarding technical issues and actions to be taken.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

4. Demonstrate the capability to alert and notify PVNGS emergency response personnel in a timely manner.

Evaluation Criteria:

Minimum criteria for this objective:

- Current procedures, up-to-date notification lists and rosters were available.
- Alert/notification methodology was adequate to insure timely notification and/or alerting of emergency response personnel.
- Equipment required for alert and notification was operational and functionally adequate.
- Personnel were able to implement procedures and operate equipment.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

5. Demonstrate the capability to mobilize PVNGS emergency response personnel within the time frames specified in the Emergency Plan.

Evaluation Criteria:

Minimum criteria for this objective:

- The TSC was declared activated by the EC within sixty (60) minutes of an Alert or higher event declaration.
- The EOF was declared activated by the EOD within sixty (60) minutes of an Alert or higher event declaration.
- The minimum staffing requirement from EPIP-12 was met by the OSC within sixty (60) minutes of an Alert or higher event declaration.
- The JENC was activated in a timely manner.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

6. Demonstrate the capability of PVNGS to notify State and county agencies within 15 minutes of emergency declaration.

Evaluation Criteria:

Minimum criteria for this objective:

- Current procedures for State and county notification were available and used.
- Procedural methodology and equipment of offsite notification were adequate.
- Notifications were made to offsite authorities within fifteen (15) minutes of emergency declarations at Alert and higher categories.
- Notifications were made in a clear unambiguous manner and included all required information.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

7. Demonstrate the capability to determine actual or potential offsite radiological hazards.

Evaluation Criteria:

Minimum criteria for this objective:

- Current copy of EPIP-14 was available and used by dose assessment personnel.
- Plant status and meteorological data was available and used to determine offsite radiological consequences.
- Equipment for performing dose assessment was operational.
- A backup system was available for dose projections.
- Field monitoring/sampling data was compared with projected doses.
- Updated projections were made as plant, meteorological or field data parameters changed.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

8. Demonstrate the capability to make timely Protective Action Recommendations to offsite agencies.

Evaluation Criteria:

Minimum criteria for this objective:

- Current copies of EPIP-13 and EPIP-15 were available and used.
- Information and data required for formulation of Protective Action Recommendations was available.
- Protective Action Recommendations were correctly communicated in a timely manner to offsite authorities.
- Protective Action Recommendations were updated or modified as plant status or dose projections changed.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

9. Demonstrate the capability to track plume passage.

Evaluation Criteria:

Minimum criteria for this objective:

- Current procedures and forms were available.
- Equipment required to detect and monitor the plume was available and operational.
- The RAComm effectively positioned field monitoring teams to facilitate tracking of the plume.
- Communications between field teams and the RAComm were short, concise and accurate.
- Field teams demonstrated the capability to make direct measurements of radiation intensity and forward the information to the RAComm.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

10. Demonstrate the proper use of radiation monitoring instruments and dosimetry.

Evaluation Criteria:

Minimum criteria for this objective:

- All instrumentation was within calibration date and operational.
- Operational checks were performed on instrumentation prior to use.
- Personnel properly operated radiation monitoring instruments.
- Personnel were provided dosimeters appropriate to potential radiological conditions and in accordance with plant procedures.
- Dosimeters were worn and handled properly by personnel.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

11. Demonstrate the proper use of sampling equipment and contamination control techniques.

Evaluation Criteria:

Minimum criteria for this objective:

- Equipment, instruments and supplies required for sample collection were available.
- Equipment and instruments were handled in a manner to prevent cross contamination.
- Samples were properly bagged and labeled.
- Personnel properly operated sampling instruments and equipment while maintaining contamination control techniques.
- Adequate procedural guidelines were available.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

12. Demonstrate the capability to draw and analyze a PASS sample during simulated adverse radiological conditions.

Evaluation Criteria:

Minimum criteria for this objective:

- Procedures for performing post-acc sampling were adequate.
- Equipment, instruments and supplies required for sample collection were available.
- Equipment and instruments were handled in a manner to prevent cross contamination.
- Samples were properly bagged and labeled.
- Personnel properly operated sampling instruments and equipment while maintaining contamination control techniques.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

13. Demonstrate the capability to respond effectively to a contaminated injured individual within the plant.

Evaluation Criteria:

Minimum criteria for this objective:

- Procedures, equipment and supplies to provide treatment for a contaminated individual were readily available.
- Appropriate first aid and/or medical treatment were provided to the victim(s) in a timely manner.
- Effective exposure and/or contamination control techniques were used.
- Radiological concerns did not interfere in the delivery or timeliness of critical medical care.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. General Objectives

Objective:

14. Demonstrate the capability to coordinate with ambulance and hospital personnel for handling, transport, and treatment of a contaminated injured individual.

Evaluation Criteria:

Minimum criteria for this objective:

- Procedures, equipment and supplies for handling and site transport of the victim(s) were available.
- Procedures, equipment and supplies to expedite access to the site by offsite medical responders were in place.
- Information concerning injuries and status of the victim(s) was clearly communicated to hospital and/or ambulance personnel.
- Exposure and contamination control procedures were followed at the site, during transport and at the hospital.
- Treatment and/or stabilization of medical and radiological health threats to the victim(s) was provided.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

1. EOF

Objective:

- a. Demonstrate the adequacy of the Emergency Plan and Emergency Plan Implementing Procedures both in terms of management control and workability of the procedures for the EOF.

Evaluation Criteria:

Minimum criteria to meet this objective:

- The EOD was in full control of EOF operations.
- Current procedures were available and used.
- The logistical layout of the facility and equipment provided in the EOF was adequate to support implementation of EOF procedures.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

1. EOF

Objective:

- b. Demonstrate the adequacy of communication links between CR/STSC, TSC, government emergency facilities, Survey Teams, and the EOF.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Communication systems specified in the plans and procedures were available and operational.
- Personnel were able to operate all communication systems.
- Clear and timely communication links were maintained with CR/STSC, TSC, Survey Teams, the NRC, JENC, and government emergency facilities and notification points.
- Planned communications capabilities were available for use by the NRC Site Team.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

1. EOF

Objective:

c. Demonstrate the effectiveness and availability of appropriate emergency equipment and supplies.

Evaluation Criteria:

Minimum criteria to meet this objective:

- There was sufficient lighting, ventilation and office equipment (e.g., furnishings, copiers, etc.) to support operations of the staff assigned to the EOF.
- Backup power was available for the EOF.
- Maps were available showing the Plume EPZ and the following information; sectors, population, evacuation routes, and radiological monitoring grids.
- Simplified drawings of affected unit, and maps detailing the site, site evacuation routes and assembly areas were available.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

1 EOF

Objective:

d. Demonstrate the adequacy of security access control.

Evaluation Criteria:

Minimum criteria to meet this objective:

- All access to the EOF was controlled.
- A listing of personnel allowed access to the EOF was available and used.
- Procedures to authorize access for personnel not on the access list were adequate.
- Accountability of the personnel present in the EOF was maintained throughout the emergency.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

1. EOF

Objective:

e. Demonstrate activation and staffing of the EOF in a timely fashion.

Evaluation Criteria:

Minimum criteria to meet this objective:

- EOF was activated within sixty (60) minutes of the declaration of an Alert or higher classification.
- The staffing level of the EOF was maintained at the level established by the Emergency Plan and EPIPs throughout the emergency.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

1. EOF

Objective:

f. Demonstrate the functional adequacy of the EOF.

Evaluation Criteria:

Minimum criteria to meet this objective:

- EOF operational capability included providing a safe environment for personnel to work, adequate work space, personal conveniences, and access to other personnel, facility or materials.
- Situations did not occur in which the lack of equipment or materials prevented personnel from performing assigned tasks.
- Appropriate means were available to provide for the resolution of equipment or material deficiencies.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

2. TSC

Objective:

- a. Demonstrate the adequacy of the Emergency Plan and Emergency Plan Implementing Procedures both in terms of management control and workability of the procedures for the TSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- The EC was in full control of TSC operations.
- Current procedures were available and used.
- The logistical layout of the facility and equipment provided in the TSC was adequate to support implementation of TSC procedures.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

2. TSC

Objective:

b. Demonstrate the adequacy of communication between the OSC, EOF, inplant response teams, and the TSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Communication systems specified in the plans and procedures were available and operational.
- Personnel were able to operate all communication systems.
- Clear and timely communication links were maintained with OSC, EOF, inplant response teams, the CR/STSC, and the TSC.
- Dedicated phone lines as specified in the Emergency Plan were available.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

2. TSC

Objective:

c. Demonstrate the effectiveness and availability of appropriate emergency equipment and supplies.

Evaluation Criteria:

Minimum criteria to meet this objective:

- There was sufficient lighting, ventilation and office equipment (e.g., furnishings, copiers, etc.) to support operations of the staff assigned to the TSC.
- Backup power was available for the TSC.
- Maps were available showing the Plume EPZ and the following information; sectors, population, evacuation routes, and radiological monitoring grids.
- Prints and drawings of affected unit, and maps detailing the site, site evacuation routes and assembly areas were available.

Evaluation:

ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

- B. Facility Objectives
- 2. TSC

Objective:

- d. Demonstrate the adequacy of security access control.

Evaluation Criteria:

Minimum criteria to meet this objective:

- All access to the TSC was controlled.
- A listing of personnel allowed access to the TSC was available and used.
- Procedures to authorize access for personnel not on the access list were adequate.
- Accountability of the personnel present in the TSC was maintained throughout the emergency.

Evaluation:

D **ND** **DWI** **NA** **NO** (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

2. TSC

Objective:

e. Demonstrate activation and staffing of the TSC in a timely fashion.

Evaluation Criteria:

Minimum criteria to meet this objective:

- TSC was activated within sixty (60) minutes of the declaration of an Alert or higher classification.
- The staffing level of the TSC was maintained at the level established by the Emergency Plan and EPIPs throughout the emergency.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

- B. Facility Objectives
- 2. TSC

Objective:

f. **Demonstrate the functional adequacy of the TSC.**

Evaluation Criteria:

Minimum criteria to meet this objective:

- TSC operational capability included providing a safe environment for personnel to work, adequate work space, personal conveniences, and access to other personnel, facility or materials.
- Situations did not occur in which the lack of equipment or materials prevented personnel from performing assigned tasks.
- Appropriate means were available to provide for the resolution of equipment or material deficiencies.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

2. TSC

Objective:

g. Demonstrate the capability to perform core damage assessment and to project the time left until the core is uncovered.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Adequate data from instrumentation, sampling and verbal reports was available and used.
- Current procedures, tech specs and plant drawings were available and used.
- Demonstrate projection of time left until reactor core is uncovered.
- Demonstrate assessment of core damage based on available information.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

3. CR/STSC

Objective:

- a. Demonstrate the adequacy of the Emergency Plan and Emergency Plan Implementing Procedures both in terms of management control and workability of the procedures for the CR/STSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Command and control was effectively maintained on all operations in the CR/STSC throughout the emergency.
- Current procedures were available and used.
- The logistical layout of the facility and equipment provided in the CR/STSC was adequate to support implementation of CR/STSC procedures.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

3. CR/STSC

Objective:

b. Demonstrate the adequacy of communication between the OSC, EOF, inplant response teams, and the CR/STSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Communication systems specified in the plans and procedures were available and operational.
- Personnel were able to operate all communication systems.
- Clear and timely communication links were maintained with TSC, EOF, inplant response teams, the OSC, and the CR/STSC.
- Dedicated phone lines as specified in the Emergency Plan were available.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

3. CR/STSC

Objective:

c. Demonstrate activation and staffing of the STSC in a timely fashion.

Evaluation Criteria:

Minimum criteria to meet this objective:

- The CR/STSC implemented emergency staffing upon declaration of an event.
- The staffing level of the CR/STSC was maintained at the level established by the Emergency Plan and EPIPs throughout the emergency.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

3. CR/STSC

Objective:

d. Demonstrate the functional adequacy of the STSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- STSC operational capability included providing a safe environment for personnel to work, adequate work space, personal conveniences, and access to other personnel, facility or materials.
- Situations did not occur in which the lack of equipment or materials prevented personnel from performing assigned tasks.
- Appropriate means were available to provide for the resolution of equipment or material deficiencies.

Evaluation:

D ND D'VI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

4. OSC

Objective:

- a. Demonstrate the adequacy of the Emergency Plan and Emergency Plan Implementing Procedures both in terms of management control and workability of the procedures for the OSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Command and control was effectively maintained on all operations in the OSC throughout the emergency.
- Current procedures were available and used.
- The logistical layout of the facility and equipment provided in the OSC was adequate to support implementation of OSC procedures.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

4. OSC

Objective:

b. Demonstrate the adequacy of communication links between inplant response teams, the TSC/STSC, and the OSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Communication systems specified in the plans and procedures were available and operational.
- Personnel were able to operate all communication systems.
- Clear and timely communication links were maintained with TSC, EOF, inplant response teams, and the CR/STSC.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

4. OSC

Objective:

- c. Demonstrate the effectiveness and availability of appropriate emergency equipment and supplies.

Evaluation Criteria:

Minimum criteria to meet this objective:

- There was sufficient lighting and ventilation to support operations of the staff assigned to the OSC.
- Emergency lighting was available for the OSC.
- Prints and drawings of affected unit, and survey maps of plant locations were available.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

4. OSC

Objective:

d. Demonstrate activation and staffing of the OSC in a timely fashion.

Evaluation Criteria:

Minimum criteria to meet this objective:

- The OSC was fully activated within sixty (60) minutes of the declaration of an Alert or higher classification.
- The staffing level of the OSC was maintained at the level established by the Emergency Plan and EPIPs throughout the emergency.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

G. Facility Objectives

4. OSC

Objective:

e. Demonstrate the functional adequacy of the OSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- OSC operational capability included providing a safe environment for personnel to work, adequate work space, personal conveniences, and access to other personnel, facility or materials.
- Situations did not occur in which the lack of equipment or materials prevented personnel from performing assigned tasks.
- Appropriate means were available to provide for the resolution of equipment or material deficiencies.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

4. OSC

Objective:

f. Demonstrate the capability to evacuate to and function from the backup OSC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Radiation levels or hazards necessitating OSC evacuation were correctly recognized and assessed.
- OSC personnel were promptly notified to evacuate.
- An evacuation route was chosen that bypassed potential hazards.
- OSC personnel were able to adequately conduct operations from the backup OSC.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

5. JENC

Objective:

- a. Demonstrate the adequacy of the Emergency Plan and the Joint Public Information Procedures both in terms of management control and workability of the procedures for the JENC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- Command and control was effectively maintained on all operations in the JENC throughout the emergency.
- Current procedures were available and used.
- The logistical layout of the facility and equipment provided in the JENC was adequate to support implementation of JENC procedures.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

5. JENC

Objective:

- b. **Demonstrate the adequacy of communication links between government emergency facilities, the utility's emergency facilities, and the JENC.**

Evaluation Criteria:

Minimum criteria to meet this objective:

- Communication systems specified in the plans and procedures were available and operational.
- Personnel were able to operate all communication systems.
- Clear and timely communication links were maintained with EOF and government emergency facilities.
- Adequate communication facilities were available for use by members of the media.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

5. JENC

Objective:

c. Demonstrate the effectiveness and availability of appropriate emergency equipment and supplies.

Evaluation Criteria:

Minimum criteria to meet this objective:

- There was sufficient lighting, ventilation and office equipment (e.g., furnishings, copiers, etc.) to support operations of the staff assigned to the JENC.
- Prints, drawings and maps to support media briefings were available.
- There were adequate arrangements available for news media personnel.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

5. JENC

Objective:

d. Demonstrate the adequacy of security access control.

Evaluation Criteria:

Minimum criteria to meet this objective:

- All access to the JENC was controlled.
- Security arrangements were adequate to prevent disruptions of JENC operations.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

5. JENC

Objective:

e. Demonstrate activation and staffing of the JENC in a timely fashion.

Evaluation Criteria:

Minimum criteria to meet this objective:

- The minimum staffing requirement was met in a timely manner by the JENC.
- The staffing level of the JENC was maintained at the level established by the Emergency Plan and JPIPs throughout the emergency.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Facility Objectives

5. JENC

Objective:

f. Demonstrate the functional adequacy of the JENC.

Evaluation Criteria:

Minimum criteria to meet this objective:

- JENC operational capability included providing a safe environment for personnel to work, adequate work space, personal conveniences, and access to other personnel, facility or materials.
- Situations did not occur in which the lack of equipment or materials prevented personnel from performing assigned tasks.
- Appropriate means were available to provide for the resolution of equipment or material deficiencies.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

- A. Core Objectives
 - 1. Mobilization of Emergency Personnel

Objective:

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. Core Objectives

2. Facilities: Equipment, Displays, and Work Environment

Objective:

Demonstrate the adequacy of facilities, equipment, displays, and other materials to support emergency operations.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. Core Objectives

3. Direction and Control

Objective:

Demonstrate the capability to direct and control emergency operations.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. Core Objectives

4. Communications

Objective:

Demonstrate the capability to communicate with all appropriate personnel at facilities and in the field.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

- A. Core Objectives
 - 5. Plume Dose Projection

Objective:

Demonstrate the capability to develop dose projections and protective actions recommendations regarding evacuation and sheltering.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. Core Objectives

6. Plume Protective Action Decision Making

Objective:

Demonstrate the capability to make timely and appropriate protective actions decisions (PAD).

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. Core Objectives

7. Alert and Notification

Objective:

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume exposure pathway emergency planning zone (EPZ) and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. Core Objectives

8. Public Instructions and Emergency Information

Objective:

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. Core Objectives

9. Emergency Information - Media

Objective:

Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information to the news media.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

A. Core Objectives

10. Emergency Information - Public Inquiry

Objective:

Demonstrate the capability to establish and operate public inquiry in a coordinated and timely manner.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Scenario Dependent Objectives

11. Implementation of protective actions - use of KI for emergency workers

Objective:

Demonstrate the capability and resources to implement potassium iodide (KI) protective actions for emergency workers.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Scenario Dependent Objectives

12. Implementation of Protective Actions - Special Populations

Objective:

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Scenario Dependent Objectives

13. Implementation of Protective Actions - Schools

Objective:

Demonstrate the capability and resources necessary to implement protective actions for school children within the plume exposure pathway emergency planning zone (EPZ).

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Scenario Dependent Objectives

14. Traffic and Access Control

Objective:

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Scenario Dependent Objectives

15. Relocation Centers - Monitoring, Decontamination, and Registration

Objective:

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination, and registration of evacuees.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Scenario Dependent Objectives

16. Congregate Care

Objective:

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for congregate care of evacuees.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Scenario Dependent Objectives

17. Medical Services - Transportation

Objective:

Demonstrate the adequacy of vehicles, equipment, procedures, and personnel for transporting contaminated, injured, or exposed individuals.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

B. Scenario Dependent Objectives

18. Medical Services - Facilities

Objective:

Demonstrate the adequacy of the equipment, procedures, supplies, and personnel of medical facilities responsible for treatment of contaminated, injured, or exposed individuals.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Objective Evaluation Form

Type of objective:

- C. Other Objectives Demonstrated Every Six Years
 - 19. Supplementary Assistance (Federal/Other)

Objective:

Demonstrate the capability to identify the need for external assistance and to request such assistance from Federal and other support organizations.

Evaluation Criteria:

Minimum criteria to meet this objective:

Refer to the FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September, 1991.

Evaluation:

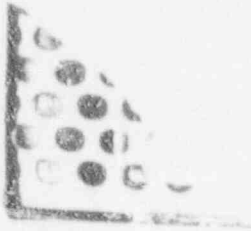
D ND DWI NA NO (circle one)

Explanation of ND/DWI:

Changes in scenario for PVNGS 1992 Exercise

In the original scenario, operators shut down Reactor Coolant Pumps (RCPs) 1A and 2A at 1040, and an impeller failure on RCP 1A caused fuel damage at 1120. Since it was felt that the impeller would not fail unless the pump was running, the time of the impeller failure was changed to 1040. Because of this change, section 3 (Scenario) was changed, as were Appendix A (PVNGS Controller Guide), Appendix B (PVNGS Messages), Appendix J (Radiological Data), and Appendix K (Chemistry Data). Specific wording was added to section 3 and to initial conditions messages in Appendices A and B to show that the Emergency Response Facility Data Acquisition and Display System (ERFDADS) was out of service in Unit 2 because of a fire in a local panel. ERFDADS information will consequently not be available for Unit 2, but can still be accessed for Units 1 and 3, as well as the PVNGS meteorology tower.

The enclosed sections are intended to entirely replace the corresponding sections in the scenario book.



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PVNGS Annual Exercise

3.1 Initial Conditions

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1S111 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG B Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

PVNGS Annual Exercise
3.2 Narrative Summary

This scenario is based on a leak developing in a U-Tube in Steam Generator #1. The operators assess the leak and determine that a shutdown is required per 41AO-1ZZ08. Before the reactor can be tripped, at approximately 30 % Reactor Power, the leaking tube fails catastrophically, and leak rate increases to approximately 400 gpm. Operators manually trip the reactor and initiate Safety Injection. Operators re-diagnose the accident and transition to 41OP-1ZZ06 "Tube Rupture" based on the initiation of Safety Injection. When operators attempt to rapidly reduce the flow through the ruptured tube by depressurizing the RCS, the spray valve controller fails, necessitating the use of slower auxiliary spray to reduce pressure. Operators use Safety Injection to maintain RCS inventory, auxiliary spray to reduce pressure and steam the un-affected steam generator to cool the RCS.

A sudden failure of RCP-1A impeller sends debris from the failed impeller through the core. Fuel damage occurs. Fission products enter the coolant and flow into the failed Steam Generator. When a spring on the #1 Steam Generator Safety Valve fails, the safety valve lifts, and a release of RCS activity begins to the environment from the failed relief valve.

The scenario will be mitigated by:

- Normal Primary to Secondary leak response actions.
- Restoration of the Spray Valve controller to expedite plant depressurization.
- Cooldown and stabilization of the plant.
- Performance of off-site radiological monitoring and evaluation.

PVNGS Annual Exercise
3.3 Major Sequence of Events

0700 -0030 Initial Conditions, Simulator Board walkdown.

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1SI11 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG B Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of this Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

3.5 Major Sequence of Events (Continued)

- 0800 0000 Medical Emergency:
Spent resin spill occurs during transfer when a flexible coupling blows out. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-21. RU-21 indicates off-scale high locally and in the Control Room. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg. Radwaste Operators notify Security, Fire Protection and the Control Room.
- 0810 0010 While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred. Operators check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset. They inform Unit 2 Control Room and continue troubleshooting.
- 0815 0015 EMTs and Radiation Protection Technicians arrive in the Radwaste Building, assess the situation medically and radiologically, and prepare the victim for transport to a medical facility.
- 0835 0035 Control Room declares an ALERT based on EPIP-02 Appendix B, Tab 1 "Direct Radiation Readings within the Unit Increase by a Factor of 1000." The Control Room should realize that "Transportation of internally or externally contaminated injured person to offsite hospital" (when this event occurs) constitutes a Notification of Unusual Event" per EPIP-02 Appendix B, Tab 1. This emergency classification level is superseded by the ALERT.
- 0900 0100 RCS tube leak starts in "A" Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, and RU-139 channel-2 High alarm, and by a mismatch between charging and letdown flow. Operators enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02.
- 0902 0102 Initial determination of the leak rate exceeds 1 gpm (approximately 12 gpm). Preliminary indications by blowdown radiation monitors indicate S/G 1 is faulted. Operators continue leak rate determinations.

3.3 Major Sequence of Events (Continued)

- 0913 0113 15 minute leak rate determination indicates approximately 58 gpm primary to secondary leak rate. Operators continue 41AO-1ZZ08, Step 4 (Plant Shutdown) after stabilizing plant conditions and measuring leak rate [approximately 15 minutes]. Operators should realize that a leak rate greater than 44 gpm meets the criteria for an ALERT per EPIP-02 Appendix B Tab 2 "RCS Leak Rate >44 gpm." It may result in a minor release of noble gases to the environment. Operators have completed step 2 of 41AO-1ZZ08 to minimize releases to the environment. Follow-up notifications to offsite agencies should indicate the changed plant conditions but the event is not reclassified because the plant emergency classification is still at the ALERT level.
- 0914 0114 [NOTE: Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.] Controllers must pay attention to plant decision-making process on what sort of shutdown to use. Controllers may need to increase the magnitude of the leak to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage due to a rapid power reduction or trip. [use 12% break for the 15 minute leak rate check].
- 0915 0115 Operators should brief and commence a plant shutdown per 41OP-1ZZ08 and/or 41OP-1ZZ07. Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.
- 0916 0116 Operators commence shutdown by boration at 60 gpm, 1700 gal dialed in. If operators have not isolated letdown and lined up to blend the boron, they will get a pressurizer trouble alarm and VCT may isolate on low level as soon as power starts to decrease. They will then have to secure boration and isolate letdown. [Note: Operators will need to track Axial Shape Index (ASI) as power is reduced. If power shifts too far to top of the core, operators must drive in groups 4 and 5 rods to restore power distribution as necessary].
- 0940 0140 The injured worker is transported offsite by ambulance. SS/EC/EOD should realize that this is a redundant indication for NUE.

3.3 Major Sequence of Events (Continued)

- 1006 0206 Shutdown continues. Operators trip the "B" Main Feed Pump
- 1010 0210 Shutdown continues. Operators trip the "B" Condensate Pump
- 1015 0215 RCP-1A high vibration alarms and eccentricity alarms actuate. Operators analyze the vibration, but magnitude of eccentricity is below the 10 mils mandatory shutdown point per 79AC-OSV01. Since immediate shutdown of the RCP is not required, operators continue monitoring.
- 1030 0230 With reactor power at approximately 30%, operators are briefing for manual Reactor Trip at 20% power. The leaking Steam Generator tube ruptures [Simulator Operator will key leak rate to 30%]. RCS leak rate increases to approximately 400 gpm. The RCS rapidly depressurizes [PZR trouble alarm on lowering level, PZR pressure low alarm, PZR level low alarm, #1 S/G level increasing confirms faulted S/G].
- 1035 0235 Operators manually trip the reactor and initiate SI. Radiation levels in the secondary plant increase due to the higher leak rate. Operators re-diagnose the tube leak and transition to 41RO-1ZZ06 "Tube Rupture" based on SIAS. The large tube rupture meets the criteria of EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity." Two check marks in Appendix A merit declaration of a SITE AREA EMERGENCY.
- 1040 0240 Immediately prior to operators' attempt to shut down RCP-1A and -2A per 41RO-1ZZ06, RCP-1A impeller fails. Debris from the impeller are flushed into the core. The loose parts monitor alarms. Hot leg ARMs and area ARMs increase indicating possible fuel damage. RCP-2A is tripped manually, RCP-1B and -2B are running normally. SS should direct a RCS sample if the normal post-trip sample has not already been ordered. RU-16 and -17 indicate greater than 10 times their high alarm setpoints, which operators may view as an additional indication for a SITE AREA EMERGENCY per EPIP-02 Appendix B, Tab 2 "Major Damage to spent fuel with a release of radioactivity to the Containment or Fuel Handling Building resulting in valid radiation readings > 10 times the high radiation alarms on any of the following: RU-16, -17, -31, -33, -143, or -145", despite the fact that the only radioactive release is to the isolated faulted Steam Generator.
- 1050 0250 S/G #1 level increases rapidly due to the tube rupture. Operators line up and conduct a high rate blowdown of #1 S/G to maintain level below 80%.

3.3 Major Sequence of Events (Continued)

- 1055 0255 When operators attempt to rapidly depressurize the plant with spray to reduce the Primary to Steam Generator differential pressure, they find that the spray valves will not open in the Control Room. The Spray Valve controller has failed. Operators use slower Aux. Spray to lower pressure, and commence troubleshooting the failed Spray Valves.
- 1100 0300 TSC Emergency Coordinator declares a SITE AREA EMERGENCY based on EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity.", if not already done, and makes appropriate notifications. Operators are expected to use safety injection systems to makeup inventory losses and continue steaming using auxiliary feed to cool the RCS and remove heat from the core.
- 1145 0345 Main Steam safety relief valve trouble alarm. Indications of #1 S/G relief lifted. Un-Monitored release to the environment begins via the lifting relief in the MSSS.
- 1200 0400 With the primary to secondary leak in combination with the lifting relief, the EC should recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.
- 1210 0410 While investigating low volume on the plant paging speaker in the OSC, electrician strikes a sprinkler system spray head with a ladder. One OSC sprinkler system spray head is damaged. The damaged sprinkler head sprays down the room. Before the fire main in that area can be isolated, the room is thoroughly wet. Emergency supplies and paperwork are rendered unserviceable. Telephones in the OSC are OOS. Emergency Response personnel should be evacuated to the alternate OSC, or to another suitable location. OSC supervisory personnel and RP personnel should take plume exposure during the evacuation into account.
- 1230 0430 Operators continue to cool down the RCS and depressurize to control the release rate from the ruptured S/G. Attempts to shut the leaking relief valve will be ineffective due to temperature and radiation levels in the vicinity of the valve.
- 1300 0500 When plant is ready to be placed on shutdown cooling, and all objectives have been demonstrated, secure from the Exercise.

Appendix A
Scenario Controller Guide

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0730	1	C-1 All	SS All	<p><u>INITIAL CONDITIONS</u></p> <p>Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. 41ST LZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-15H1 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Power has been lost to the Unit 2 Data Acquisition System associated with ERFDAADS. No Unit 2 ERFDAADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today.</p> <p><u>Annunciators in Control Room</u></p> <ul style="list-style-type: none"> IC DG B Trip IC DG B Emergency Manual Trip IC DG B High Priority Trouble 	<p>Unit 2 Control Room (CR) (Simulator)</p> <p>Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards</p>		<p>0730 - All controllers distribute the initial conditions to all Facility managers and key players as they are manned during the exercise.</p> <p>NOTE: Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.</p> <p>All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.</p> <p>All troubleshooting information for LPSI "B" troubleshooting and repair will be found in the OSC Mini Scenarios, Appendix N</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0800	2	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-20 indicates 1000 mR/hr. RU-21 indicates 500 mR/hr. RU-22 indicates 7000 mR/hr.</p>	Be aware of plant conditions. Attempt to validate the high radiation alarms in the Rad Waste Building. SS should realize that valid high radiation alarms in the area constitute an ALERT per EPIP-02 App B Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"		Flex coupling has blown out during resin transfer. Approximately 5 - 6 Ci of normal hot resin have spilled on the floor of the Rad Waste Building. Elevated radiation level due to the spill.
0800	3	C-4b	RWO	Spent resin spill: Flexible coupling blows out during transfer. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-20 and -21. RU-22 indicates 7000 mR/hr locally. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator (RWO) at the scene slips and falls while attempting to contain the resin spray. The operator falls on the resin, is contaminated, and is suffering from a possible fracture of the lower left leg.	<p><u>Resin Transfer Scene:</u> Radwaste Operator notify Security, Fire Protection and the Control Room.</p> <p><u>Security</u> Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification.</p> <p><u>Fire Protection (FP)</u> Shift Captain, dispatch EMTs to the scene. Notify medical.</p> <p><u>Unit 2 CR [Sim]:</u> SS: Notify Radiation Protection (RP). Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.</p>		Scene controller, posing as a RWO standing by at the scene, phones in the notification of the resin spill to extension 4444

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0810	4	C-4	RT Ldr at DG "B"	While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.	<p>Check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset.</p> <p>Inform Unit 2 Control Room.</p> <p>Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG train transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.</p>		<p>NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios, <u>Appendix N</u>.</p>
0815	5	C-4b	EMT / RPT	EMTs and RPTs arrive at the scene of the Resin Spill.	<p><u>Fire Protection</u> EMTs: evaluate medical situation and begin immediate treatment. Report status of the victim to Unit 2 CR (Sim).</p> <p><u>Security</u> Officer on scene: Establish and maintain communications at the scene. Assist in transport of victims to the Site Medical Facility. Security Shift Captain (SSC): Prepare for security support of handling and transport of the victim. Notify the vehicular access (sally) port.</p> <p><u>RPT</u> Perform initial radiological assessment of the victim and the immediate area. Report the status to medical and the Unit 2 CR (Sim).</p>		<p>EMTs and RPTs begin to arrive at the scene. Controller interact with EMTs and RPTs to provide information required to assess condition of the contaminated injured worker. EMTs and RPTs should determine that the worker is contaminated and requires transportation to a medical facility.</p> <p>NOTE: The remainder of the medical and radiological data relating to the contaminated</p>

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TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0815 Cont	5 Cont				<p><u>Unit 2 Control Room (Sim)</u> SS: Evaluate the RPT reports and continue to monitor the on-going events. Determine injury and contamination status of the victim. Pass information to the CR.</p>	MB	<p>injured worker will be provided from the Medical Emergency Scenario, <u>App. M</u></p> <p>0840 - (C-4b) Prompt on-site medical to arrange for ground evacuation of injured worker. (See App. M)</p>
0820				<p>With notification of the resin spill in the Rad Waste building, SS has validated ARM alarms, and has sufficient information to declare an ALERT per EPIP-02, App B Tab 1, "Direct Radiation Readings within the plant increase by a factor of 1000"</p>		A	<p>0835 (C-1) To ensure ALERT is declared</p>
0830				<p>Radiological and Medical assessment of the victim is complete. Initial contamination control measures are in place.</p>	<p><u>Fire Protection</u> EMTs prepared for transport on litter to Site Medical Facility and ambulance. <u>RPTs</u> Contamination control boundaries and methodologies are in place for movement of the victim.</p>		<p>NOTE: Detailed medical and radiological data relating to the contaminated injured worker will be provided from the Medical Emergency Scenario, <u>Appendix M</u>. Initial move of injured worker to the Radwaste Building Containment area for rapid transport to ambulance is <u>only</u> required for life-threatening injury, and is not required in this case.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0835	A	C-1	SS	Declare an ALERT per EPIP-02, Appendix B, Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"	<p><u>Unit 2 Control Room (Sim)</u> SS/On-shift Emergency Coordinator declare the ALERT. Direct notifications in accordance with (IAW) EPIP-04.</p> <p><u>Satellite Technical Support Center (STSC)</u> STSC Communicator make appropriate notifications per EPIP-04.</p> <p><u>Operations Support Center (OSC)</u> Begin Activation.</p> <p><u>Technical Support Center (TSC)</u> Begin Activation.</p> <p><u>Emergency Operations Facility (EOF)</u> Begin Activation.</p>		Deliver this message only if SS has not declared the ALERT by this time.
0902	6	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-141 Alert alarm RU-4 High alarm RU-139 Channel 1 and 2 high alarm</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor initiates the Emergency Plan per EPIP-02. Inform TSC/OSC.</p>		RCS tube leak (12%) starts in #1 Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, RU-139 ch-1 & 2 High alarm, and mismatch between charging and letdown flow.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	C/M	CONTROL ROOM NOTES
0902	B	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> PZR Level Channel X deviation low PZR Level Channel Y deviation low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> Pressurizer level indicates 50% and lowering slowly Pressurizer backup heaters cycling in auto</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor informs TSC/OSC.</p>		<p>Deliver this message only if the simulator is not operational. Lowering Pressurizer level gives additional indications of RCS leak.</p>
0902	C	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 66 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination.</p>		<p>Deliver to AO if Simulator is not operational, when performing leak rate determination. Initial determination of leak rate is 12 gpm. Rate may be increasing.</p>
0905	D	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 53 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination. SS report to TSC/OSC</p>		<p>Deliver to AO if Simulator is not operational, when performing second leak rate determination. 35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0913	E	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 30 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report leak rate to SS/Shift EC. SS report leak rate to TSC/OSC</p> <p><u>Technical Support Center</u> EC recognizes that >44 gpm leak rate is a redundant indication for ALERT per EPIP-02, App B, Tab 2.</p>		<p>[use 12% break for the 15 minute leak rate check]. Deliver to AO if Simulator is not operational, when performing second leak rate determination</p> <p>58 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.</p> <p>41AO-1ZZ08 Step 2 should be complete by this time to minimize release to the environment.</p> <p>NOTE: Per 41AO-1ZZ08 4.0 "...a controlled shutdown is much preferred over tripping the unit." Controllers must pay attention to player decision-making process on mode of shutdown. Controllers may need to increase the leak rate to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage from a rapid power reduction or trip.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0914	F	C-1	SS/ Shift EC	DO NOT TRIP THE UNIT. Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.	<u>UNIT 2 CONTROL ROOM (Sim)</u> Commence normal shutdown by boration at the one hour rate (approximately 5% power per minute). Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.		Deliver to SS / Shift EC if the decision is made to shut the unit down using a Reactor Trip, vice a controlled shutdown at a 5% per minute rate.
0920				Shutdown in progress. Reactor Power 94%			Be aware of plant conditions.
0930	7	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm <u>INDICATIONS IN CONTROL ROOM</u> RU-5 ALERT alarm	<u>UNIT 2 CONTROL ROOM (Sim)</u> SS Direct chemistry perform 74CH-9ZZ66.		RU-5 alarm due to cross-contamination of "A" Steam Generator from the feed and condensate system.
0940				Contaminated injured worker is ready for offsite transportation by ambulance.	SS/EC/EOD should all realize that this is a redundant indication for NUE.		

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0945				Reactor shutdown continues. Reactor Power 74%.			
0950				Reactor shutdown continues. Reactor Power 69%.			
1000				Reactor shutdown continues. Reactor Power 62%.			
1006	G	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> FW Pump 7B Disch Vlv Pos Nt Open FWPT B Hyd Cont Press Trip FWPT B HP SV Pos Closed FWPT B LP SV Pos Closed <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Feed Pump is tripped			Deliver this message only if simulator is inoperative, when operators trip "B" Main Feed Pump.
1010	H	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> CNDS Pump B Disch Vlv Pos Nt-Open CNDS Pump B Recirc Flow Low <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Condensate Pump is tripped			Deliver this message only if the simulator is inoperative, when operators trip "B" Main Condensate Pump. Reactor Shutdown continues, Reactor power at 51%.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1015	J	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates 4 mils.</p>	<p>Unit 2 Control Room (Sim) AO perform 79AC-OSV01 to analyze vibration problem.</p>		<p>Deliver this message only if the simulator is not operating. Initial indication of worsening RCP fault, which will lead to rotor failure. 79AC-OSV01 requires pump shutdown for displacement of 10 mils</p>
1020				<p>Reactor Shutdown continues Reactor power 45%</p>			
1030				<p>Reactor Shutdown continues Reactor power 31%</p>			<p>Operators should brief the anticipated reactor trip</p>
1032	K	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> VCT Level Low PZR Nar Rnge Press Ch A,B,C Low PZR Wide Rnge Press Ch A,B,C,D Low PZR Level Ch X Deviation Low PZR Level Ch Y Deviation Low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> VCT Level indicates 31.9% Pzr Press indicates 2218 psia</p>	<p>Operators see increased leak rate, and isolate letdown to attempt to control lowering pressurizer level</p>		<p>Simulator operator key leak rate to 30%. Steam Generator Tube Rupture begins. Leak rate increases to 400 gpm.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1035	L	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> Master Turb Trip Gen/Reac Initiated Trip 125V Trip Bus Energized Remote Man RPS Ch A Ch A Trip Ckt Bkr Pos Remote Man RPS Ch B Ch B Trip Ckt Bkr Pos Remote Man RPS Ch C Ch C Trip Ckt Bkr Pos Remote Man RPS Ch D Ch D Trip Ckt Bkr Pos CEDM Pwr Bus UNDV 1, 2, 3, 4 CEA 01 through 89 at Btm Steam Bypass Valve 1 - 6 Open Permissive SIAS A Man Act CIAS A Man Act DG Start Signal A Actuated DG Start Signal B Actuated</p> <p><u>INDICATIONS IN CONTROL ROOM</u> Reactor Trip Turbine Trip Generator Trip All CEAs indicate fully inserted</p>	<p>Take all immediate actions for Tube Rupture, rediagnose leak and transition to 41AO-1ZZ06 "S/G Tube Rupture" based on SIAS.</p>		<p>Deliver this message only if the simulator is not operational, following manual reactor trip and SI after Steam Generator Tube Rupture.</p> <p>NOTE: CIAS will isolate RU-1. Operators will have to manually line up the monitor from the Control Room to place it back in service. Radiological data assumes that the monitor is returned to service. If monitor is not deliberately placed back in service, indicate "offline" on RMS data sheets prior to passing out to players.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1040	M	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm Loose Parts Monitor Alarm RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates > 10 mils. RCP-1A Indicates Tripped Loose Parts Monitor indicates alarms on lower vessel head and S/G #1 lower head. RU-16, -17, -148 High Alarm</p>	Be aware of plant conditions.		Deliver this message only if the simulator is not operating. RCP-1A rotor fails, RCP trips. Remaining operating pumps -2A, -1B and -2B will flush rotor debris through the core. RCS Rad levels increase.
1045					<p><u>Unit 2 CR/STSC (5min)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator.</p> <p><u>TSC</u> EC: Evaluate plant conditions assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct inplant team activities.</p> <p><u>QSC</u> QSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.</p> <p><u>EOE</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>	Q	Sufficient information is available for declaration of a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity". (1100) C-2 To ensure SAE is declared.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1050				Wide range level in #1 S/G is approaching 80%. Operators line up and conduct high rate blowdown on S/G #1 to keep level below 80%.		N	(1050) C-1 to ensure operators conduct high rate blowdown to control #1 S/G level.
1050	N	C-1	SS	Implement high rate blowdown on S/G #1 to keep level below 80%.			Deliver this message only if operators fail to conduct high rate blowdown on #1 S/G with level exceeding 80%.
1055	P	C-1	CO	<u>INDICATIONS IN CONTROL ROOM</u> Spray valves indicate shut	<u>Unit 2 Control Room (Sun)</u> CO: Inform SS, attempt to open other Spray valve (fails). SS: Direct CO to use aux. spray to reduce plant pressure. <u>TSC</u> Direct OSC to troubleshoot fault. <u>OSC</u> Brief and dispatch team to investigate.		Deliver this message only if the simulator is not operating, when operator attempts to use spray to depressurize the plant and reduce primary to secondary d/p. Spray valve controller has failed, both spray valves are shut. Repair time will be 2 hours. All additional troubleshooting and repair information for the Spray Valve Controller will be found in the OSC Mini-Scenarios, Appendix N

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1100	Q	C-2	TSC/ EC	Declare a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity".	<p><u>Unit 2 CR/STSC (Sim)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator. <u>TSC</u> EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct inplant team activities. <u>OSC</u> OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC. <u>EOF</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>		Deliver this message only if a SAE has not yet been declared.
1100	R	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> SESS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> SC-221 (Downcomer Sample Line) is shut.</p>	<p>Be aware of plant conditions.</p> <p>SC-221 is a normally open valve. The valve has failed shut due to a burned up solenoid operator.</p> <p>SS will either direct Chem Tech to sample via hot leg, or troubleshoot the failed valve.</p>		<p>Deliver this message only if the simulator is not operating.</p> <p>Additional troubleshooting data is found in Appendix N, OSC Min Scenarios.</p> <p>SESS alarms due to lineup for sampling Steam Generators.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1110					#1 Steam Generator is isolated, beginning cooldown at initial rate of 30°F/hr, increasing to 75°F/hr when under control.		Be aware of plant conditions.
1130	T	C-1	SS, CO	Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.			Deliver this message only if SS has not yet ordered a PASS sample.
1145	U	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> MSRV Trouble Alarm. <u>INDICATIONS IN CONTROL ROOM</u> #1 S/G Safety valve indicates open.			Deliver this message if the simulator is not operating.

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TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1145	8	C-4a	On Site RMT	<p>Call in the following message to be passed to the Unit 2 Control Room (Simulator):</p> <p>"I just heard a loud noise from the direction of the Unit 2 MSSS, kind of a bang or crack, and now there is steam visible flowing out near the top."</p>	<p><u>Unit 2 Control Room/STSC (Sim)</u> SS: Recognize that a release of steam has started, evaluate source. When #1 S/g is determined to be leaking, begin dose projection efforts. Inform OSC/TSC. TSC EC: Evaluate plant conditions. Assist in mitigation effort. Consider protective measur.s.</p> <p><u>TSC</u> EC: recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. EOF - RAC: Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.</p>	W	<p>Call in message to alert Control Room (Sim) of start of release. #1 S/G Safety Valve spring has failed, the safety is open and a release of activity to the environment has started. (1200) C-2 Ensure a GE is declared.</p>
1155	9	C-4a	OSC Coord.	<p>You are having trouble hearing announcements over the plant page speaker in the OSC.</p>	<p>OSC Repair Coordinator direct electrician to investigate.</p>		

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1200	W	C-2	TSC, EC	"Declare a GENERAL EMERGENCY per EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere"			Deliver this message only if EC has not yet declared a GENERAL EMERGENCY.
1210	10	C-4	OSC Coord.	Electrician troubleshooting low volume on plant page speaker in OSC returned with stepladder. While setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the speaker, and breaks it off. The entire OSC is immediately and continuously sprayed with water (approximately 40 gpm). As fire main pressure drops, the fire pump starts. Increased header pressure increases spray flow rate to 75gpm.	<p><u>OSC</u> Attempt to save documentation, equipment, and procedures. Move temporarily to the RP island area. Isolate the fire main in the OSC. Evaluate damage. Based on lack of communications and ruined procedures, evacuate to the backup OSC.</p> <p><u>TSC</u> Continue to monitor and evaluate plant conditions. Coordinate OSC evacuation.</p> <p><u>EOF</u> RAC: Monitor radiological conditions and make appropriate recommendations for minimizing exposure during OSC relocation.</p>	X	<p>(1220) C-4 Ensure OSC is evacuated to the backup OSC.</p> <p>Controllers begin randomly hanging up phones in use to simulate loss of phone lines. Direct players to ignoring ringing phones.</p> <p>Controller communication will continue unaffected on the PBX line.</p> <p>Remaining troubleshooting and repair scenario will be found in the OSC Status Scenarios, Appendix N.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1220	X	C-4	OSC Dir.	Relocate OSC functions to the backup OSC.	OSC Prepare and evacuate the OSC.		Deliver this message as directed by the Master Controller, only if OSC relocation has not yet been ordered.
1215							Cooldown continues. Release to the environment continues.
1230				Adjust Coolant Charging Pump Vibration Dampers due to continued cooldown and depressurization of the RCS.	Team will adjust CCP Pulsation dampers per procedure. No additional information or equipment indications beyond those in the applicable procedures are required.		Deliver to team leader assigned to adjust CCP pulsation dampers per 41AO-1Z706
1235					SS should elect to continue cooldown by steaming, but make preparations for shutdown cooling		Conditions are met for entering S/D cooling per 41AO-1Z706, App A, Para 15 of 17, Step 26 RCS temp 289°F, Pri to S/D d/p 67 psid, safety remains open.
1300	11	AC	ALL	Secure from the Exercise.	Secure from the exercise. Clean and re-stow emergency equipment. Prepare for facility critiques.		Deliver this message as directed by the master controller when the plant is ready to enter S/D cooling.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1 / All

TO: SS / All

MESSAGE NO. 1

TIME: 0730

LOCATION: Unit 2 Control Room (Simulator)

INSTRUCTION:

Pass the following message to the Shift Supervisor at this time.

Note:

Pass the following message to facility managers and key players in all facilities as they are manned in the course of the Exercise.

NOTE: Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS / All

TIME: 0730

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Simulator)

MESSAGE:

INITIAL CONDITIONS

Unit 2 is operating at 100% power, middle of core life.
DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 415T-1ZZ02 was last run at 0600. Day tank refill is about to start.

A spent resin transfer from the storage tank to a shipping cask is in progress.

Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam.

LPSI "B" is OOS. While conducting 415T-1S111 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time.

Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

1C DG B Trip
1C DG B Emergency Manual Trip
1C DG B High Priority Trouble

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

APS/PVNGS

APP B-2

Rev. 04/21/92

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 0800

MESSAGE NO. 2

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS alarm

INDICATIONS IN CONTROL ROOM

RU-20 indicates 1000 mR/hr.

RU-21 indicates 500 mR/hr.

RU-22 indicates 7000 mR/hr.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: RWO

TIME: 0800

MESSAGE NO. 3

LOCATION: Radwaste Building, Scene of resin transfer.

MESSAGE:

Spent resin spill:

Flexible coupling blows out during transfer. Resin spills out onto the floor.

Local area radiation levels increase. RU-22 alarms, followed by RU-20 and -21.

Local area radiation levels indicate up to 7000 mR/hr.

One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, and is suffering from a compound fracture of the lower left leg.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7462, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RT Leader at DG-B

MESSAGE NO. 4

TIME: 0810

LOCATION: Diesel Generator B

INSTRUCTION:

Pass the following message to RT Leader at this time.

Note:

DG-B fuel oil transfer pump failed after pumping 100 gallons

RT informs Unit-2 Control Room (Sim.) and checks breaker for pump. Breaker PHB-M3212 is tripped and will not reset.

Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG train transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.

NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: RT Leader DG-B

TIME: 0810

MESSAGE NO. 4

LOCATION: Diesel Generator "B"

MESSAGE:

While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO EMT / RPT

TIME: 0815

MESSAGE NO. 5

LOCATION: Radwaste Building, Scene of resin spill.

MESSAGE:

EMTs and RPTs arrive at the scene of the Resin Spill.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS

TIME: 0835

MESSAGE NO. A

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Declare an ALERT per EPIP-02, Appendix B, 4.0: "Direct Radiation Readings within the Unit increase by a factor of 1000"

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, CO

MESSAGE NO. 6

TIME: 0902

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, CO at this time.

Note:

RCS tube leak (12%) starts in "A" Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, RU-139 ch-1 & 2 High alarm, and mismatch between charging and letdown flow.

Unit 2 Control Room (Sim)
Evaluations. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor initiates the Emergency Plan per EPIP-02. Inform TSC/OSC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, CC

TIME: 0907

MESSAGE NO. 6

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM
RMS Alarm

INDICATIONS IN CONTROL ROOM
RU-141 Alert alarm
RU-4 High alarm
RU-139 Channel 1 high alarm
RU-139 Channel 2 high alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 0902

MESSAGE NO. B

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

PZR Level Channel X deviation low

PZR Level Channel Y deviation low

INDICATIONS IN CONTROL ROOM

Pressurizer level indicates 50% and lowering slowly

Pressurizer backup heaters cycling in auto

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, AO

TIME: 0902

MESSAGE NO. C

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination:
Charging Flow: 88 gpm
Letdown Flow: 66 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, AQ

TIME: 0805

MESSAGE NO. D

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination.
Charging Flow: 88 gpm
Letdown Flow: 53 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, AO

TIME: 0913

MESSAGE NO. E

LOCATION: Unit 2 Control Room (Sim 2)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination:
Charging Flow: 88 gpm
Letdown Flow: 30 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, Shift EC

TIME: 0819

MESSAGE NO. E

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

DO NOT TRIP THE UNIT.

Per 41AO-12208 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 0930

MESSAGE NO. 7

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM
RMS Alarm

INDICATIONS IN CONTROL ROOM
RU-5 ALERT alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1000

MESSAGE NO. G

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

FW Pump 7B Disch Vlv Pos Not Open
FWPT B Hyd Cont Press Trip
FWPT B HP SV Pos Closed
FWPT B LP SV Pos Closed

INDICATIONS IN CONTROL ROOM

"B" Main Feed Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO. H

TIME: 1010

LOCATION: Unit 2 Control Room (Sim)

INSTRUCTION:

Pass the following message to SS CO at this time

Note:

Deliver this message only if the simulator is in perative, when operators trip "B" Main Condensate Pump.

Reactor Shutdown continues, Reactor power at 51%.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS/CO

TIME: 1010

MESSAGE NO. H

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

CNDS Pump B Disch Vlv Pos Nt-Open
CNDS Pump B Pezite Flow Low

INDICATIONS IN CONTROL ROOM

"B" Main Condensate Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1015

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates 4 mils.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO. K

TIME: 1032

LOCATION: Unit 2 Control Room (2nd fl.)

INSTRUCTION

Pass the following message to SS/CO at this time

Note:

Simulator operator key leak rate to 30%.

Steam Generator Tube Rupture begins. Leak rate increases to 400 gpm.

Operators see increased leak rate, and isolate shutdown as attempt to control lowering pressure level.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SSCO

TIME: 1025

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

Master Trip Trip
Gen'Res: Initiated Trip
125V Trip Bus Energized
Remote Man RPS Ch A
Ch A Trip Ckt Bkr Pos
Remote Man RPS Ch B
Ch B Trip Ckt Bkr Pos
Remote Man RPS Ch C
Ch C Trip Ckt Bkr Pos
Remote Man RPS Ch D
Ch D Trip Ckt Bkr Pos
CEDM Pwr Bus UNDV 1, 2, 3, 4
CEV 01 through 69 at Btm
Steam Bypass Valve 1 - 6 Open Permissive
SLAS A Man Act
CTAS A Man Act
DG Start Signal A Actuated
DG Start Signal B Actuated

INDICATORS IN CONTROL ROOM

Reactor Trip
Turbine Trip
Generator Trip
All CEAs indicate fully inserted

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS

TIME: 1050

MESSAGE NO: N

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

Implement high pressure blow down on S/G #1 to keep level below 80%.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: CO

MESSAGE NO. P

TIME: 1055

LOCATION: Unit 2 Control Room (Sim 2)

INSTRUCTION

Pass the following message to CO at this time

NOTE:

Deliver this message only if the simulator is not operating: when operator attempts to use spray to depressurize the plant and reduce primary to secondary differential pressure.

Spray valve controller has failed, both spray valves are shut. Repair time will be 2 hours.

Unit 2 Control Room (Sim 2)

CO: Inform SS, attempt to open other Spray valve (falls).

SS: Direct CO to use aux. spray to reduce plant pressure.

TSC

Direct OSC to troubleshoot fault.

OSC

Brief and dispatch team to investigate.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: EC

TIME: 1100

MESSAGE NO. Q

LOCATION: Technical Support Center

MESSAGE:

Declare a SITE AREA EMERGENCY per EPIP-02, Appendix A, "BCS Leak > 44 ppm" and "BCS Leak rate Greater than Charging Pump Capacity".

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS/CO

TIME: 1100

MESSAGE NO. R

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

SESS Alarm

INDICATIONS IN CONTROL ROOM

SC-221 (Downcomer Sample Line) is shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS/CO

TIME: 1130

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS: CO

MESSAGE NO. 1

TIME: 1145

LOCATION: Cell 2 Control Room (Sim 2)

INSTRUCTION:

Pass the following message to SS: CO at this time.

Note:

Deliver this message if the simulator is not operating.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1145

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim 2)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

MSRV Trouble Alarm

INDICATIONS IN CONTROL ROOM

#1 S-O Safety valve indicates open.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME 1145

MESSAGE NO. 8

LOCATION: Outside of Unit 2 near the MSSS

MESSAGE:

Call in the following message to pass to the Unit 2 Control Room (Simulator):

"I just heard a noise from the direction of the Unit 2 MSSS, either a piping leak, and possibly it is steam visible flowing out near the top."

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: OSC Coordinator

TIME: 1155

MESSAGE NO. 9

LOCATION: OSC

MESSAGE:

You are having trouble hearing announcements over the plant public address in the OSC.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-2

TO: TSC, EC

MESSAGE NO W

TIME 1201

LOCATION: Technical Support Center

INSTRUCTION:

Pass the following message to EC in TSC at this time:

Note:

Deliver this message only if EC has not yet declared a GENERAL EMERGENCY.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: Emergency Coordinator

TIME: 1200

MESSAGE NO. W

LOCATION: Technical Support Center

MESSAGE:

"Declare a GENERAL EMERGENCY per EOP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and "> 10 gpm Primary to Secondary lead converter with a release of steam to the atmosphere"

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: ALL

TIME: 1300

MESSAGE NO. 11

LOCATION: All Stations

MESSAGE:

Secure from the Exercise.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	1.60E-11	1.60E-11	1.60E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	5.25E-07	5.25E-07	5.25E-07	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.12E-01	1.12E-01	1.12E-01	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	1.00E+00	1.00E+00	1.00E+00	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	3.16E-01	3.16E-01	3.16E-01	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	7.87E-01	7.87E-01	7.87E-01	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL*	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	3.28E-02	6.37E-02	9.19E-02
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	5.78E-06	1.12E-05	1.62E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-11	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	2.70E-03	2.61E-03	2.43E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.37E+04	2.33E+04	2.14E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.24E+04	2.21E+04	2.03E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL*	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.20E-01	1.46E-01	1.72E-01	1.97E-01	2.21E-01	2.46E-01
RU-5	uCi/cc	2.11E-05	2.58E-05	3.03E-05	3.46E-05	3.89E-05	4.31E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-139 Ch 2	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.44E-03	2.42E-03	2.34E-03	2.32E-03	2.36E-03	2.38E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.11E+04	2.08E+04	2.06E+04	2.03E+04	2.01E+04	1.98E+04
RU-151	mR/hr	2.00E+04	1.97E+04	1.95E+04	1.92E+04	1.90E+04	1.88E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	3.76E-01	1.34E+02	2.63E+02	3.89E+02	5.12E+02	6.33E+02
RU-5	uCi/cc	6.60E-05	4.60E-02	9.05E-02	1.34E-01	1.32E-01	1.30E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.54E+02	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-139 Ch 2	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.17E-03	2.27E-05	2.26E-05	2.25E-05	2.24E-05	2.23E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-148	R/hr	1.00E+00	2.28E+03	2.27E+03	2.26E+03	2.25E+03	2.25E+03
RU-149	R/hr	1.00E+00	1.09E+02	1.06E+02	1.06E+02	1.06E+02	1.05E+02
RU-150	mR/hr	1.96E+04	3.85E+07	3.81E+07	3.77E+07	3.74E+07	3.70E+07
RU-151	mR/hr	1.86E+04	3.64E+07	3.61E+07	3.57E+07	3.54E+07	3.51E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	7.90E+01	1.40E+07	1.39E+07	1.38E+07	1.36E+07	1.35E+07
RU-157 Ch 2	mR/hr	1.00E+01	1.37E+02	1.36E+02	1.35E+02	1.34E+02	1.33E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	7.50E+02	8.65E+02	9.77E+02	1.09E+03	1.19E+03	1.30E+03
RU-5	uCi/cc	1.29E-01	1.27E-01	1.25E-01	1.24E-01	1.22E-01	1.21E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-139 Ch 2	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.23E-05	2.22E-05	2.21E-05	2.20E-05	2.20E-05	2.19E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-148	R/hr	2.24E+03	2.23E+03	2.22E+03	2.22E+03	2.21E+03	2.20E+03
RU-149	R/hr	1.05E+02	1.05E+02	1.04E+02	1.04E+02	1.04E+02	1.03E+02
RU-150	mR/hr	3.67E+07	3.64E+07	3.61E+07	3.58E+07	3.55E+07	3.52E+07
RU-151	mR/hr	3.48E+07	3.45E+07	3.42E+07	3.39E+07	3.36E+07	3.34E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.34E+07	1.33E+07	1.31E+07	1.30E+07	1.27E+07	1.23E+07
RU-157 Ch 2	mR/hr	1.32E+02	1.31E+02	1.30E+02	1.28E+02	1.26E+02	1.23E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

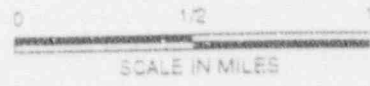
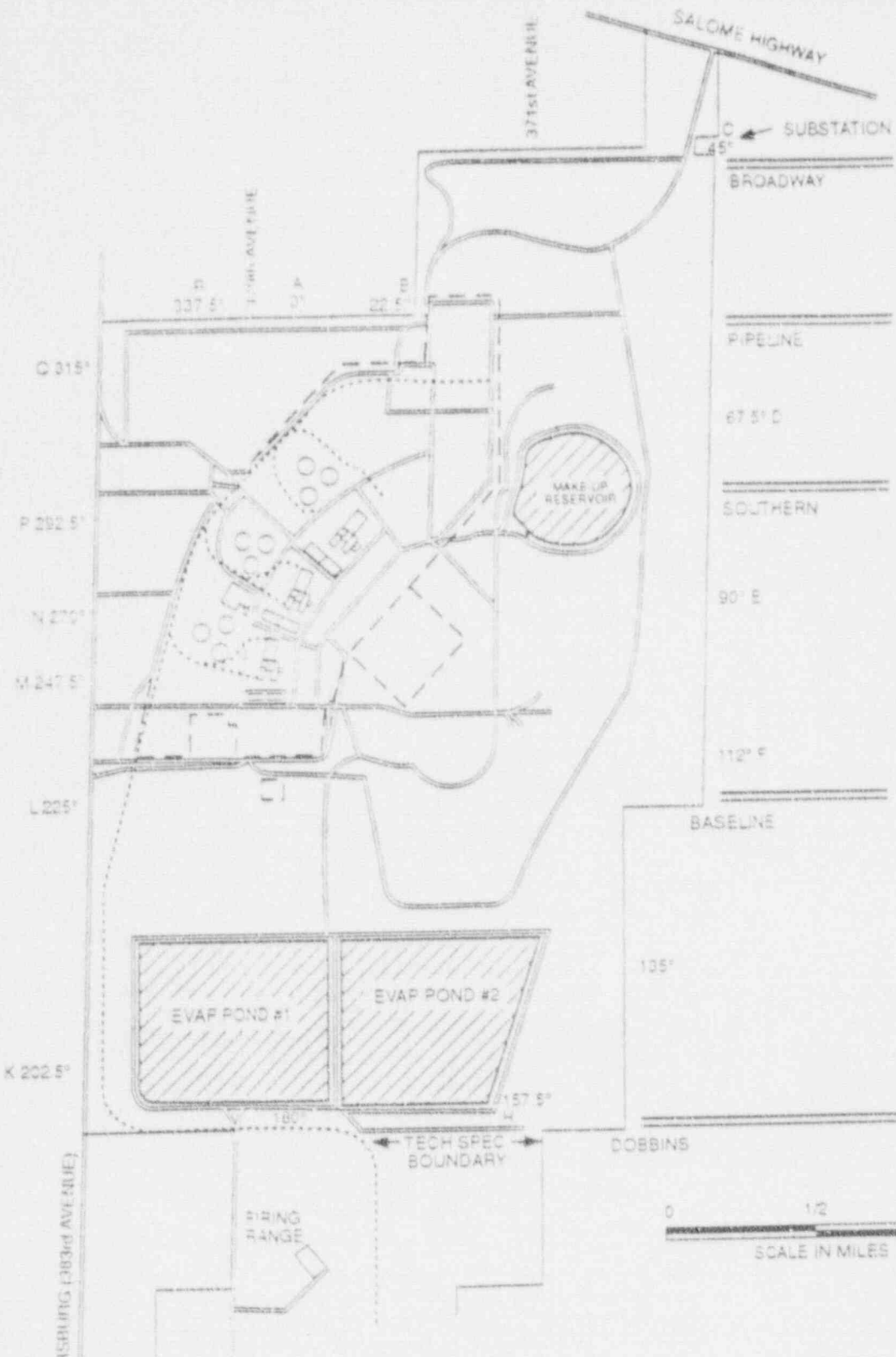
	DRILL+	300	310	320	330	340	350
Monitor	Units	1230	1240	1250	1300	1310	1320
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.40E+03	1.50E+03	1.60E+03	1.69E+03	1.79E+03	1.88E+03
RU-5	uCi/cc	1.20E-01	1.18E-01	1.17E-01	1.16E-01	1.14E-01	1.13E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-139 Ch 2	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.19E-05	2.18E-05	2.18E-05	2.17E-05	2.17E-05	2.16E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	300	310	320	330	340	350
Monitor	Units	1230	1240	1250	1300	1310	1320
RU-148	R/hr	2.20E+03	2.19E+03	2.18E+03	2.18E+03	2.17E+03	2.17E+03
RU-149	R/hr	1.03E+02	1.03E+02	1.02E+02	1.02E+02	1.01E+02	1.01E+02
RU-150	mR/hr	3.50E+07	3.47E+07	3.45E+07	3.42E+07	3.40E+07	3.37E+07
RU-151	mR/hr	3.31E+07	3.29E+07	3.26E+07	3.24E+07	3.21E+07	3.19E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.20E+07	1.17E+07	1.13E+07	1.10E+07	1.07E+07	1.03E+07
RU-157 Ch 2	mR/hr	1.21E+02	1.19E+02	1.16E+02	1.14E+02	1.12E+02	1.09E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	8.00E+06	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	360	370	380	390
Monitor	Units	1330	1340	1350	1400
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.98E+03	2.07E+03	2.17E+03	2.27E+03
RU-5	uCi/cc	1.12E-01	1.10E-01	1.08E-01	1.07E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-139 Ch 2	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.16E-05	2.15E-05	2.15E-05	2.14E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	360	370	380	390
Monitor	Units	1330	1340	1350	1400
RU-148	R/hr	2.16E+03	2.15E+03	2.15E+03	2.14E+03
RU-149	R/hr	1.00E+02	9.86E+01	9.81E+01	9.75E+01
RU-150	mR/hr	3.35E+07	3.32E+07	3.30E+07	3.27E+07
RU-151	mR/hr	3.16E+07	3.14E+07	3.11E+07	3.09E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+07	9.67E+06	9.33E+06	9.00E+06
RU-157 Ch 2	mR/hr	1.07E+02	1.05E+02	1.02E+02	1.00E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01

- A 0°
- AB 11°
- B 22.5°
- BC 34°
- C 45°
- CD 56°
- D 67.5°
- DE 78°
- E 90°
- EF 101°
- F 112°
- FG 124°
- G 135°
- GH 146°
- H 157.5°
- IJ 169°
- J 180°
- JK 191°
- K 202.5°
- KL 214°
- L 225°
- LM 236°
- M 247.5°
- MN 259°
- N 270°
- NP 281°
- P 292.5°
- Q 304°
- Q 315°
- QR 326°
- R 337.5°
- R 349°



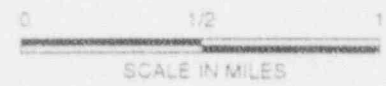
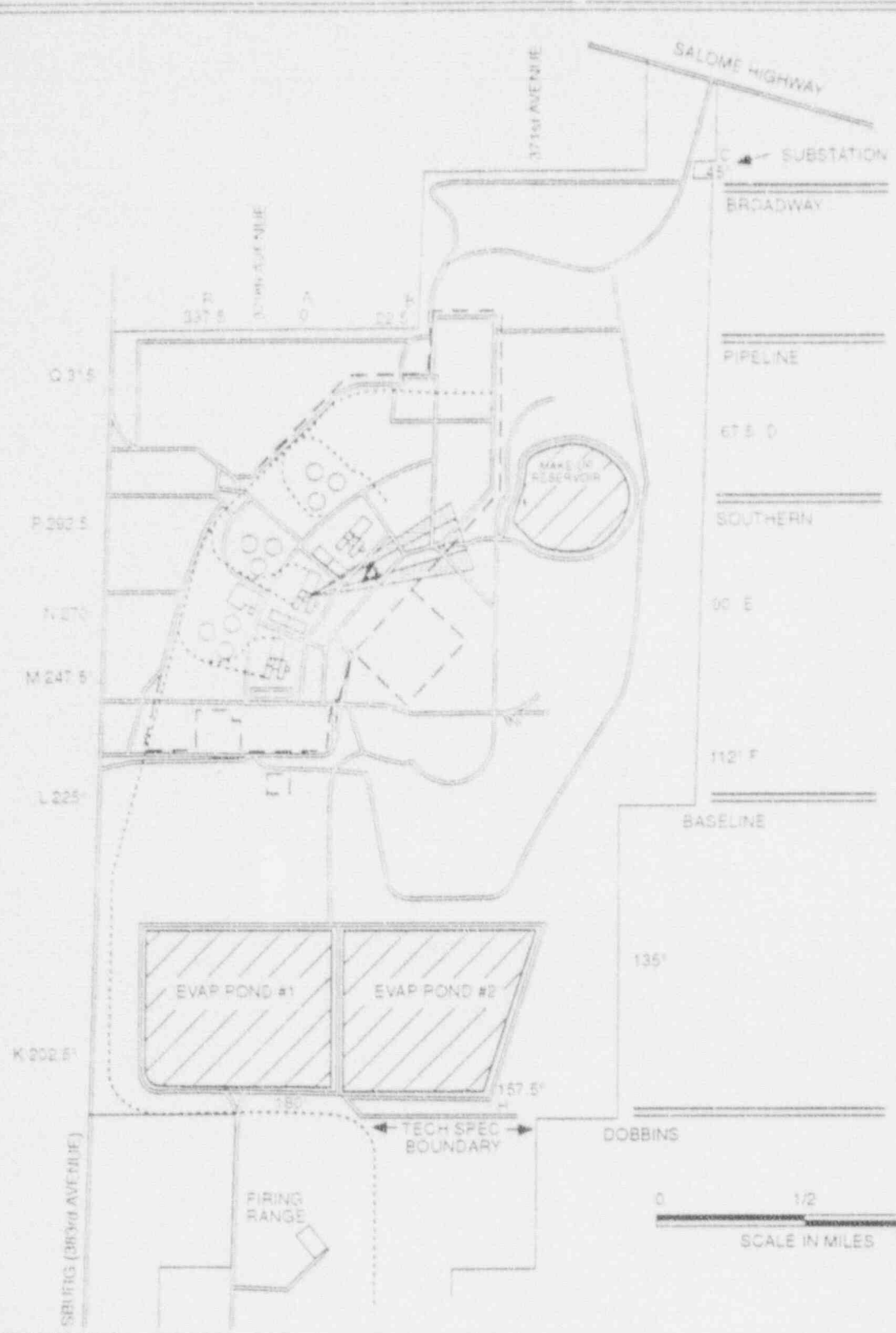
Plume Location	Centerline Data Rate			Edge of Plume Data Rate			Air Samples Counts per Minute		Iodine Conc.	Smear
	W.C. (mR/hr)	W.C. (mR/hr)	Frisket (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Frisket (cpm)	Ag2 Cartridge	Filter Paper	µCi/ccl	(cpm)
ALL	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ

ON-SITE INSTRUMENT READINGS

TIME 7:00 11-50



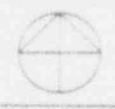
- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- CD 51'
- D 61.5'
- DE 79'
- E 90'
- EF 111'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- IJ 169'
- J 180'
- JK 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 259'
- N 270'
- NP 281'
- P 292.5'
- PO 304'
- Q 315'
- OR 326'
- R 337.5'
- RA 349'



Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Iodine Salt	Smears
	W.D. (mR/hr)	W.C. (mR/hr)	Fisker (cpm)	W.D. (mR/hr)	W.C. (mR/hr)	Fisker (cpm)	AgZ Cartridge	Filter Paper		
A	5360	26800	>100,000	5360	2680	>100,000	3218 mR/hr	AS READ	9.96E-04	AS READ

ON-SITE INSTRUMENT READINGS

TIME 11:50 12:00



- A 0
- AB 11
- B 22.4
- BC 34
- C 45
- CD 55
- D 67.5
- DE 79
- E 90
- FG 101
- G 114
- FO 124
- H 135
- GI 146
- I 157.5
- J 169
- K 181
- L 192.5
- KL 214
- M 225
- LM 236
- N 247.5
- NO 259
- P 270
- PO 282.5
- Q 294
- OR 306
- R 317.5
- SA 330



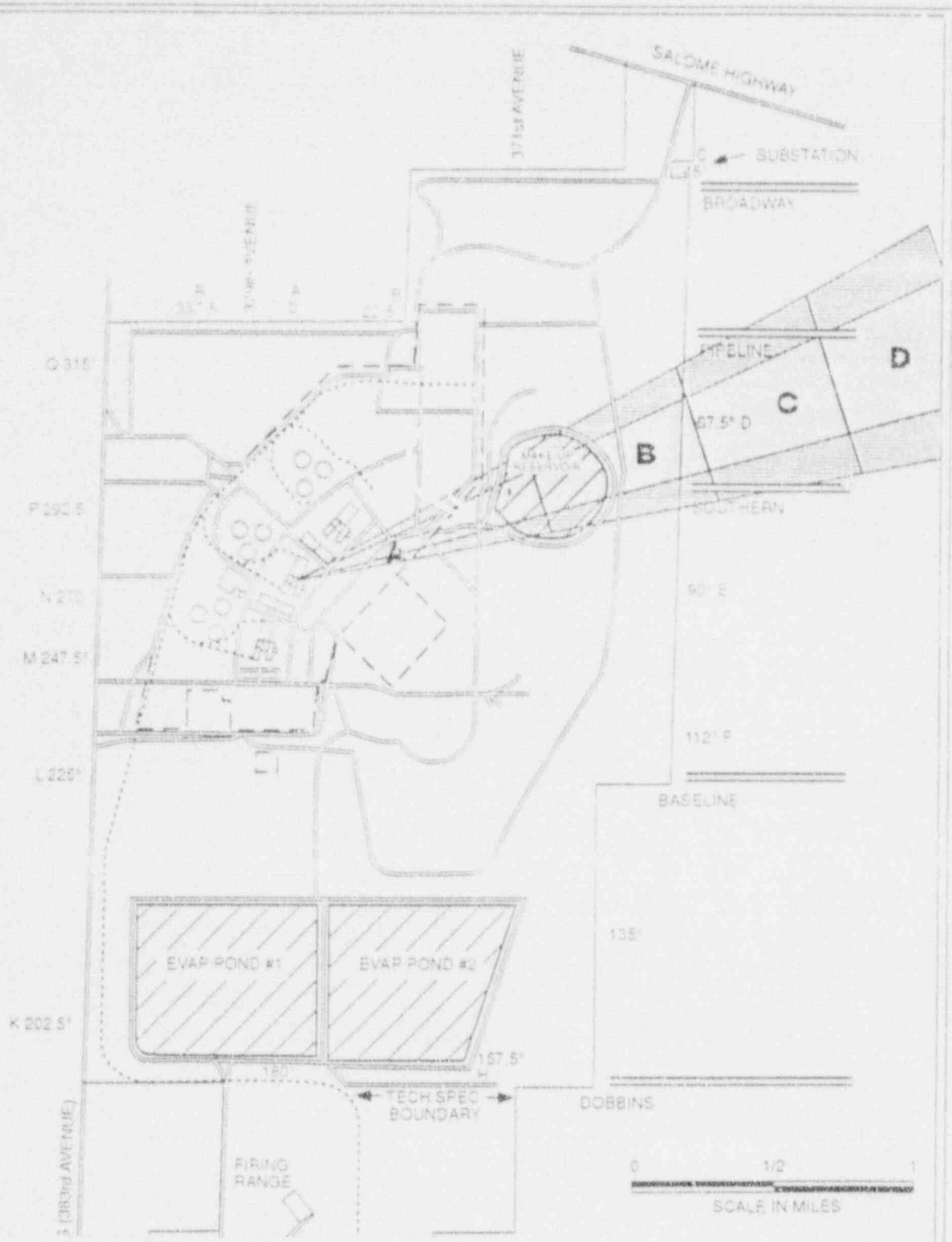
Plume Location	Centerline Dose Rate				Edge of Plume Dose Rate			Air Samples		Inbre Calc	Sensors
	W.C	W.C	Filter	W.C	W.C	Filter	Counts per Minute	Filter			
	lmR/hr	lmR/hr	cpm	lmR/hr	lmR/hr	cpm	Ag2 Cartridge	Paper	uCi/ccl	cpm	
A	43750	21875	>100,000	4375	3188	>100,000	2825	mR/hr AS READ	8.13E-04	AS AFAD	
B	16380	8190	>100,000	1638	819	>100,000	889	mR/hr AS READ	2.24E-04	AS READ	
C	7641	3821	>100,000	764	382	>100,000	458	mR/hr AS READ	1.42E-04	AS READ	

ON SITE INSTRUMENT READINGS

TIME 12:00 - 12:10



- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- CD 56'
- D 67.5'
- DE 78'
- E 90'
- EF 102'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- I 168'
- J 180'
- JK 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 258'
- N 270'
- NO 282.5'
- PO 304'
- O 315'
- OR 326'
- R 337.5'
- RA 348'



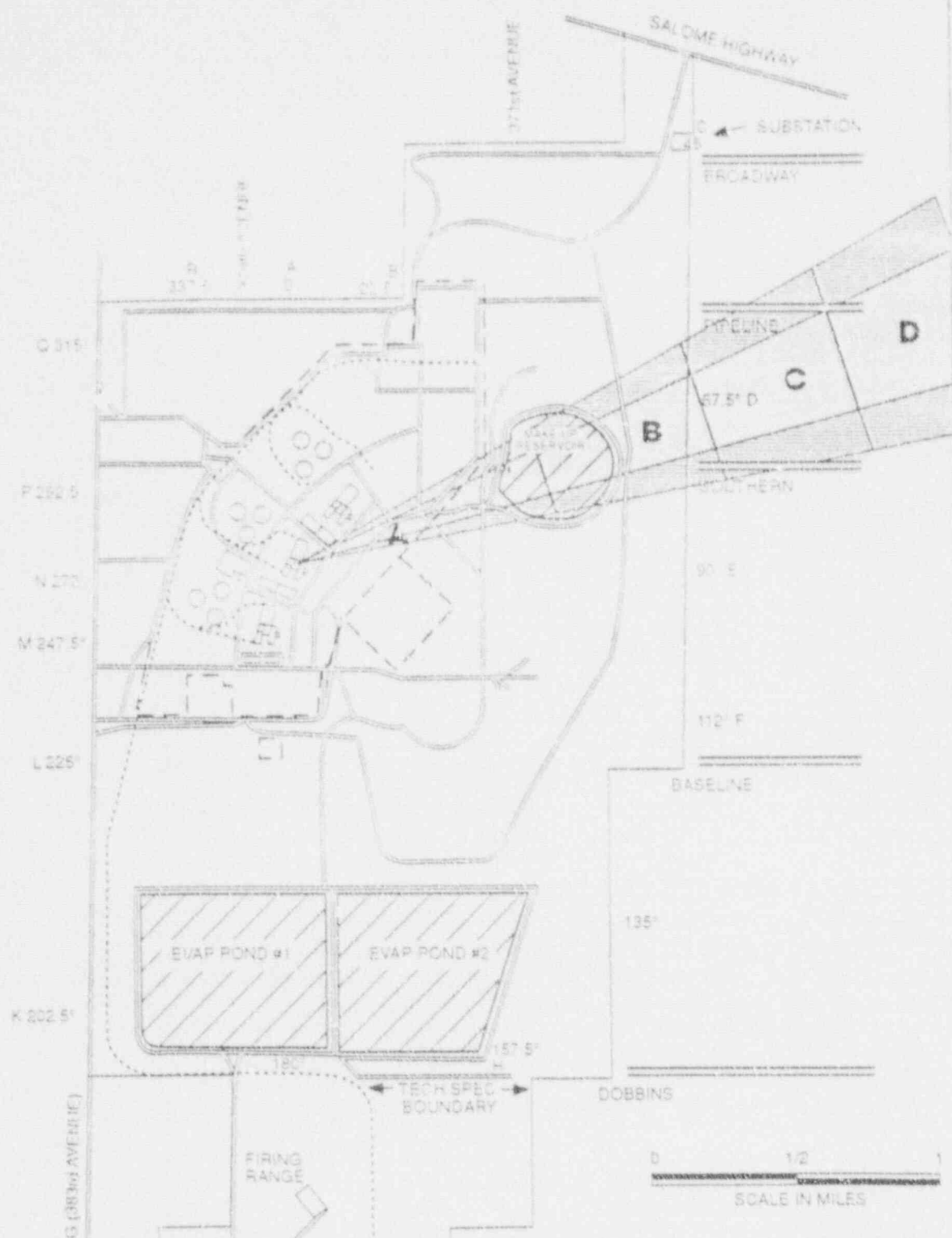
Flume Location	Cantaine Dose Rate			Edge of Pile Dose Rate			Air Samples Count per Minute		Radon Calc.	Smears
	W.D. (mR/hr)	W.C. (mR/hr)	Fissler (cpm)	W.D. (mR/hr)	W.C. (mR/hr)	Fissler (cpm)	Avg. Canine	Fissler		
A	24081	12041	> 100,000	2408	1204	> 100,000	1445	mR/hr AS READ	4.47E-04	AS READ
B	9492	4746	> 100,000	949	475	> 100,000	959	mR/hr AS READ	1.78E-04	AS READ
C	548	2726	> 100,000	548	273	> 100,000	227	mR/hr AS READ	1.01E-04	AS READ
D	3727	1864	> 100,000	373	186	> 100,000	224	mR/hr AS READ	5.92E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:30 12:20



- A 0'
- AB 11'
- B 22.5'
- BC 94'
- C 45'
- CD 55'
- D 61.5'
- DE 75'
- E 90'
- F 101'
- G 112'
- GH 124'
- H 135'
- I 146'
- J 157.5'
- K 169'
- L 180'
- M 191'
- N 202.5'
- O 214'
- P 225'
- Q 236'
- R 247.5'
- S 259'
- T 270'
- U 281'
- V 292.5'
- W 304'
- X 315'
- Y 326'
- Z 337.5'
- AA 349'



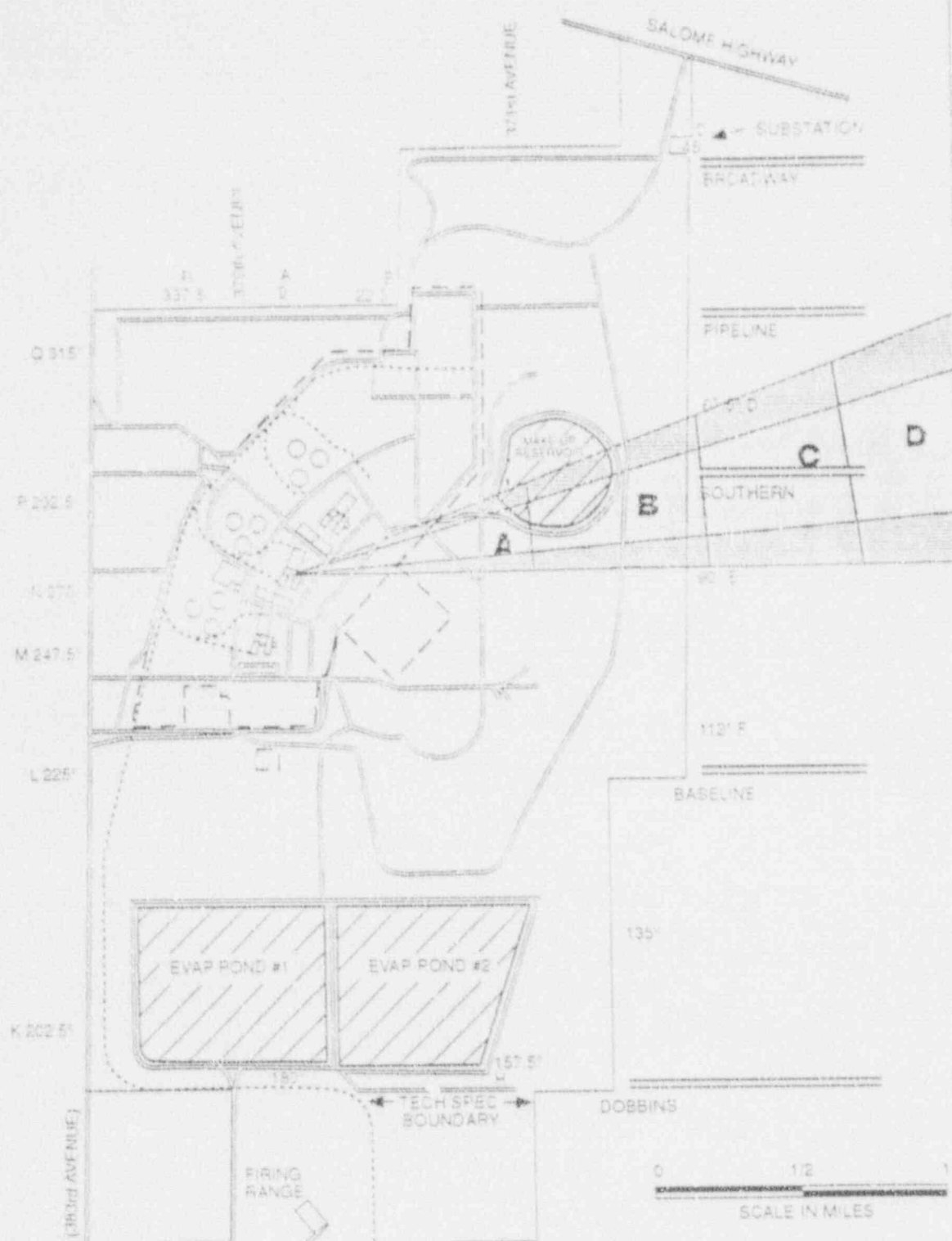
Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples		Iodine Conc. (µCi/cc)	Smears (cpm)
	W.C. (mR/hr)	W.C. (mR/hr)	Filter (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Filter (cpm)	Counts per Minute Cartridge	Filter Paper		
A	25531	13265	>100,000	2553	1327	>100,000	1597 mR/hr	AS READ	4.92E-04	AS READ
B	10467	5234	>100,000	1047	523	>100,000	525 mR/hr	AS READ	1.94E-04	AS READ
C	8011	3009	>100,000	801	301	>100,000	351 mR/hr	AS READ	1.12E-04	AS READ
D	4117	2059	>100,000	412	205	>100,000	247 mR/hr	AS READ	7.89E-05	AS READ

ON SITE INSTRUMENT READINGS

TIME 12:25 12:30



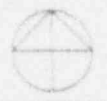
- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- CC 56'
- D 67.5'
- DE 79'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- HJ 169'
- J 180'
- JK 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 259'
- N 270'
- NP 281'
- P 292.5'
- PO 304'
- O 315'
- QR 326'
- R 337.5'
- RA 349'



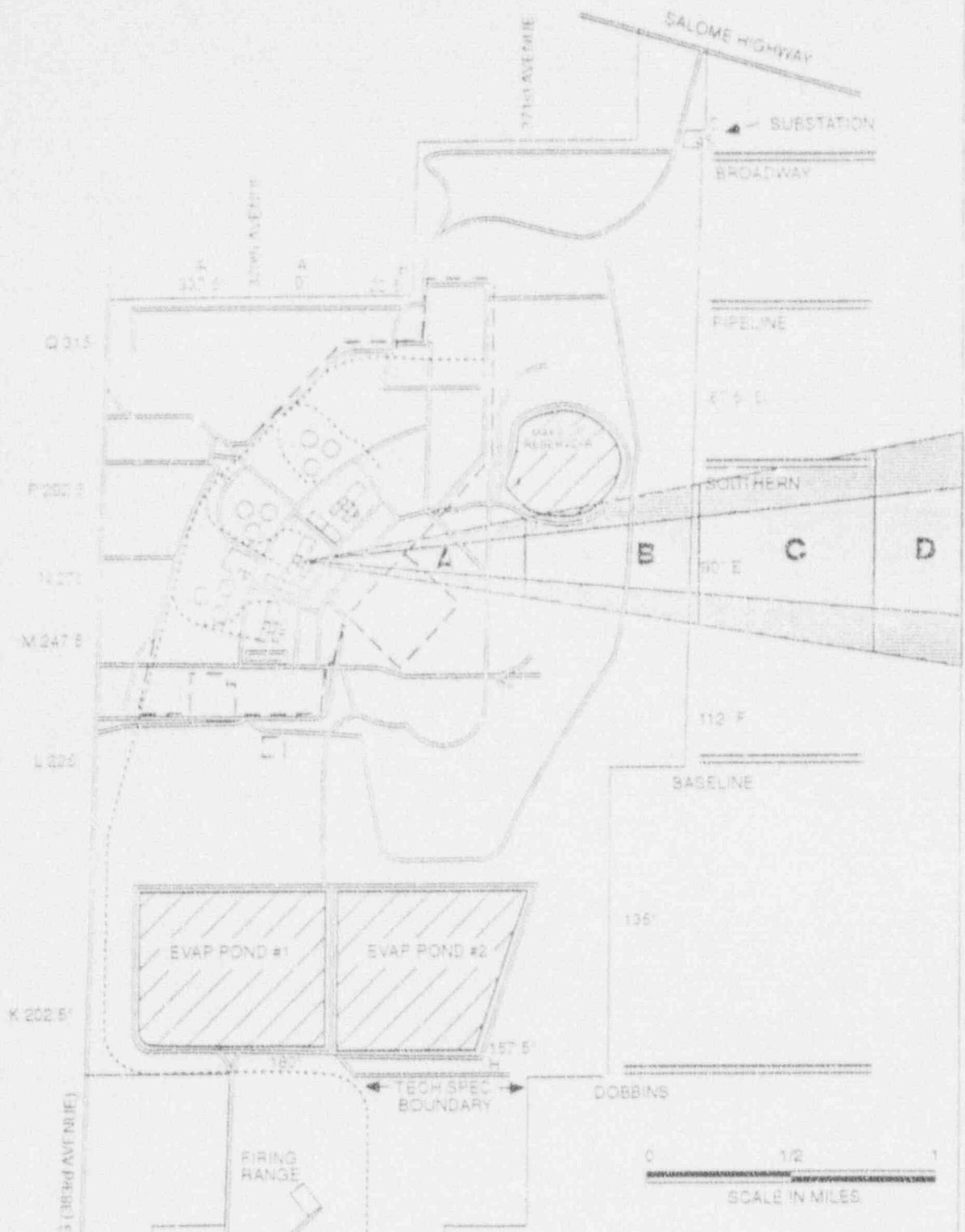
Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Iodine	
	W.C. (mR/hr)	W.C. (mR/hr)	Fissile (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fissile (cpm)	Ag2 Cartridge	Filter Paper	(uG/CC)	(cpm)
A	19465	9733	> 100,000	7947	973	> 100,000	1168 mR/hr	AS READ	3.53E-04	AS READ
B	7054	3527	> 100,000	709	753	> 100,000	423 mR/hr	AS READ	1.33E-04	AS READ
C	4110	2055	> 100,000	411	208	> 100,000	247 mR/hr	AS READ	1.53E-05	AS READ
D	3096	1503	> 100,000	307	150	> 100,000	180 mR/hr	AS READ	5.58E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:30 12:40



A 0
 AB 11'
 B 9 52 5
 D 9 54
 C 9 48
 C 9 58
 D 9 51 9
 D 9 50
 M 9 49
 M 9 49
 T 9 47
 T 9 47
 G 9 46
 G 9 46
 X 9 45
 X 9 45
 K 9 44
 K 9 44
 X 9 43
 X 9 43
 M 9 42
 M 9 42
 N 9 41
 N 9 41
 Z 9 40
 Z 9 40
 V 9 39
 V 9 39
 G 9 38
 G 9 38
 B 9 37 5'
 B 9 37 5'
 B 9 37 5'

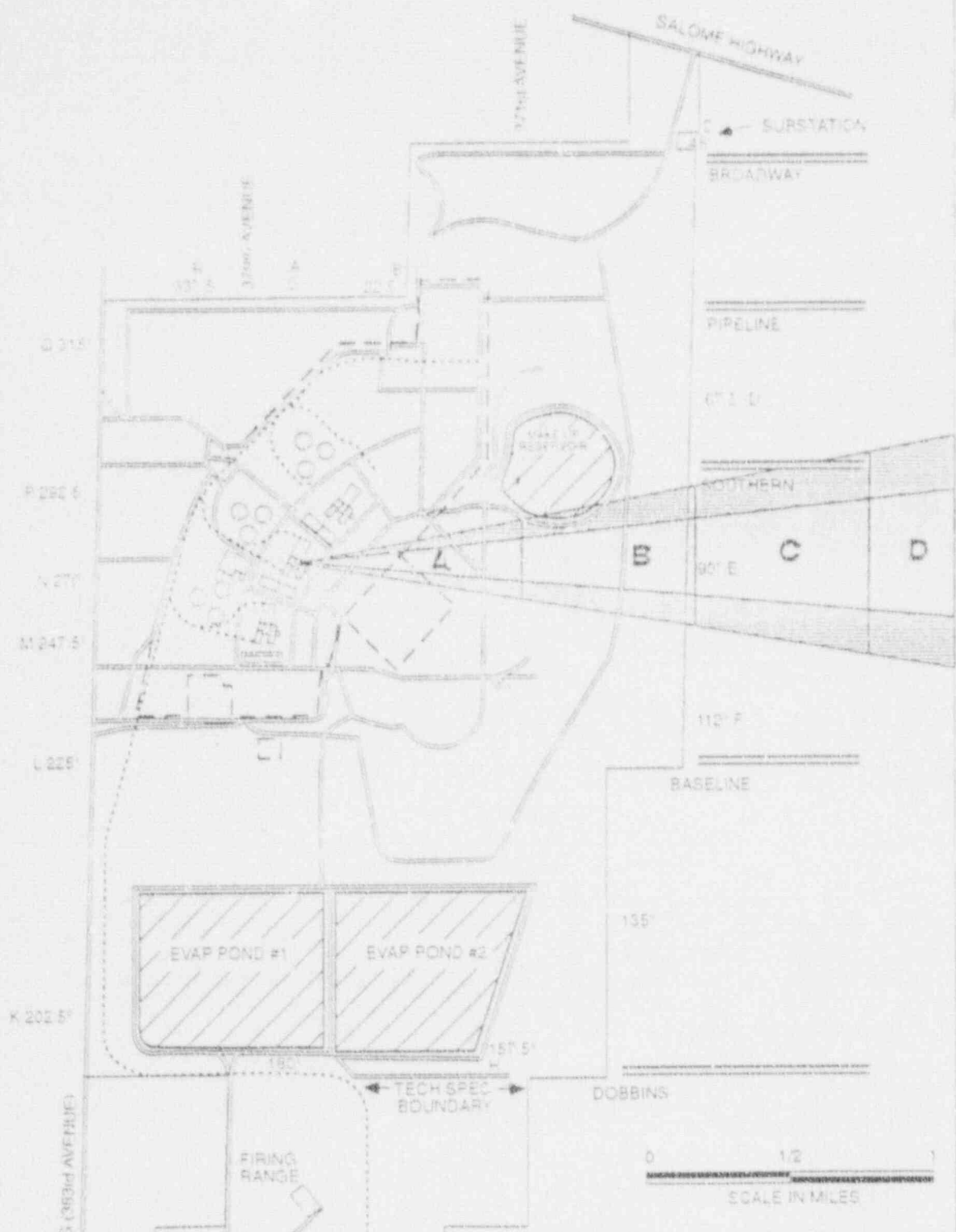


Point Location	Centerline Data Rate			Edge of Plume Data Rate			Air Samples Counts per Minute		Point Calc.	Smears
	W.C. (mR/hr)	W.C. (mR/hr)	Fraser (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fraser (cpm)	Rp2 Cartridge	Paper		
A	16970	8435	> 100,000	148	844	> 100,000	1012 mR/hr	AS READ	3.13E-04	AS READ
E	5012	3006	> 100,000	601	321	> 100,000	361 mR/hr	AS READ	1.12E-04	AS READ
F	3045	1523	> 100,000	305	152	> 100,000	167 mR/hr	AS READ	5.68E-05	AS READ
C	2408	1204	> 100,000	241	120	> 100,000	144 mR/hr	AS READ	4.41E-05	AS READ

ON-SITE INSTRUMENT READINGS
 TIME 12:40 12:50



- A 0'
- AB 11'
- B 23.5'
- BC 34'
- C 45'
- CD 56'
- D 67.5'
- DE 78'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- I 169'
- J 180'
- K 191'
- KL 202.5'
- L 214'
- LM 225'
- M 237.5'
- MN 250'
- N 261'
- NO 272.5'
- OP 285'
- O 297.5'
- OR 310'
- P 322.5'
- RA 340'



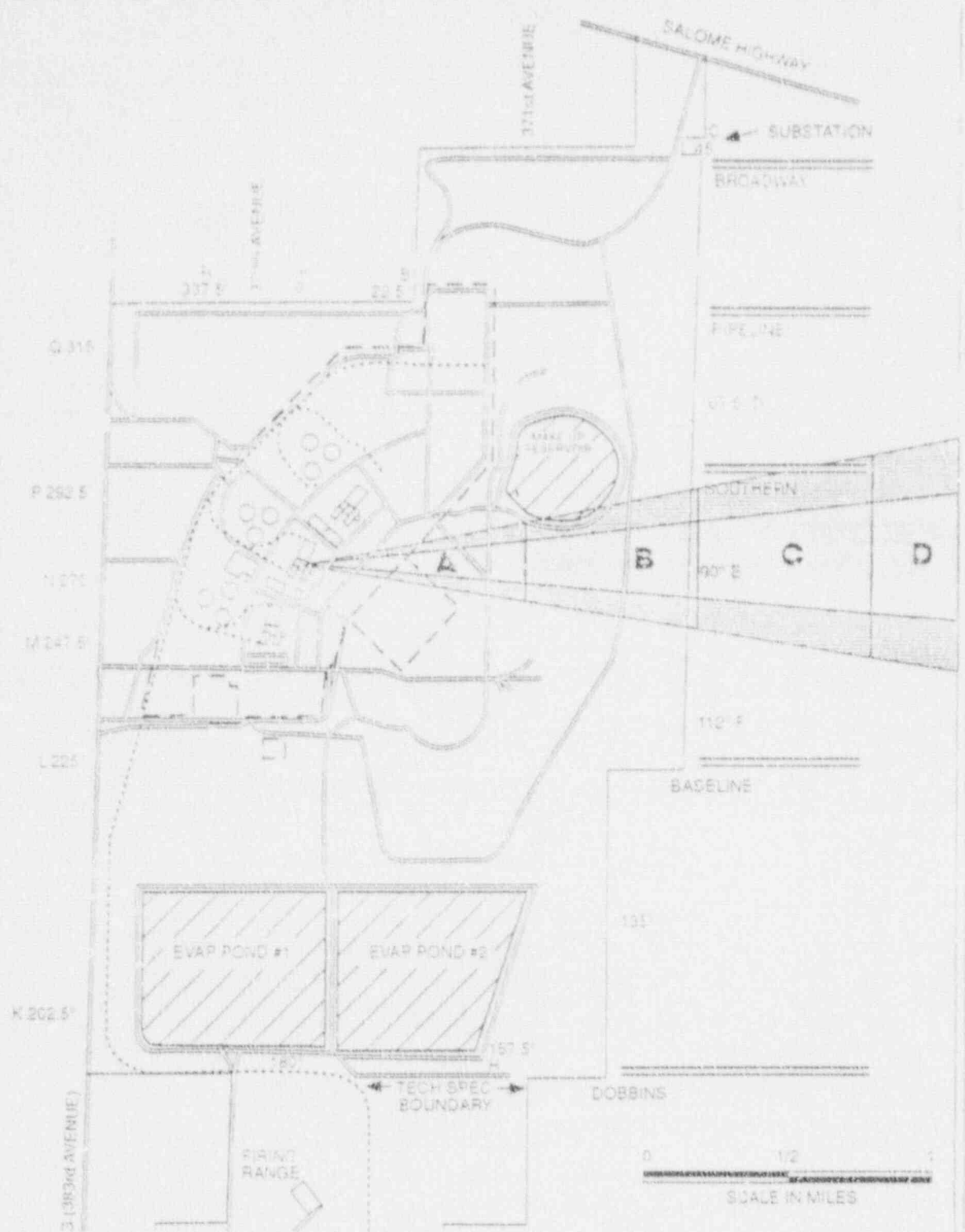
Flume Location	Centerline Dose Rate			Edge of Flume Dose Rate			Air Sampling Counts per Minute		In-line Calc. Smears	
	W.C.	W.C.	Filter	W.C.	W.C.	Filter	AgZ	Filter	U/C/Cl	Isotr
	mR/hr	mR/hr	(ppm)	mR/hr	mR/hr	(ppm)	Cartridge	Filter	(U/C/Cl)	(ppm)
A	11841	2771	>100,000	164	877	>100,000	1052 mR/hr	AS READ	6.525 04	AS READ
B	6147	3124	>100,000	622	311	>100,000	375 mR/hr	AS READ	1.181 04	AS READ
C	3163	1593	>100,000	115	158	>100,000	190 mR/hr	AS READ	5.682 05	AS READ
D	2501	1261	>100,000	250	125	>100,000	180 mR/hr	AS READ	4.692 05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 11:50 12:00



- A 0'
- AB 11'
- B 20.5'
- BC 34'
- C 45'
- CD 56'
- D 67.5'
- DE 79'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 147'
- H 157.5'
- IJ 169'
- J 180'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- NV 259'
- W 270'
- NP 281'
- P 292.5'
- Q 304'
- R 315'
- OR 326'
- R 337.5'
- RA 349'



Pump Location	Centerline Dose Rate			Edge of Puma Dose Rate			Air Samples Counts per Minute		Date	Stream
	W.G. (mR/hr)	W.G. (µR/hr)	Fischer (cpm)	W.G. (mR/hr)	W.C. (µR/hr)	Fischer (cpm)	Ag2 Cartridge	Paper		
A	1760	880	> 100,000	740	880	> 100,000	1055 mR/hr	AS READ	3/27/04	AS READ
B	6280	3140	> 100,000	628	314	> 100,000	377 mR/hr	AS READ	1/7/04	AS READ
C	3184	1592	> 100,000	318	159	> 100,000	191 mR/hr	AS READ	6/16/05	AS READ
D	2519	1260	> 100,000	252	126	> 100,000	57 mR/hr	AS READ	2/22/05	AS READ

ON-SITE INSTRUMENT READINGS

DATE 12.08.14.09



10 MILE ENVIRONMENTAL DATA: 08:00 - 11:50

10 AMILE

ENVIRONMENTAL DATA

TIME: 7:00 11:50

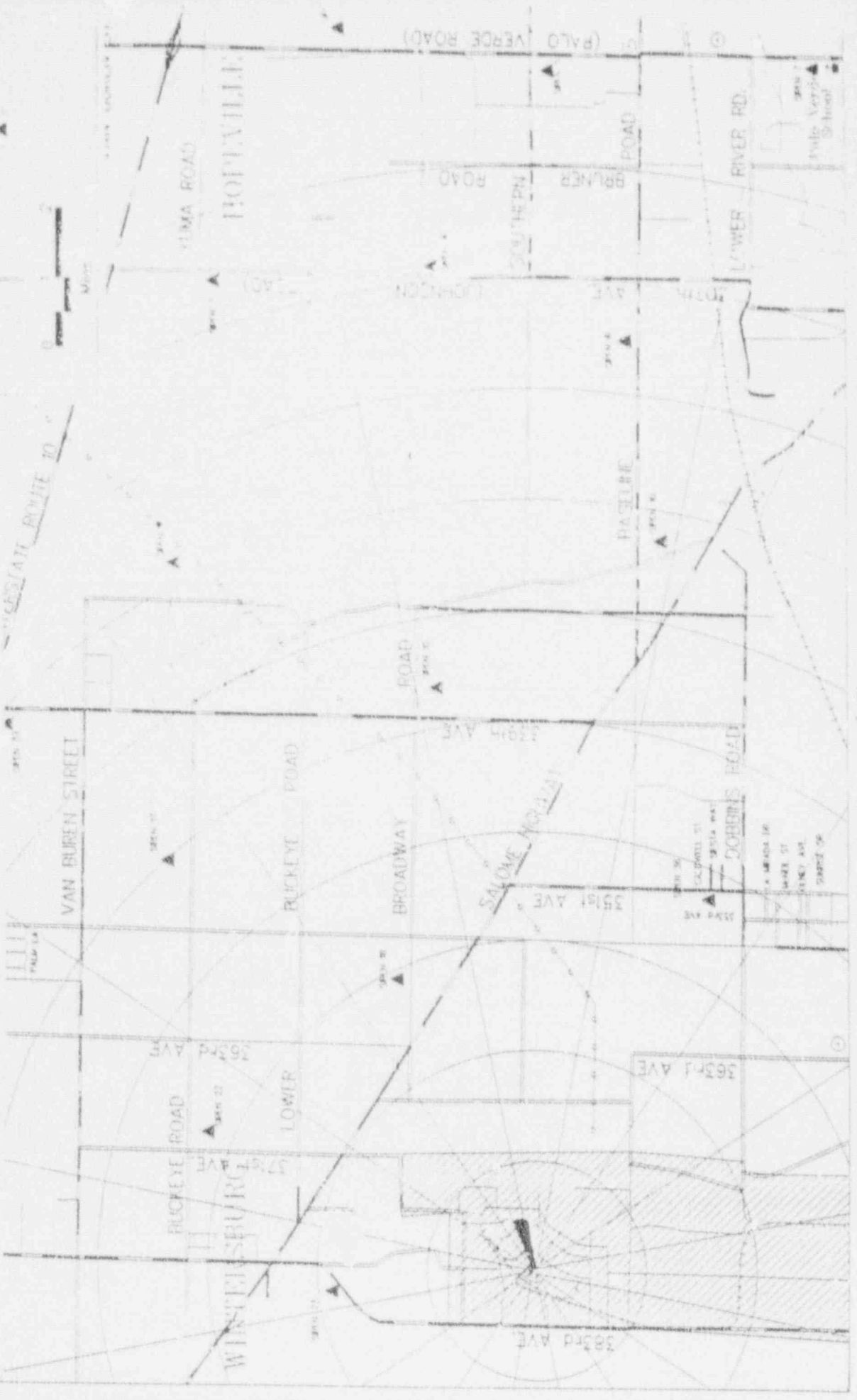
Phonon Landscape A-1	Centerline Edges		Edge of Thruway		Edge of Thruway		Air Sampling Counts per Minute		Author Code	Source
	N/C AS HEAD	S/C AS HEAD	W/C AS HEAD	E/C AS HEAD	AgZ AS HEAD	Other AS HEAD	Filter AS HEAD	Other AS HEAD		



10 MILE
ENVIRONMENTAL DATA

TIME: 11:50-12:00

Station Location	Centriline Data		Edge of "Turn" Data		Air Sampling Counts per Minute		Station Code	Station Name
	W.C. (mph)	Peak Speed (mph)	W.C. (mph)	Peak Speed (mph)	Centerline	Edge		
1	52.734	26.283	52.777	26.29	3166	1000	000001	100001



10 MILE
ENVIRONMENTAL DATA

1968: 12.00 12.10

Phone Location	Centrative		Edges of House		Air Sampling		Total	Station	Site No.
	W.D. (inches)	W.C. (inches)	Z.C. (inches)	W.C. (inches)	Count per minute	AGZ			
1	16.400	8150	16.20	815	> 100,000	9.76	AS BEAD	2.03E 09	AS 24 82
2	7828	3914	783	391	> 100,000	4.20	AS BEAD	1.85E 09	AS 21 82



10 MILE
ENVIRONMENTAL DATA

DATE 12 10 17 20

Figure Location	Contamination Data		Date Data		W.C. (ppb)		W.D. (ppb)		Date Date		Air Samples		Indices			
	W.D. (ppb)	W.C. (ppb)	W.C. (ppb)	W.D. (ppb)	W.C. (ppb)	W.D. (ppb)	W.C. (ppb)	W.D. (ppb)	W.C. (ppb)	W.D. (ppb)	County per Mile	Age	Other	Index	Code	
1	181.80	94.25	1839	945	> 100,000	> 100,000	> 100,000	> 100,000	33.33	60.00	AS 31.44	AS 31.44	AS 31.44	AS 31.44	AS 31.44	AS 31.44
2	537.2	267.6	535	274	> 100,000	> 100,000	> 100,000	> 100,000	3.21	60.00	AS 31.44	AS 31.44	AS 31.44	AS 31.44	AS 31.44	AS 31.44
3	330.6	178.3	51	51	> 100,000	> 100,000	> 100,000	> 100,000	2.14	60.00	AS 31.44	AS 31.44	AS 31.44	AS 31.44	AS 31.44	AS 31.44



10 MILE
ENVIRONMENTAL DATA

DATE: 12-20-12-30

Phase Location	Centrines		Edges of Phase		Air Samples		Inches	
	W.C. (m³/d)	W.C. (m³/d)	W.C. (m³/d)	W.C. (m³/d)	Concns per Minute	Aggr. Conc'n	Value	Scale
1	20817	10409	20817	10411	1249	AS READ	3.83E-05	AS
2	5809	2925	5809	2925	555	AS READ	1.10E-04	AS
3	2828	1414	2828	1413	170	AS READ	5.25E-04	AS
4	1394	677	1394	688	65	AS READ	2.52E-04	AS



10 MILE
ENVIRONMENTAL DATA

TABLE 1.2-30.12-00

Process Location	Concentration		Edge of Plume		Air Sampling		Volume	Emissions
	W/D (lb/ft ³)	W/C (lb/ft ³)	W/D (lb/ft ³)	W/C (lb/ft ³)	Concentration	Volume		
1	12.770	6.300	0.19	0.19	16.7	2,314.04	AS 01 01	
2	16.59	17.29	0.18	0.18	220	2,502.05	AS 01 05	
3	17.3	0.90	0.08	0.08	100	2,211.05	AS 01 02	
4	10.61	5.24	0.05	0.05	83	1,984.03	AS 01 03	
5	5.90	2.95	0.29	0.29	31	1,701.05	AS 01 04	



10 MILE
ENVIRONMENTAL DATA

DATE: 11-20-72

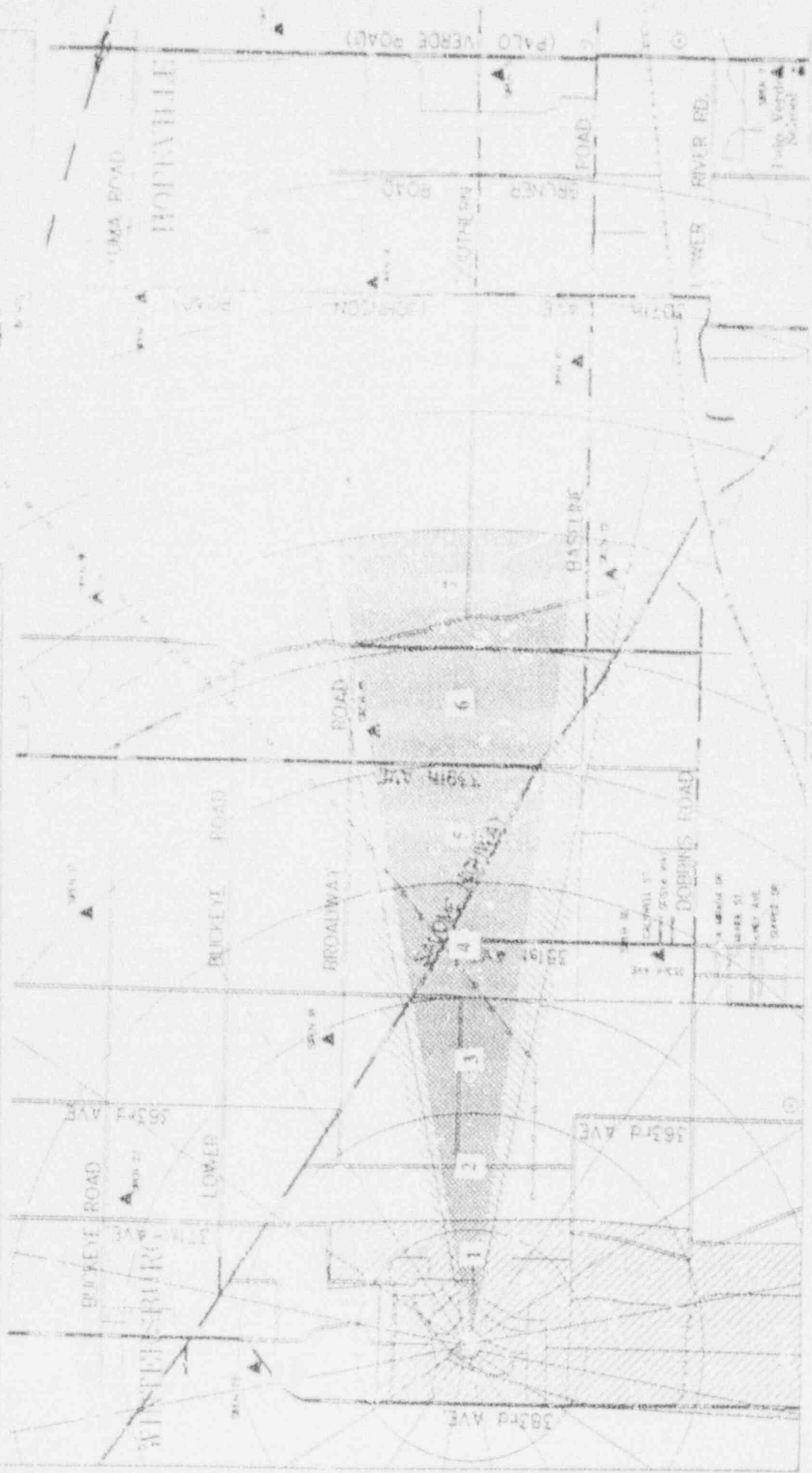
Phone Location	Chlorine Dose Rate		Edges of Phone Dose Rate		Air Quality		Soil Quality		Water Quality		Index
	W.O. (lb/ft ²)	W.C. (lb/ft ²)	St. G. (lb/ft ²)	St. C. (lb/ft ²)	St. G. (lb/ft ²)	St. C. (lb/ft ²)	St. G. (lb/ft ²)	St. C. (lb/ft ²)	St. G. (lb/ft ²)	St. C. (lb/ft ²)	
1	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
2	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
3	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
4	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
5	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
6	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000



10 MILE
ENVIRONMENTAL DATA

TIME 12:50:13.05

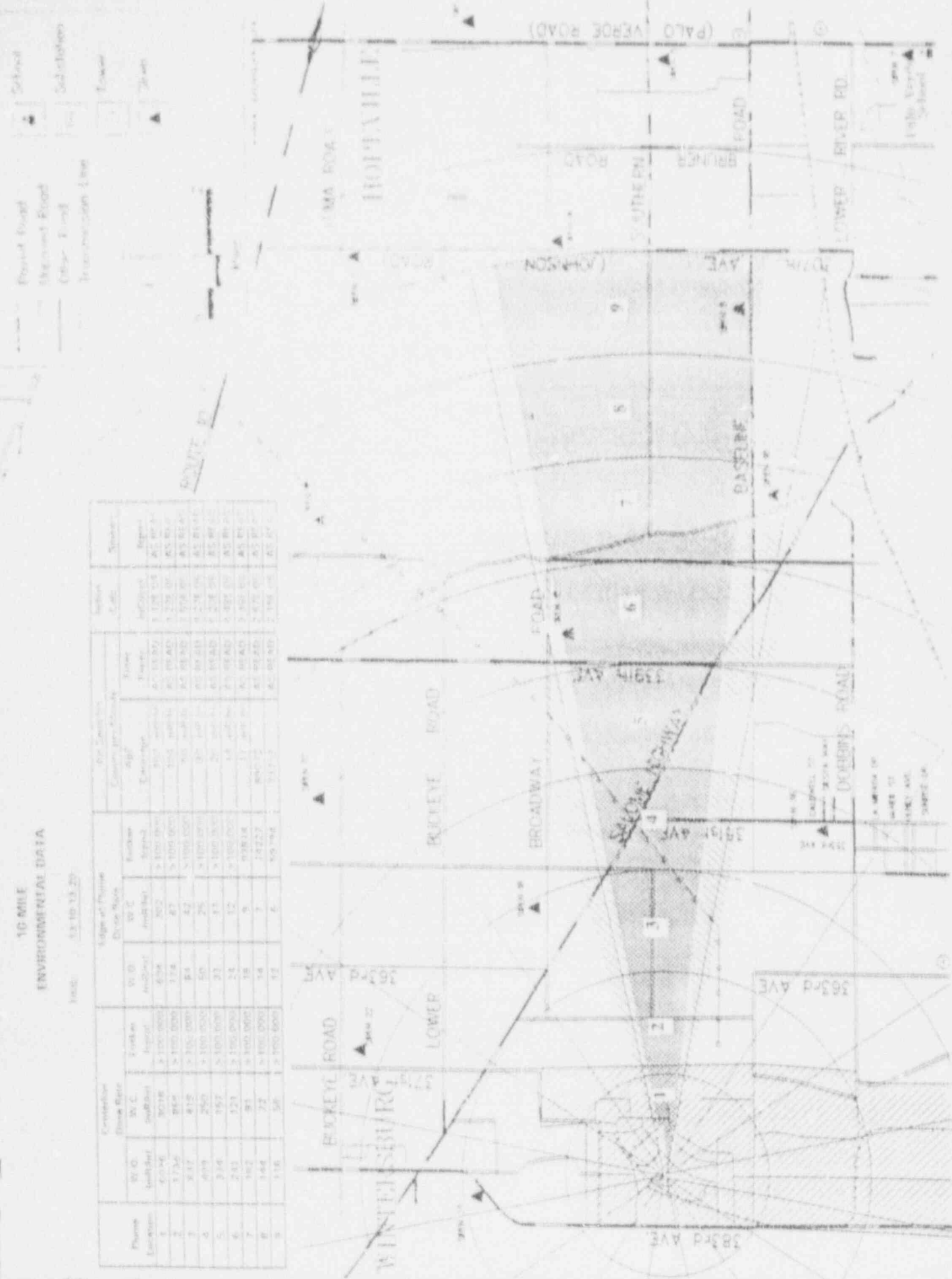
Station Location	Emission Data Rate		Sight of Home Data Rate		Stacker Report		Air Pollution Control per Minute		Impacts Calc.	Systems
	SO ₂	NO _x	SO ₂	NO _x	SO ₂	NO _x	SO ₂	NO _x		
1	10.444	5.222	1004	512	5 1000 0000	Figures	Figures	1 944 013	AS 110 AS	AS 110 AS
2	2084	1042	208	104	5 1000 0000	Figures	Figures	3 954 015	AS 110 AS	AS 110 AS
3	1450	725	145	72	5 1000 0000	Figures	Figures	2 677 006	AS 110 AS	AS 110 AS
4	858	429	85	43	5 1000 0000	Figures	Figures	1 542 015	AS 110 AS	AS 110 AS
5	114	57	11	5	5 1000 0000	Figures	Figures	1 015 005	AS 110 AS	AS 110 AS
6	433	217	43	21	5 1000 0000	Figures	Figures	2 574 015	AS 110 AS	AS 110 AS
7	113	57	11	5	5 1000 0000	Figures	Figures	5 817 015	AS 110 AS	AS 110 AS



10 MILE
ENVIRONMENTAL DATA

DATE: 11-10-73-20

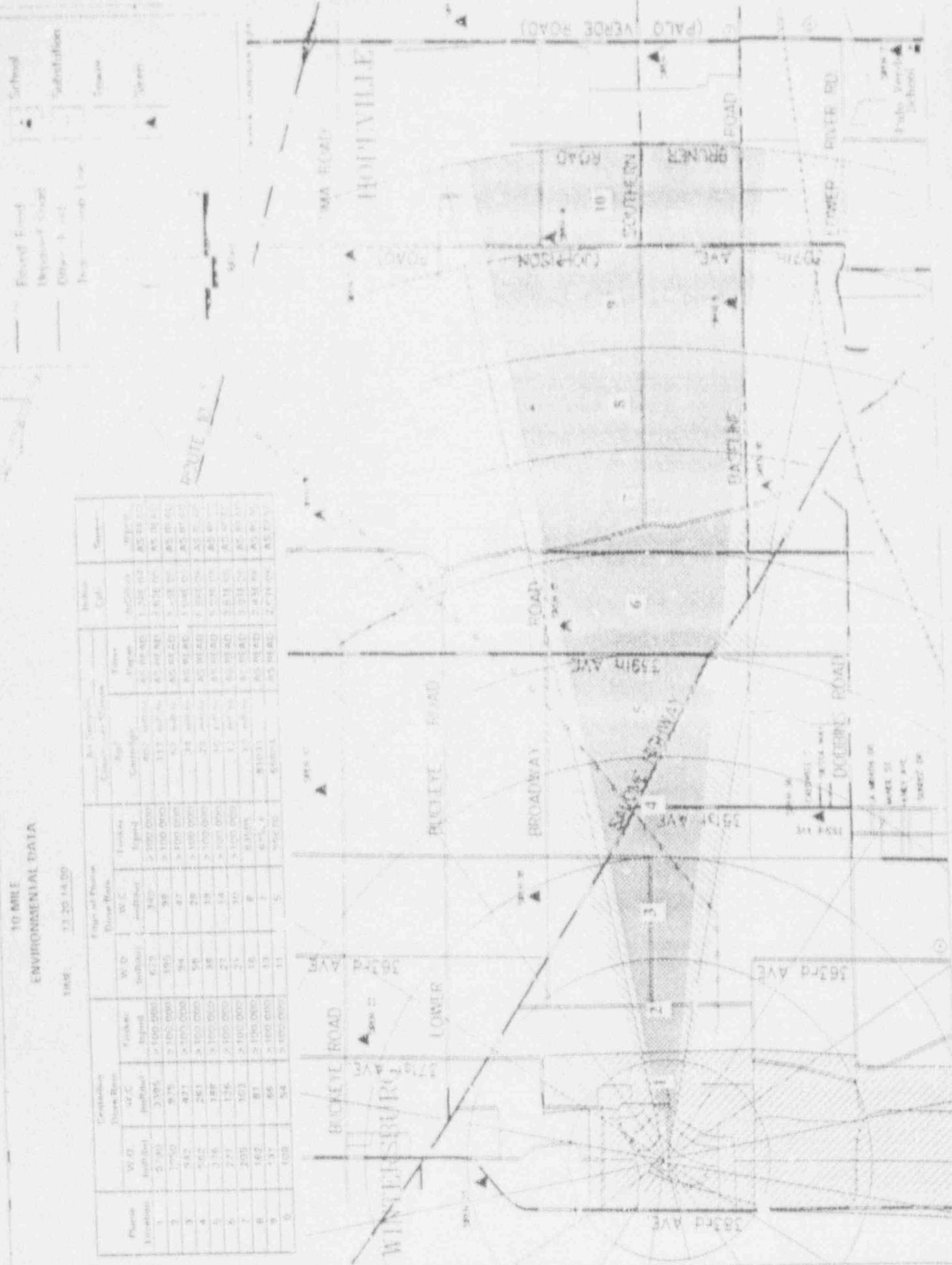
Phase Location	Crestation		Elevation		Slope of Paving		Area		Volume		Notes
	W.C. (ft)	W.C. (ft)	W.C. (ft)	W.C. (ft)	W.C. (ft)	W.C. (ft)	Area (sq ft)	Volume (cu ft)	Area (sq ft)	Volume (cu ft)	
1	41.96	30.78	41.96	30.78	41.96	30.78	11.4	47	5,100,000	5,100,000	AS 11.4
2	37.25	26.00	37.25	26.00	37.25	26.00	4.2	17	1,800,000	1,800,000	AS 4.2
3	36.17	25.00	36.17	25.00	36.17	25.00	5.0	20	2,100,000	2,100,000	AS 5.0
4	36.17	25.00	36.17	25.00	36.17	25.00	5.0	20	2,100,000	2,100,000	AS 5.0
5	33.4	23.7	33.4	23.7	33.4	23.7	1.5	6	600,000	600,000	AS 1.5
6	2.83	2.1	2.83	2.1	2.83	2.1	1.2	5	500,000	500,000	AS 1.2
7	1.62	1.1	1.62	1.1	1.62	1.1	1.8	7	1,100,000	1,100,000	AS 1.8
8	1.44	1.1	1.44	1.1	1.44	1.1	1.7	7	1,100,000	1,100,000	AS 1.7
9	1.16	0.8	1.16	0.8	1.16	0.8	1.2	5	500,000	500,000	AS 1.2



10 MILE
ENVIRONMENTAL DATA

DATE: 11.20.14.00

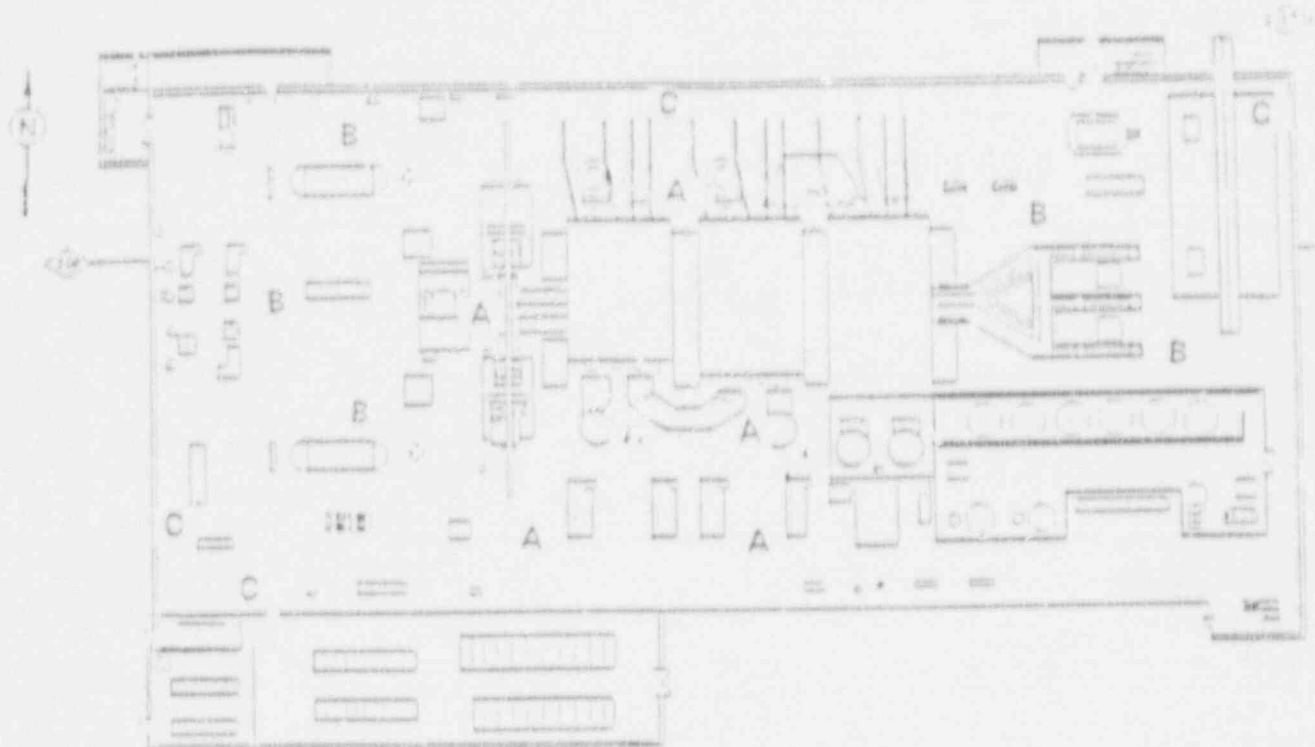
Plane Elevation	Construction Over Base		W.C. (Inch)		W.C. (Inch)		W.C. (Inch)		W.C. (Inch)		W.C. (Inch)		W.C. (Inch)		W.C. (Inch)		W.C. (Inch)	
	W.D. Inch	W.C. Inch	W.D. Inch	W.C. Inch	W.D. Inch	W.C. Inch	W.D. Inch	W.C. Inch	W.D. Inch	W.C. Inch	W.D. Inch	W.C. Inch	W.D. Inch	W.C. Inch	W.D. Inch	W.C. Inch	W.D. Inch	W.C. Inch
1	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00	2.00	1.00
2	3.00	1.50	3.00	1.50	3.00	1.50	3.00	1.50	3.00	1.50	3.00	1.50	3.00	1.50	3.00	1.50	3.00	1.50
3	4.00	2.00	4.00	2.00	4.00	2.00	4.00	2.00	4.00	2.00	4.00	2.00	4.00	2.00	4.00	2.00	4.00	2.00
4	5.00	2.50	5.00	2.50	5.00	2.50	5.00	2.50	5.00	2.50	5.00	2.50	5.00	2.50	5.00	2.50	5.00	2.50
5	6.00	3.00	6.00	3.00	6.00	3.00	6.00	3.00	6.00	3.00	6.00	3.00	6.00	3.00	6.00	3.00	6.00	3.00
6	7.00	3.50	7.00	3.50	7.00	3.50	7.00	3.50	7.00	3.50	7.00	3.50	7.00	3.50	7.00	3.50	7.00	3.50
7	8.00	4.00	8.00	4.00	8.00	4.00	8.00	4.00	8.00	4.00	8.00	4.00	8.00	4.00	8.00	4.00	8.00	4.00
8	9.00	4.50	9.00	4.50	9.00	4.50	9.00	4.50	9.00	4.50	9.00	4.50	9.00	4.50	9.00	4.50	9.00	4.50
9	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	5.00
0	11.00	5.50	11.00	5.50	11.00	5.50	11.00	5.50	11.00	5.50	11.00	5.50	11.00	5.50	11.00	5.50	11.00	5.50



PASS RADIOLOGICAL INFORMATION

	Drill Time		
	8:00-10:40 mR/hr	10:40-11:20 mR/hr	After 11:20 mR/hr
<u>RCS</u>			
Unshielded sample dose rate: contact	3	9329	8339
Unshielded sample dose rate: 3 feet	As Read	9	8
Shielded sample dose rate: contact	As Read	767	687
Shielded sample dose rate: 3 feet	As Read	1	1

100 TURBINE BUILDING



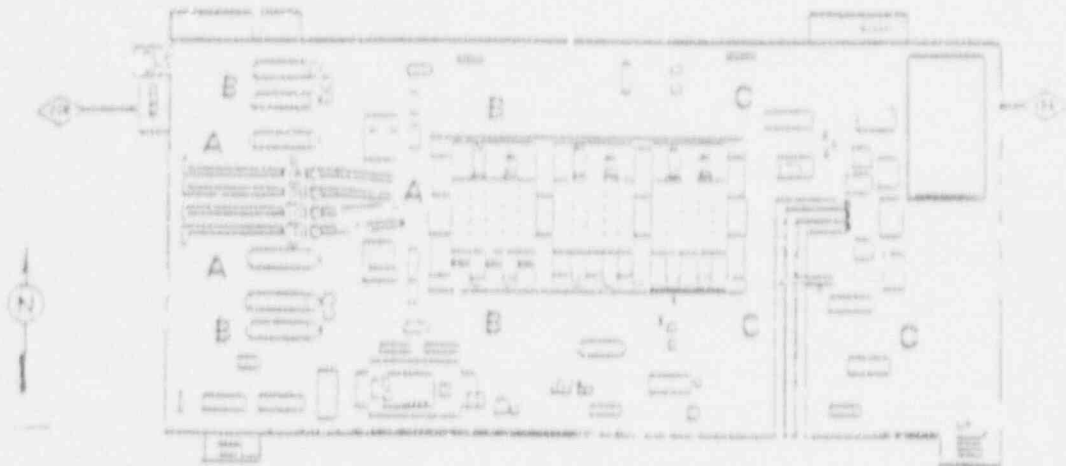
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0900	60	75	4.2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/ft ³	uCi/ft ³	uCi/ft ³	LEVELS IN CPN	NOTES
0800	AS READ	AS READ	AS READ	AS READ	

140 TURBINE BUILDING
MEZZANINE DECK



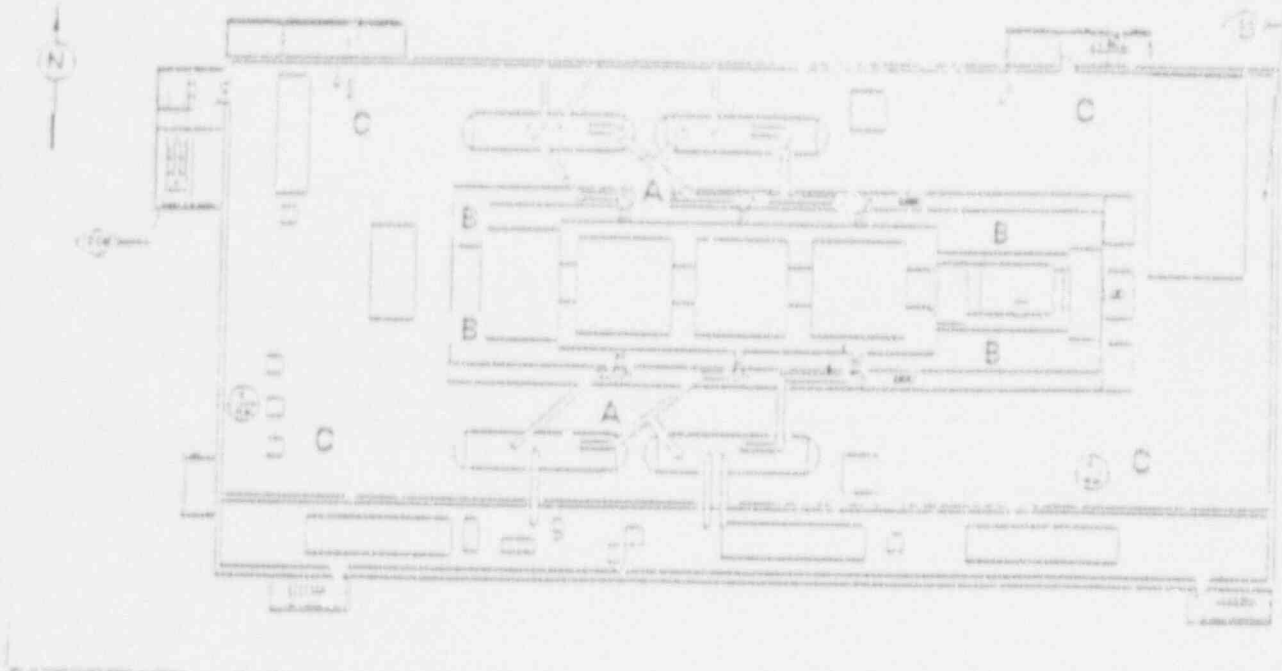
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
0800 Dr	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0800 - Dr	20	10	< 2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/ft ³	uCi/ft ³	uCi/ft ³	LEVELS IN CPM	NOTES
0800 Dr	AS READ	AS READ	AS READ	AS READ	

176 TURBINE BUILDING
OPERATING DECK



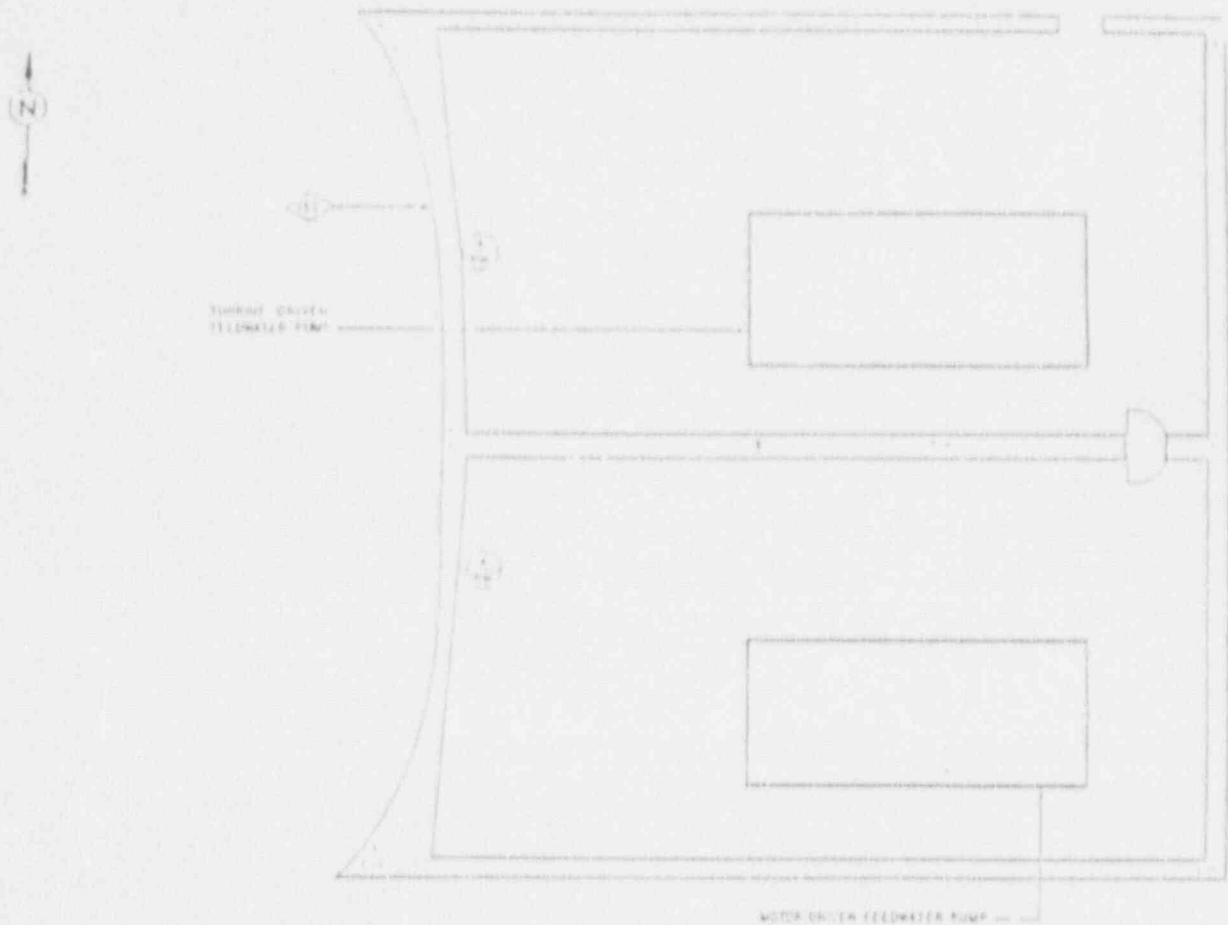
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
BDC	AS READ	AS READ	AS READ	N/A	N/A	N/A	
DBDC-Cr	12	5	<2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/ft ³	uCi/ft ³	uCi/ft ³	LEVELS IN CPM	NOTES
DBDC-Cr	AS READ	AS READ	AS READ	AS READ	

81' - 89' M.S.S.S. - AUXILIARY FEEDWATER
PUMP ROOMS "A" AND "B"



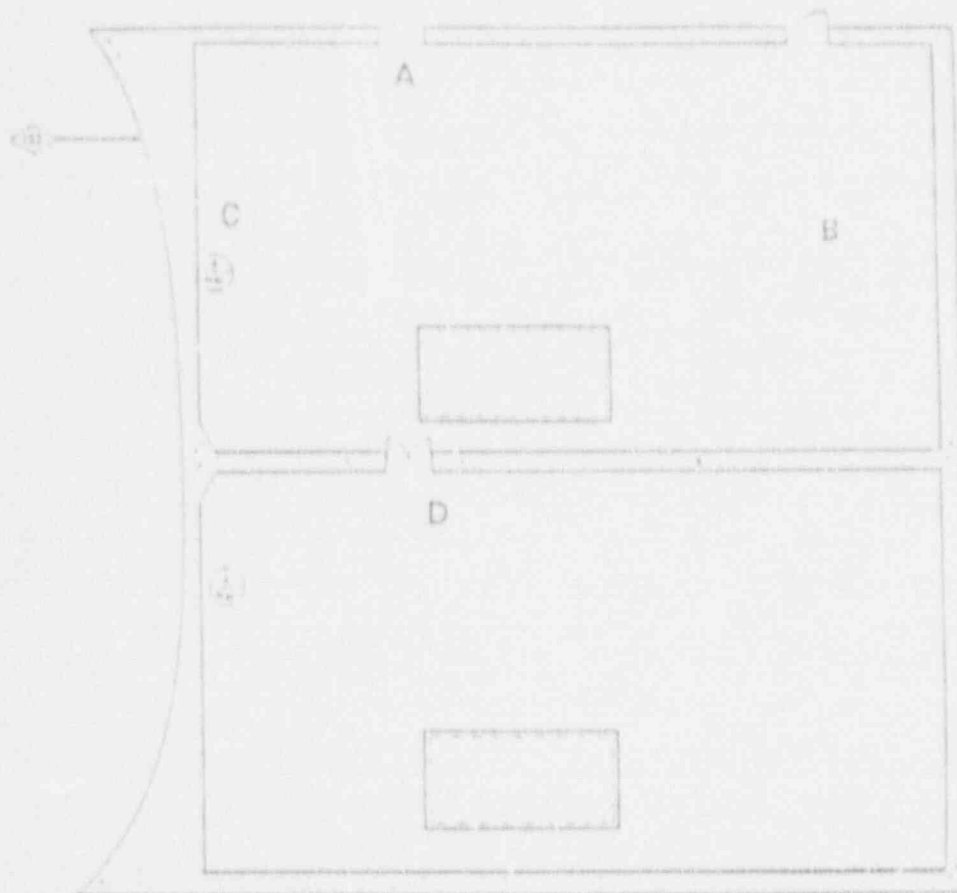
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	

100' x 110' M.S.S.S.
VALVE & PIPEWAY AREAS



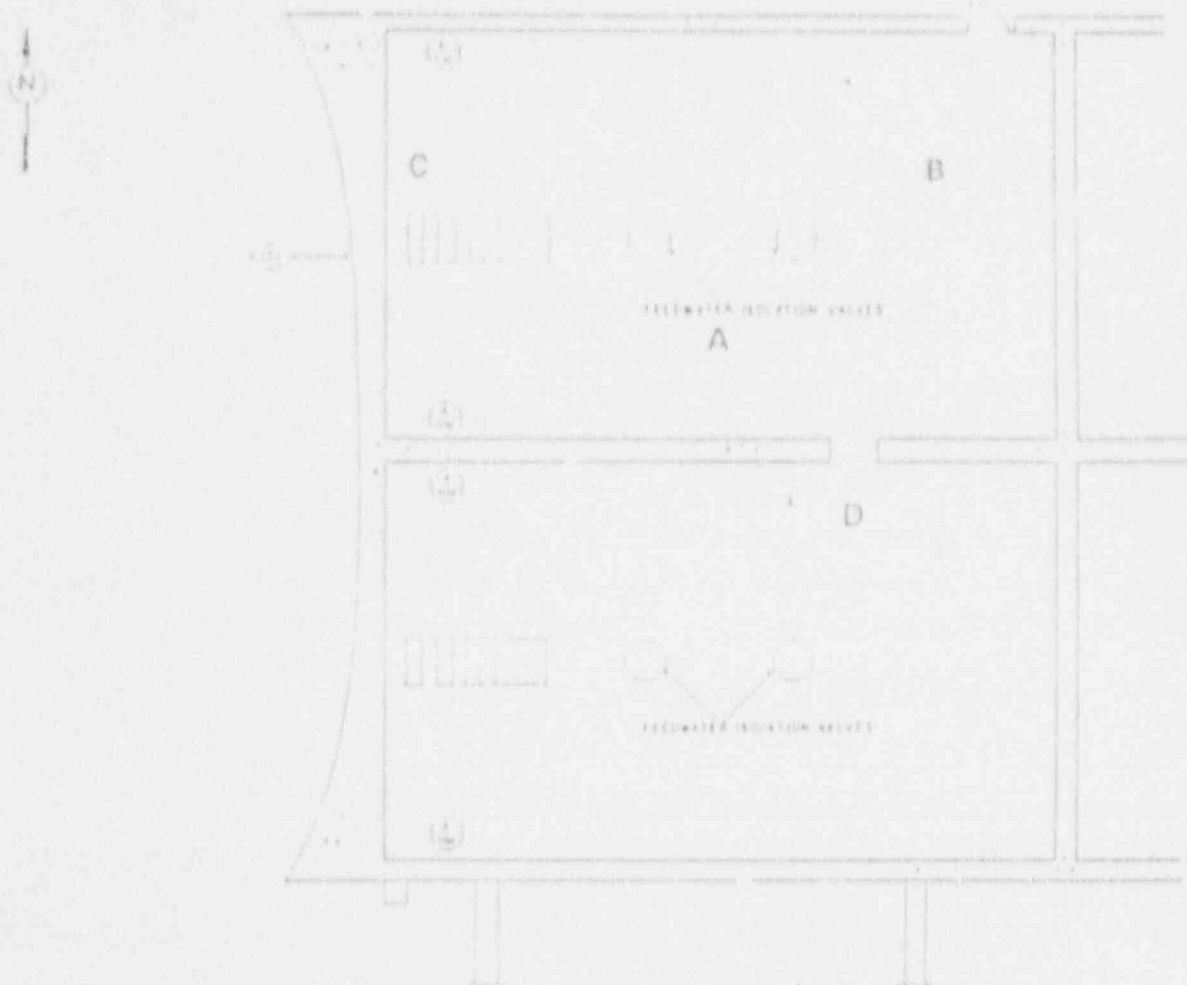
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	AS READ	N/A	N/A	
900	2	1	1	AS READ	N/A	N/A	
1030	79	59	59	AS READ	N/A	N/A	
1040	14 R/hr	10 R/hr	10 R/hr	137	N/A	N/A	
1200	13 R/hr	10 R/hr	10 R/hr	128	N/A	N/A	
1300 On	11 R/hr	8 R/hr	8 R/hr	114	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC.	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	3.26E-21	2.88E-21	2.87E-21	AS READ	
1030	1.41E-20	1.55E-20	1.70E-20	AS READ	
1040	2.71E-17	3.06E-17	3.27E-17	AS READ	
1200	2.68E-17	3.05E-17	3.23E-17	AS READ	
1300 On	2.65E-17	3.05E-17	3.18E-17	AS READ	

120 - 132 M.S.S. - MAIN STEAM
RELIEF V - VE ROOMS "A" & "B"



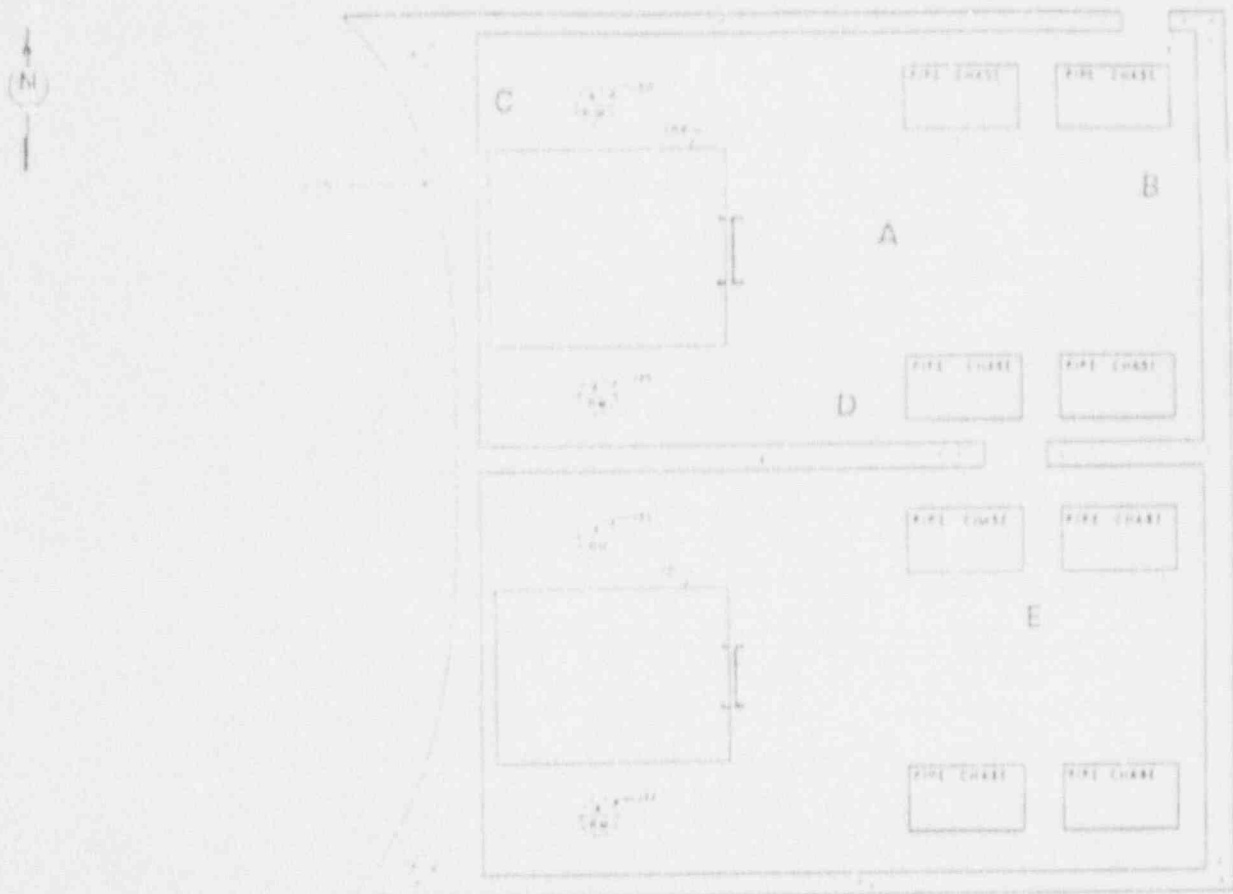
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL NOTES
HRS	A	B	C	D	E	F	
800	AS READ	AS READ	AS READ	AS READ	N/A	N/A	
900	4	2	2	AS READ	N/A	N/A	
1030	160	85	85	AS READ	N/A	N/A	
1040	28 R/hr	15 R/hr	15 R/hr	282	N/A	N/A	
1200	25 R/hr	14 R/hr	14 R/hr	264	N/A	N/A	
1300 On	23 R/hr	12 R/hr	12 R/hr	235	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	0.74E-11	8.62E-11	8.58E-11	AS READ	
1030	4.21E-10	1.64E-10	9.07E-10	AS READ	
1040	8.11E-07	9.16E-07	9.79E-07	AS READ	
1200	8.02E-07	9.13E-07	9.68E-07	AS READ	
1300 On	7.82E-07	9.11E-07	9.50E-07	AS READ	

140 - 148 M S S S - UPPER MAIN
STEAM LINE ROOMS "A" & "B"



1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	AS READ	AS READ	N/A	
900	2	1	1	2	AS READ	N/A	
1030	79	59	59	71	AS READ	N/A	
1040	14 R/hr	10 R/hr	14 R/hr	10 R/hr	123	N/A	
1200	13 R/hr	10 R/hr	13 R/hr	10 R/hr	116	N/A	
1300 On	14 R/hr	8 R/hr	14 R/hr	8 R/hr	84	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	$\mu\text{Ci/cc}$	$\mu\text{Ci/cc}$	$\mu\text{Ci/cc}$	LEVELS IN CPM	NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	8.74E-11	9.07E-11	8.04E-11	AS READ	
1030	4.21E-10	4.88E-10	5.34E-10	AS READ	
1040	9.11E-07	9.44E-07	1.03E-06	AS READ	
1200	8.02E-07	8.61E-07	1.02E-06	AS READ	
1300 On	7.82E-07	8.59E-07	1.00E-06	AS READ	

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 09:00 - 10:40

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	4.06E-02
Xe-131	12.00 D	1.86E-03
Xe-133	5.25 D	<u>3.40E-01</u>
Total Activity:		3.82E-01

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>7.99E-04</u>
Total Activity:		7.99E-04

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>8.52E-05</u>
Total Activity:		8.52E-05

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	1.14E-01
I-132	2.29 H	1.13E-01
I-133	20.8 H	2.19E-01
I-135	6.59 H	<u>1.93E-01</u>
Total Activity:		6.40E-01

Grand Total Activity: 1.02E+00

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 10:40 - 11:20

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	3.29E+01
Xe-131	12.00 D	3.39E+00
Xe-133	5.25 D	<u>6.21E+02</u>
Total Activity:		6.57E+02

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.45E+00</u>
Total Activity:		1.45E+00

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>0.061856</u>
Total Activity:		0.061856

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	2.08E+02
I-132	2.29 H	1.33E+02
I-133	20.8 H	3.84E+02
I-135	6.59 H	<u>3.04E+02</u>
Total Activity:		1.03E+03

Grand Total Activity: 1.69E+03

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: After 11.20

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	2.09E+01
Xe-131	12.00 D	3.39E+00
Xe-133	5.25 D	<u>6.19E+02</u>
Total Activity:		6.44E+02

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.45E+00</u>
Total Activity:		1.45E+00

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>3.69E-02</u>
Total Activity:		3.69E-02

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	2.08E+02
I-132	2.29 H	1.03E+02
I-133	20.8 H	3.75E+02
I-135	6.59 H	<u>2.79E+02</u>
Total Activity:		9.65E+02

Grand Total Activity: 1.61E+03

CHEMISTRY DATA

Type of Sample: Condenser Exhaust
Sample Time: 09:00 - 10:40

Nuclide Type: fission gas

Nuclide	Half	Decay Corr uCi/ML
Kr-87	1.27 H	2.77E-04
Xe-131	12.00 D	1.26E-05
Xr-133	5.25 D	<u>2.32E-03</u>
Total Activity:		2.61E-03

CHEMISTRY DATA

Type of Sample: Condenser Exhaust
Sample Time: 10:40 - 11:10

Nuclide Type: fission gas

Nuclide	Half	Decay Corr uCi/ML
Kr-87	1.27 H	1.05E+00
Xe-131	12.00 D	1.19E-01
Xe-133	5.25 D	<u>2.17E-01</u>
Total Activity:		2.29E-01

CHEMISTRY DATA

Type of Sample: Steam Blowdown
 Sample Time: 09:00 - 10:40

Nuclide Type: halogen

Nuclide	Half-life	Decay Corr uCi/ML
I-131	8.04 D	5.93E-03
I-132	2.29 H	5.55E-03
I-133	20.8 H	1.14E-02
I-135	6.59 H	<u>9.86E-03</u>
Total Activity:		3.27E-02

Nuclide Type: fission

Nuclide	Half-life	Decay Corr uCi/ML
Te-132	3.25 D	<u>4.17E-05</u>
Total Activity:		4.17E-05

Nuclide Type: FP

Nuclide	Half-life	Decay Corr uCi/ML
Te-129	1.12 H	<u>3.93E-06</u>
Total Activity:		3.93E-06

Grand Total Activity: 3.28E-02

CHEMISTRY DATA

Type of Sample: Steam Blowdown
 Sample Time: 10:40 - 11:20

Nuclide Type: halogen

Nuclide	Half	Decay Corr uCi/ML
I-131	8.04 D	5.44E+01
I-132	2.29 H	3.09E+01
I-133	20.80 H	9.93E+01
I-135	6.50 H	7.64E+01
Total Activity:		2.61E+02

Nuclide Type: fission

Nuclide	Half	Decay Corr uCi/ML
Te-132	3.25 D	1.93E-01
Total Activity:		1.93E-01

Nuclide Type: FP

Nuclide	Half	Decay Corr uCi/ML
Te-129	1.12 H	0.006587
Total Activity:		0.006587

Grand Total Activity: 2.61E+02

CHEMISTRY DATA

Type of Sample: Steam Blowdown
 Sample Time: After 11:20

Nuclide Type: halogen

Nuclide	Half-life	Decay Corr uCi/ML
I-131	8.04 D	5.42E+01
I-132	2.29 H	2.40E+01
I-133	20.80 H	9.60E+01
I-135	6.58 H	<u>5.99E+01</u>
Total Activity:		2.45E+02

Nuclide Type: fission

Nuclide	Half-life	Decay Corr uCi/ML
Te-132	3.25 D	<u>3.76E-01</u>
Total Activity:		3.76E-01

Nuclide Type: FP

Nuclide	Half-life	Decay Corr uCi/ML
Te-128	1.12 H	<u>7.69E-03</u>
Total Activity:		7.69E-03

Grand Total Activity: 2.45E+02

PVNGS Annual Exercise

3.1 Initial Conditions

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1Z702 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1S111 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG B Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

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3.2 Narrative Summary

This scenario is based on a leak developing in a U-Tube in Steam Generator #1. The operators assess the leak and determine that a shutdown is required per 41AO-1ZZ08. Before the reactor can be tripped, at approximately 30 % Reactor Power, the leaking tube fails catastrophically, and leak rate increases to approximately 400 gpm. Operators manually trip the reactor and initiate Safety Injection. Operators re-diagnose the accident and transition to 41OP-1ZZ06 "Tube Rupture" based on the initiation of Safety Injection. When operators attempt to rapidly reduce the flow through the ruptured tube by depressurizing the RCS, the spray valve controller fails, necessitating the use of slower auxiliary spray to reduce pressure. Operators use Safety Injection to maintain RCS inventory, auxiliary spray to reduce pressure and steam the un-affected steam generator to cool the RCS.

A sudden failure of RCP-1A impeller sends debris from the failed impeller through the core. Fuel damage occurs. Fission products enter the coolant and flow into the failed Steam Generator. When a spring on the #1 Steam Generator Safety Valve fails, the safety valve lifts, and a release of RCS activity begins to the environment from the failed relief valve.

The scenario will be mitigated by:

- Normal Primary to Secondary leak response actions.
- Restoration of the Spray Valve controller to expedite plant depressurization.
- Cooldown and stabilization of the plant.
- Performance of off-site radiological monitoring and evaluation.

PVNGS Annual Exercise
3.3 Major Sequence of Events

0700 -0030 Initial Conditions, Simulator Board walkdown.

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1S111 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG B Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

3.3 Major Sequence of Events (Continued)

- 0800 0000 Medical Emergency:
Spent resin spill occurs during transfer when a flexible coupling blows out. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-21. RU-21 indicates off-scale high locally and in the Control Room. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg. Radwaste Operators notify Security, Fire Protection and the Control Room.
- 0810 0010 While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred. Operators check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset. They inform Unit 2 Control Room and continue troubleshooting.
- 0815 0015 EMTs and Radiation Protection Technicians arrive in the Radwaste Building, assess the situation medically and radiologically, and prepare the victim for transport to a medical facility.
- 0835 0035 Control Room declares an ALERT based on EPIP-02 Appendix B, Tab 1 "Direct Radiation Readings within the Unit Increase by a Factor of 1000." The Control Room should realize that "Transportation of internally or externally contaminated injured person to offsite hospital" (when this event occurs) constitutes a Notification of Unusual Event" per EPIP-02 Appendix B, Tab 1. This emergency classification level is superseded by the ALERT.
- 0900 0100 RCS tube leak starts in "A" Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, and RU-139 channel-2 High alarm, and by a mismatch between charging and letdown flow. Operators enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02.
- 0902 0102 Initial determination of the leak rate exceeds 1 gpm (approximately 12 gpm). Preliminary indications by blowdown radiation monitors indicate S/G 1 is faulted. Operators continue leak rate determinations.

3.3 Major Sequence of Events (Continued)

- 0913 0113 15 minute leak rate determination indicates approximately 58 gpm primary to secondary leak rate. Operators continue 41AO-1ZZ08, Step 4 (Plant Shutdown) after stabilizing plant conditions and measuring leak rate [approximately 15 minutes]. Operators should realize that a leak rate greater than 44 gpm meets the criteria for an ALERT per EPIP-02 Appendix B Tab 2 "RCS Leak Rate >44 gpm." It may result in a minor release of noble gases to the environment. Operators have completed step 2 of 41AO-1ZZ08 to minimize releases to the environment. Follow-up notifications to offsite agencies should indicate the changed plant conditions but the event is not reclassified because the plant emergency classification is still at the ALERT level.
- 0914 0114 [NOTE: Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.] Controllers must pay attention to player decision-making process on what sort of shutdown to use. Controllers may need to increase the magnitude of the leak to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage due to a rapid power reduction or trip. [use 12% break for the 15 minute leak rate check].
- 0915 0115 Operators should brief and commence a plant shutdown per 41OP-1ZZ08 and/or 41OP-1ZZ07. Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.
- 0916 0116 Operators commence shutdown by boration at 60 gpm, 1700 gal dialed in. If operators have not isolated letdown and lined up to blend the boron, they will get a pressurizer trouble alarm and VCT may isolate on low level as soon as power starts to decrease. They will then have to secure boration and isolate letdown. [Note: Operators will need to track Axial Shape Index (ASI) as power is reduced. If power shifts too far to top of the core, operators must drive in groups 4 and 5 rods to restore power distribution as necessary].
- 0940 0140 The injured worker is transported off/site by ambulance. SS/EC/EOD should realize that this is a redundant indication for NUE.

3.3 Major Sequence of Events (Continued)

- 1006 0206 Shutdown continues. Operators trip the "B" Main Feed Pump
- 1010 0210 Shutdown continues. Operators trip the "B" Condensate Pump
- 1015 0215 RCP-1A high vibration alarms and eccentricity alarms actuate. Operators analyze the vibration, but magnitude of eccentricity is below the 10 mils mandatory shutdown point per 79AC-OSV01. Since immediate shutdown of the RCP is not required, operators continue monitoring.
- 1030 0230 With reactor power at approximately 30%, operators are briefing for manual Reactor Trip at 20% power. The leaking Steam Generator tube ruptures [Simulator Operator will key leak rate to 30%]. RCS leak rate increases to approximately 400 gpm. The RCS rapidly depressurizes [PZR trouble alarm on lowering level, PZR pressure low alarm, PZR level low alarm, #1 S/G level increasing confirms faulted S/G].
- 1035 0235 Operators manually trip the reactor and initiate SI. Radiation levels in the secondary plant increase due to the higher leak rate. Operators re-diagnose the tube leak and transition to 41RO-1ZZ06 "Tube Rupture" based on SIAS. The large tube rupture meets the criteria of EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity." Two check marks in Appendix A merit declaration of a SITE AREA EMERGENCY.
- 1040 0240 Immediately prior to operators' attempt to shut down RCP-1A and -2A per 41RO-1ZZ06, RCP-1A impeller fails. Debris from the impeller are flushed into the core. The loose parts monitor alarms. Hot leg ARMs and area ARMs increase indicating possible fuel damage. RCP-2A is tripped manually, RCP-1B and -2B are running normally. SS should direct a RCS sample if the normal post-trip sample has not already been ordered. RU-16 and -17 indicate greater than 10 times their high alarm setpoints, which operators may view as an additional indication for a SITE AREA EMERGENCY per EPIP-02 Appendix B, Tab 2 "Major Damage to spent fuel with a release of radioactivity to the Containment or Fuel Handling Building resulting in valid radiation readings >10 times the high radiation alarms on any of the following: RU-16, -17, -31, -33, -143, or -145", despite the fact that the only radioactive release is to the isolated faulted Steam Generator.
- 1050 0250 S/G #1 level increases rapidly due to the tube rupture. Operators line up and conduct a high rate blowdown of #1 S/G to maintain level below 80%.

3.3 Major Sequence of Events (Continued)

- 1055 0255 When operators attempt to rapidly depressurize the plant with spray to reduce the Primary to Steam Generator differential pressure, they find that the spray valves will not open in the Control Room. The Spray Valve controller has failed. Operators use slower Aux. Spray to lower pressure, and commence troubleshooting the failed Spray Valves.
- 1100 0300 TSC Emergency Coordinator declares a SITE AREA EMERGENCY based on EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity.", if not already done, and makes appropriate notifications. Operators are expected to use safety injection systems to makeup inventory losses and continue steaming using auxiliary feed to cool the RCS and remove heat from the core.
- 1145 0345 Main Steam safety relief valve trouble alarm. Indications of #1 S/G relief lifted. Un-Monitored release to the environment begins via the lifting relief in the MSSS.
- 1200 0400 With the primary to secondary leak in combination with the lifting relief, the EC should recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.
- 1210 0410 While investigating low volume on the plant paging speaker in the OSC, electrician strikes a sprinkler system spray head with a ladder. One OSC sprinkler system spray head is damaged. The damaged sprinkler head sprays down the room. Before the fire main in that area can be isolated, the room is thoroughly wet. Emergency supplies and paperwork are rendered unserviceable. Telephones in the OSC are OOS. Emergency Response personnel should be evacuated to the alternate OSC, or to another suitable location. OSC supervisory personnel and RP personnel should take plume exposure during the evacuation into account.
- 1230 0430 Operators continue to cool down the RCS and depressurize to control the release rate from the ruptured S/G. Attempts to shut the leaking relief valve will be ineffective due to temperature and radiation levels in the vicinity of the valve.
- 1300 0500 When plant is ready to be placed on shutdown cooling, and all objectives have been demonstrated, secure from the exercise.

Appendix A
Scenario Controller Guide

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSC. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0730	1	C-1 All	SS All	<p><u>INITIAL CONDITIONS</u></p> <p>Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1SH1 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. No Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today.</p> <p><u>Annunciators in Control Room</u></p> <p>1C DG B Trip 1C DG B Emergency Manual Trip 1C DG B High Priority Trouble</p>	<p><u>Unit 2 Control Room (CR) [Simulator]</u></p> <p>Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards</p>		<p>0730 - All controllers distribute the initial conditions to all Facility managers and key players as they are manned during the exercise.</p> <p>NOTE: Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.</p> <p>All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.</p> <p>All troubleshooting information for LPSI "B" troubleshooting and repair will be found in the OSC Mini-Scenarios, Appendix N</p>

1992 EVALUATED EXERCISE CONTROL

TIME	MSG. NO.	FROM	TG	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0800	2	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-20 indicates 1000 mR/hr. RU-21 indicates 500 mR/hr. RU-22 indicates 7000 mR/hr.</p>	Be aware of plant conditions. Attempt to validate the high radiation alarms in the Rad Waste Building. SS should realize that valid high radiation alarms in the area constitute an ALERT per EPIP-02 App B Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"		Flex coupling has blown out during resin transfer. Approximately 5 - 6 Ci of normal hot resin have spilled on the floor of the Rad Waste Building. Elevated radiation levels due to the spill.
0800	3	C-4b	RWO	Spent resin spill: Flexible coupling blows out during transfer. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-20 and -21. RU-22 indicates 7000 mR/hr locally. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg.	<p><u>Resin Transfer Scene:</u> Radwaste Operator notify Security, Fire Protection and the Control Room.</p> <p><u>Security</u> Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification.</p> <p><u>Fire Protection (FP)</u> Shift Captain, dispatch EMTs to the scene. Notify medical.</p> <p><u>Unit 2 CR [Sim]:</u> SS: Notify Radiation Protection (RP). Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.</p>		Scene controller, posing as a RWO standing by at the scene, phones in the notification of the resin spill to extension 4444

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0810	4	C-4	RT Ldr at DG "B"	While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.	<p>Check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset.</p> <p>Inform Unit 2 Control Room.</p> <p>Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG train transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.</p>		NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios, Appendix N.
0815	5	C-4b	EMT / RPT	EMTs and RPTs arrive at the scene of the Resin Spill.	<p><u>Fire Protection</u></p> <p>FMTs: evaluate medical situation and begin immediate treatment. Report status of the victim to Unit 2 CR (Sim).</p> <p><u>Security</u></p> <p>Officer on-scene: Establish and maintain communications at the scene. Assist in transport of victims to the Site Medical Facility.</p> <p>Security Shift Captain (SSC): Prepare for security support of handling and transport of the victim. Notify the vehicular access (sally) port.</p> <p><u>RPT</u></p> <p>Perform initial radiological assessment of the victim and the immediate area. Report the status to medical and the Unit 2 CR (Sim).</p>		<p>EMTs and RPTs begin to arrive at the scene. Controller interact with EMTs and RPTs to provide information required to assess condition of the contaminated injured worker. EMTs and RPTs should determine that the worker is contaminated and requires transportation to a medical facility.</p> <p>NOTE: The remainder of the medical and radiological data relating to the contaminated</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0815 Cont	5 Cont				<p><u>Unit 2 Control Room (Sim)</u> SS: Evaluate the RPT reports and continue to monitor the on-going events. Determine injury and contamination status of the victim. Pass information to the CR.</p>	MB	<p>injured worker will be provided from the Medical Emergency Scenario, <u>App. M</u></p> <p>0840 - (C-4b) Prompt* on-site medical to arrange for ground evacuation of injured worker. (See App. M)</p>
0820				<p>With notification of the resin spill in the Rad Waste building, SS has validated ARM alarms, and has sufficient information to declare an ALERT per EPIP-02, App B Tab 1, "Direct Radiation Readings within the plant increase by a factor of 1000"</p>		A	<p>0855 (C-1) To ensure ALERT is declared</p>
0830				<p>Radiological and Medical assessment of the victim is complete. Initial contamination control measures are in place.</p>	<p><u>Fire Protection</u> EMTs prepared for transport on litter to Site Medical Facility and ambulance. <u>RPTs</u> Contamination control boundaries and methodologies are in place for movement of the victim.</p>		<p>NOTE: Detailed medical and radiological data relating to the contaminated injured worker will be provided from the Medical Emergency Scenario, <u>Appendix M</u>. Initial move of injured worker to the Radwaste Building fence area for rapid transport to ambulance is <u>only</u> required for life-threatening injury, and is not required in this case.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0835	A	C-1	SS	Declare an ALERT per EPIP-02, Appendix B, Tab i "Direct Radiation Readings within the Unit increase by a factor of 1000"	<p><u>Unit 2 Control Room (Sim)</u> SS/On-shift Emergency Coordinator declare the ALERT. Direct notifications in accordance with (IAW) EPIP-04.</p> <p><u>Satellite Technical Support Center (STSC)</u> STSC Communicator make appropriate notifications per EPIP-04.</p> <p><u>Operations Support Center (OSC)</u> Begin Activation.</p> <p><u>Technical Support Center (TSC)</u> Begin Activation.</p> <p><u>Emergency Operations Facility (EOF)</u> Begin Activation.</p>		Deliver this message only if SS has not declared the ALERT by 0835 time.
0902	6	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-141 Alert alarm RU-4 High alarm RU-139 Channel 1 and 2 High alarm</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor initiates the Emergency Plan per EPIP-02. Inform TSC/OSC.</p>		RCS tube leak (12%) starts in #1 Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, RU-139 ch-1 & 2 High alarm, and mismatch between charging and letdown flow.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0902	B	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> PZR Level Channel X deviation low PZR Level Channel Y deviation low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> Pressurizer level indicates 50% and lowering slowly Pressurizer backup heaters cycling in auto</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor informs TSC/OSC.</p>		<p>Deliver this message only if the simulator is not operational. Lowering Pressurizer level gives additional indications of RCS leak.</p>
0902	C	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 66 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination.</p>		<p>Deliver to AO if Simulator is not operational, when performing leak rate determination. Initial determination of leak rate is 12 gpm. Rate may be increasing.</p>
0905	D	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 53 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination. SS report to TSC/OSC</p>		<p>Deliver to AO if Simulator is not operational, when performing second leak rate determination: 35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0913	E	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 30 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report leak rate to SS/Shift EC. SS report leak rate to TSC/OSC <u>Technical Support Center</u> EC recognizes that >44 gpm leak rate is a redundant indication for ALERT per EPIP-02, App B, Tab 2.</p>		<p>[use 12% break for the 15 minute leak rate check]. Deliver to AO if Simulator is not operational, when performing second level rate determination: 58 gpm mismatch indicates increasing rate of RCS primary to secondary leakage</p> <p>41AO-1ZZ08 Step 2 should be complete by this time to minimize release to the environment. NOTE: Per 41AO-1ZZ08 4.0 "...a controlled shutdown is much preferred over tripping the unit." Controllers <u>must</u> pay attention to player decision-making process on mode of shutdown. Controllers may need to increase the leak rate to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage from a rapid power reduction or trip.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0914	F	C-1	SS/ Shift EC	DO NOT TRIP THE UNIT. Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.	<u>UNIT 2 CONTROL ROOM (Sim)</u> Commence normal shutdown by boration at the one hour rate (approximately 5% power per minute). Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.		Deliver to SS / Shift EC if the decision is made to shut the unit down using a Reactor Trip, vice a controlled shutdown at a 5% per minute rate.
0920				Shutdown in progress. Reactor Power 94%			Be aware of plant conditions.
0930	7	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm <u>INDICATIONS IN CONTROL ROOM</u> RU-5 ALERT alarm	<u>UNIT 2 CONTROL ROOM (Sim)</u> SS Direct chemistry perform 74CH-9ZZ66.		RU-5 alarm due to cross-contamination of "A" Steam Generator from the feed and condensate system.
0940				Contaminated injured worker is ready for offsite transportation by ambulance.	SS/EC/EOD should all realize that this is a redundant indication for NUC.		

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TIME	MSG. NO	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0945				Reactor shutdown continues. Reactor Power 74 %.			
0950				Reactor shutdown continues. Reactor Power 69 %.			
1000				Reactor shutdown continues. Reactor Power 62 %.			
1006	G	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> FW Pump 7B Disch Vlv Pos Nt Open FWPT B Hyd Cont Press Trip FWPT B HP SV Pos Closed FWPT B LP SV Pos Closed <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Feed Pump is tripped			Deliver this message only if simulator is inoperative, when operators trip "B" Main Feed Pump.
1010	H	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> CNDS Pump B Disch Vlv Pos Nt-Open CNDS Pump B Recirc Flow Low <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Condensate Pump is tripped			Deliver this message only if the simulator is inoperative, when operators trip "B" Main Condensate Pump. Reactor Shutdown continues, Reactor power at 51%.

*992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1015	J	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates 4 mils.</p>	<p>Unit 2 Control Room (Sim) AO perform 79AC-OSV01 to analyze vibration problem.</p>		<p>Deliver this message only if the simulator is not operating. Initial indication of worsening RCP fault, which will lead to rotor failure. 79AC-OSV01 requires pump shutdown for displacement of 10 mils</p>
1020				<p>Reactor Shutdown continues Reactor power 45%</p>			
1030				<p>Reactor Shutdown continues Reactor power 31%</p>			<p>Operators should brief the anticipated reactor trip</p>
1032	K	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> VCT Level Low PZR Nar Rnge Press Ch A,B,C Low PZR Wide Rnge Press Ch A,B,C,D Low PZR Level Ch X Deviation Low PZR Level Ch Y Deviation Low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> VCT Level indicates 31.9 % Pzr Press indicates 2218 psia</p>	<p>Operators see increased leak rate, and isolate letdown to attempt to control lowering pressurizer level</p>		<p>Simulator operator key leak rate to 30%. Steam Generator Tube Rupture begins. Leak rate increases to 400 gpm.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1035	L	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u></p> <p>Master Turb Trip Gen/Reac Initiated Trip 125V Trip Bus Energized Remote Man RPS Ch A Ch A Trip Ckt Bkr Pos Remote Man RPS Ch B Ch B Trip Ckt Bkr Pos Remote Man RPS Ch C Ch C Trip Ckt Bkr Pos Remote Man RPS Ch D Ch D Trip Ckt Bkr Pos CEDM Pwr Bus UNDV 1, 2, 3 CEA 01 through 89 at Btm Steam Bypass Valve 1 - 6 Open Permissive SIAS A Man Act CIAS A Man Act DG Start Signal A Actuated DG Start Signal B Actuated</p> <p><u>INDICATIONS IN CONTROL ROOM</u></p> <p>Reactor Trip Turbine Trip Generator Trip All CEAs indicate fully inserted</p>	<p>Take all immediate actions for Tube Rupture, rediagnose leak and transition to 41AO-1ZZ06 "S/G Tube Rupture" based on SIAS.</p>		<p>Deliver this message only if the simulator is not operational, following manual reactor trip and SI after Steam Generator Tube Rupture.</p> <p>NOTE: CIAS will isolate RU-1. Operators will have to manually line up the monitor from the Control Room to place it back in service. Radiological data assumes that the monitor is returned to service. If monitor is not deliberately placed back in service, indicate "offline" on RMS data sheets prior to passing out to players.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1040	M	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm Loose Parts Monitor Alarm RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates > 10 mils. RCP-1A Indicates Tripped Loose Parts Monitor indicates alarms on lower vessel head and S/G #1 lower head. RU-16, -17, -148 High Alarm</p>	Be aware of plant conditions.		Deliver this message only if the simulator is not operating. RCP-1A rotor fails, RCP trips. Remaining operating pumps -2A, -1B and -2B will flush rotor debris through the core. PCS Rad levels increase.
1045					<p><u>Unit 2 CR/STSC (Sim)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator.</p> <p><u>TSC</u> EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct inplant team activities.</p> <p><u>OSC</u> OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.</p> <p><u>EOF</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>	Q	Sufficient information is available for declaration of a SITE AREA EMERGENCY per EPIP-02, Appendix A. "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity". (1100) C-2 To ensure SAE is declared.

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1050				Wide range level in #1 S/G is approaching 80%. Operators line up and conduct high rate blowdown on S/G #1 to keep level below 80%.		N	(1050) C-1 to ensure operators conduct high rate blowdown to control #1 S/G level.
1050	N	C-1	SS	Implement high rate blowdown on S/G #1 to keep level below 80%.			Deliver this message only if operators fail to conduct high rate blowdown on #1 S/G with level exceeding 80%.
1055	P	C-1	CO	<u>INDICATIONS IN CONTROL ROOM</u> Spray valves indicate shut	<u>Unit 2 Control Room (Sim)</u> CO: Inform SS, attempt to open other Spray valve (fails). SS: Direct CO to use aux. spray to reduce plant pressure. <u>TSC</u> Direct OSC to troubleshoot fault. <u>OSC</u> Brief and dispatch team to investigate.		Deliver this message only if the simulator is not operating, when operator attempts to use spray to depressurize the plant and reduce primary to secondary d/p. Spray valve controller has failed, both spray valves are shut. Repair time will be 2 hours. All additional troubleshooting and repair information for the Spray Valve Controller will be found in the OSC Mini-Scenarios, <u>Appendix N</u>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1100	Q	C-2	TSC/ EC	Declare a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity".	<p><u>Unit 2 CR/STSC (Sim)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator. <u>TSC</u> EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct inplant team activities. <u>OSC</u> OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC. <u>EOF</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>		Deliver this message only if a SAE has not yet been declared.
1109	R	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> SESS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> SC-221 (Downcomer Sample Line) is shut.</p>	<p>Be aware of plant conditions.</p> <p>SC-221 is a normally open valve. The valve has failed shut due to a burned up solenoid operator.</p> <p>SS will either direct Chem Tech to sample via hot leg, or troubleshoot the failed valve.</p>		<p>Deliver this message only if the simulator is not operating.</p> <p>Additional troubleshooting data is found in <u>Appendix N</u>, OSC Mini-Scenarios.</p> <p>SESS alarms due to lineup for sampling Steam Generators.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1110					#1 Steam Generator is isolated, beginning cooldown at initial rate of 30°F/hr, increasing to 75°F/hr when under control.		Be aware of plant conditions
1130	T	C-1	SS, CO	Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.			Deliver this message only if SS has not yet ordered a PASS sample.
1145	U	C-1	SS, CO	ANNUNCIATORS IN CONTROL ROOM MSRV Trouble Alarm. INDICATIONS IN CONTROL ROOM #1 S/G Safety valve indicators open.			Deliver this message if the simulator is not operating.

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1145	8	C-4a	Unit 2 Site RMT	<p>Call in the following message to be passed to the Unit 2 Control Room (Simulator):</p> <p>"I just heard a loud noise from the direction of the Unit 2 MSSS, kind of a bang or crack, and now there is steam visible flowing out near the top."</p>	<p><u>Unit 2 Control Room/STSC (Sim)</u> SS: Recognize that a release of steam has started, evaluate source. When #1 S/g is determined to be leaking, begin dose projection efforts. Inform OSC/TSC. <u>TSC</u> EC: Evaluate plant conditions. Assist in mitigation effort. Consider protective measures. <u>TSC</u> EC: recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. <u>EOF - RAC</u>: Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.</p>	W	<p>Call in message to alert Control Room (Sim) of start of release. #1 S/G Safety Valve spring has failed, the safety is open and a release of activity to the environment has started. (1200) C-2 Ensure a GE is declared.</p>
1155	9	C-4a	OSC Coord.	<p>You are having trouble hearing announcements over the plant page speaker in the OSC.</p>	<p>OSC Repair Coordinator - get electrician to investigate.</p>		

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1200	W	C-2	T S C. EC	"Declare a GENERAL EMERGENCY per EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere"			Deliver this message only if EC has not yet declared a GENERAL EMERGENCY
1216	10	C-4	OSC Coord.	Electrician troubleshooting low volume on plant page speaker in OSC returned with stepladder. While setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the speaker, and breaks it off. The entire OSC is immediately and continuously sprayed with water (approximately 40 gpm). As fire main pressure drops, the fire pump starts. Increased header pressure increases spray flow rate to 75gpm.	<p><u>OSC</u> Attempt to save documentation, equipment, and procedures. Move temporarily to the RP island area. Isolate the fire main in the OSC. Evaluate damage. Based on lack of communications and ruined procedures, evacuate to the backup OSC.</p> <p><u>TSC</u> Continue to monitor and evaluate plant conditions. Coordinate OSC evacuation.</p> <p><u>EOE</u> RAC: Monitor radiological conditions and make appropriate recommendations for minimizing exposure during OSC relocation.</p>	X	<p>(1220) C-4 Ensure OSC is evacuated to the backup OSC.</p> <p>Controllers begin randomly hanging up phones in use to simulate loss of phone lines. Direct players to ignore ringing phones.</p> <p>Controller communications will continue unaffected on the PBX line.</p> <p>Remaining troubleshooting and repair scenario will be found in the OSC Mini Scenarios, Appendix N</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1220	X	C-4	OSC Dir.	Relocate OSC functions to the backup OSC.	OSC Prepare and evacuate the OSC.		Deliver this message as directed by the Master Controller, only if OSC relocation has not yet been ordered.
1245							Cooldown continues, Release to the environment continues.
1230				Adjust Coolant Charging Pump Vibration Dampers due to continued cooldown and depressurization of the RCS.	Team will adjust CCP Pulsation dampers per procedure. No additional information or equipment indications beyond those in the applicable procedures are required.		Deliver to team leader assigned to adjust CCP pulsation dampers per 41A0-1ZZ06
1235					SS should elect to continue cooldown by steaming, but make preparations for shutdown cooling		Conditions are met for entering S/D cooling per 41A0-1ZZ06, App A, Pages 15 of 17, Step 25 RCS temp 289°F, Pri to S/D, d/p 67 psid, safety remains open.
1300	H	AC	ALL	Secure from the Exercise.	Secure from the exercise. Clean and re-stow emergency equipment. Prepare for facility critiques.		Deliver this message as directed by the master controller when the plant is ready to enter S/D cooling.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1 / All

TO: SS All

MESSAGE NO. 1

TIME: 0730

LOCATION: Unit 2 Control Room (Simulator)

INSTRUCTION:

Pass the following message to the Shift Supervisor at this time.

Note:

Pass the following message to facility managers and key players in all facilities as they are manned in the course of the Exercise.

NOTE: Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS / All

TIME: 0730

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Simulator)

MESSAGE:

INITIAL CONDITIONS

Unit 2 is operating at 100% power, middle of core life;
DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start.

A spent resin transfer from the storage tank to a shipping cask is in progress.

Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam.

LPSI "B" is OOS. While conducting 41ST-1SI11 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time.

Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

1C DG P Trip
1C DG B Emergency Manual Trip
1C DG B High Priority Trouble

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, CO

TIME: 0800

MESSAGE NO. 2

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS alarm

INDICATIONS IN CONTROL ROOM

RU-20 indicates 1000 mR/hr.

RU-21 indicates 500 mR/hr.

RU-22 indicates 7000 mR/hr.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RWO

MESSAGE NO. 3

TIME: 0800

LOCATION: Radwaste Building, Scene of resin transfer.

INSTRUCTION:

Pass the following message to RWO at this time.

Note:

Scene controller, posing as a RWO standing by at the scene, phones in the notification of the resin spill to extension 4444

Resin Transfer Scene:

Radwaste Operator notify Security, Fire Protection and the Control Room.

Security

Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification.

Fire Protection (FP)

Shift Captain, dispatch EMTs to the scene. Notify medical.

Unit 2 CR (Sim):

S5: Notify Radiation Protection (RP). Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: RWO

TIME: 0800

MESSAGE NO. 3

LOCATION: Radwaste Building, Scene of resin transfer.

MESSAGE:

Spent resin spill:

Flexible coupling blows out during transfer. Resin spills out onto the floor.

Local area radiation levels increase. RU-22 alarms, followed by RU-20 and -21.

Local area radiation levels indicate up to 7000 mR/hr.

One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, and is suffering from a compound fracture of the lower left leg.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RT Leader at DG-B

MESSAGE NO. 4

TIME: 0810

LOCATION: Diesel Generator B

INSTRUCTION:

Pass the following message to RT Leader at this time.

Note:

DG-B fuel oil transfer pump failed after pumping 100 gallons.

PT informs Unit-2 Control Room (Sim.) and checks breaker for pump. Breaker PHB-M3212 is tripped and will not reset.

Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.

NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: RT Leader DG-B

TIME: 0810

MESSAGE NO. 4

LOCATION: Diesel Generator "B"

MESSAGE:

While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: EMT / RPT

TIME: 0815

MESSAGE NO. 5

LOCATION: Radwaste Building, Scene of resin spill.

MESSAGE:

EMTs and RPTs arrive at the scene of the Resin Spill.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM C-1

TO SS

MESSAGE NO. A

TIME: 0835

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS at this time.

Note:

Deliver this message only if SS has not declared the ALERT by this time.

Unit 2 Control Room

SS/On-shift Emergency Coordinator declare the ALERT. Direct notifications in accordance with (IAW) EPIP-04.

Satellite Technical Support Center (STSC)

STSC Communicator make appropriate notifications per EPIP-04.

Operations Support Center (OSC)

Begin Activation.

Technical Support Center (TSC)

Begin Activation.

Emergency Operations Facility (EOF)

Begin Activation.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SN

TIME: 0835

MESSAGE NO. A

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Declare an ALERT per EPIP-02, Appendix B, Tab 1 "Direct Radiation Readings within the U₁₀ increase by a factor of 1000"

UNIT 2 CR (SIMULATOR) PHONE: N7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, CO

MESSAGE NO. 6

TIME: 0902

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, CO at this time.

Note:

RCS tube leak (12%) starts in "A" Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, RU-139 ch-1 & 2 High alarm, and mismatch between charging and letdown flow.

Unit 2 Control Room (Sim.)

Evaluate indications. SS direct CO enter 41AG-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor initiates the Emergency Plan per EPIP-02. Inform TSC/OSC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1002

MESSAGE NO. 6

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS Alarm

INDICATIONS IN CONTROL ROOM

RU-141 Alert alarm

RU-4 High alarm

RU-139 Channel 1 high alarm

RU-139 Channel 2 high alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, CO

MESSAGE NO. B

TIME: 0902

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass C following message to SS, CO at this time

Note:

Deliver this message only if the simulator is not operational.

Lowering Pressurizer level gives additional indications of RCS leak.

Unit 2 Control Room (Sim.)

Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1Z"08 and 41ST-1RC02. The Shift Supervisor informs TSC/OSC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 0802

MESSAGE NO. B

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

A NUNCIATORS IN CONTROL ROOM

PZR Level Channel X deviation low

PZR Level Channel Y deviation low

INDICATIONS IN CONTROL ROOM

Pressurizer level indicates 50% and lowering slowly

Pressurizer backup heaters cycling in auto

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, AO

MESSAGE NO. C

TIME: 0907

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, AO at this time.

Note:

Deliver to AO if Simulator is not operational, when performing leak rate determination.

Initial determination of leak rate is 12 gpm. Rate may be increasing.

Unit 2 Control Room (Sim)

AO report to SS/Shift EC. Continue leak rate determination.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, AO

TIME: 1000

MESSAGE NO. C

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination:

Charging Flow: 88 gpm

Letdown Flow: 66 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, AO

MESSAGE NO. D

TIME: 0905

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, AO at this time.

Note:

Deliver to AO if Simulator is not operational, when performing second leak rate determination.

35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.

Unit 2 Control Room (Sim.)

AO report to SS/Shift EC. Continue leak rate determination.

SS report to TSC/OSC

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, AD

TIME: 0905

MESSAGE NO. D

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination:
Charging Flow: 88 gpm
Letdown Flow: 53 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, AQ

TIME 0913

MESSAGE NO. E

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination:
Charging Flow: 88 gpm
Letdown Flow: 30 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS Shift EC

MESSAGE NO. F

TIME: 1014

LOCATION: Unit 2 Control Room (Sim 1)

INSTRUCTION:

Pass the following message to SS / Shift EC at this time.

Note:

Deliver to SS / Shift EC if the decision is made to shut the unit down using a Reactor Trip, vice a controlled shutdown at a 5% per minute rate.

UNIT 2 CONTROL ROOM (Sim)

Commence normal shutdown by Deration at the one hour rate (approximately 5% power per minute). Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS / Shift EC

TIME: 0914

MESSAGE NO: 1

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

DO NOT TRIP THE UNIT.

Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties."

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 0830

MESSAGE NO. 7

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

KMS Alarm

INDICATIONS IN CONTROL ROOM

RU-5 ALERT alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CR

TIME: 1005

MESSAGE NO. G

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

FW Pump 7B Disch Vlv Pos. Not Open
FWPT B Hyd Com Press Trip
FWPT B HP SV Pos. Closed
FWPT B LP SV Pos. Closed

INDICATIONS IN CONTROL ROOM

"B" Main Feed Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS/CO

TIME: 1019

MESSAGE NO. H

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

CNDS Pump B Disch Vlv Pos Nt-Open
CNDS Pump B Recirc Flow Low

INDICATIONS IN CONTROL ROOM

"B" Main Condensate Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C.I.

TO: SS' CO.

MESSAGE NO. 1

TIME: 1015

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS' CO at this time

Note:

Deliver this message only if the simulator is not operating.

Initial indication of worsening RCP fault which will lead to rotor failure. 79AC-OSV01 requires pump shutdown for displacement of 10 mils.

Unit 2 Control Room (Sim.)

AO perform 79AC-OSV01 to analyze vibration problem.

When decision is made to shut down 2 RCPs, operators should shut down 1A and 2A.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1015

MESSAGE NO. 2

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates 4 mils

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO. K

TIME: 1032

LOCATION: Unit 2 Control Room 2.0012

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Simulator operator key leak rate to 30%.

Steam Generator Tube Rupture begins. Leak rate increases to 400 gpm.

Operators see increased leak rate, and isolate shutdown to attempt to control lowering pressure level.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1032

MESSAGE NO. K

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

VCT Level Low
PZR Nar Rnge Press Ch A Low
PZR Nar Rnge Press Ch B Low
PZR Nar Rnge Press Ch C Low
PZR Wide Rnge Press Ch A Low
PZR Wide Rnge Press Ch B Low
PZR Wide Rnge Press Ch C Low
PZR Wide Rnge Press Ch D Low
PZR Level Ch X Deviation Low
PZR Level Ch Y Deviation Low

INDICATIONS IN CONTROL ROOM

VCT Level indicates 31.9%
Pzr Press indicates 2218 psia

UNIT 2 CR (SIMULATOR) PHONE: X700, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, CO

MESSAGE NO. 1

TIME: 1035

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, CO at this time.

Note:

Deliver this message only if the simulator is not operational, following manual reactor trip and SI after Steam Generator Tube Rupture.

Take all immediate actions for Tube Rupture, rediagnose leak and transition to 41AQ-1ZZ06 "S.G. Tube Rupture" based on SIAS.

NOTE: CIAS will isolate RU-1. Operators will have to manually line up the monitor from the Control Room to place it back in service. Radiological data assumes that the monitor is returned to service. If monitor is not deliberately placed back in service, indicate "offline" on RMS data sheets prior to passing out to players.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS-CO

TIME: 1035

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

INDICATIONS IN CONTROL ROOM

Main Trip
Gen/Reac Initiated Trip
125V Trip Bus Energized
Remote Man RPS Ch A
Ch A Trip Ckt Bcr Pos
Remote Man PPS Ch B
Ch B Trk Ckt Lkr Pos
Remote Man RPS Ch C
Ch C Trip Ckt Bcr Pos
Remote Man RPS Ch D
Ch D Trip Ckt Bcr Pos
CEDM Pwr Bus UNDV 1, 2, 3, 4
CEA 01 through 89 at Brr
Steam Bypass Valve 1 - 6 Open Permissive
SIAS A Man Act
CIAS A Man Act
DG Start Signal A Actuated
DG Start Signal B Actuated

Reactor Trip
Turbine Trip
Generator Trip
All CEAS indicate fully inserted

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO: M

TIME: 1040

LOCATION: Unit 2 Control Room (Sim 1)

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Deliver this message only if the simulator is not operating.

Be aware of plant conditions.

RCP-1A rotor fails, RCP trips. Remaining operating pumps -2A, -1B and -2H will flush rotor debris through the core. RCS Rad levels increase.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1040

MESSAGE NO. M

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm
Loose Parts Monitor Alarm
RMS Alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates > 10 mils.
RCP-1A Indicates Tripped
Loose Parts Monitor indicates alarms on lower vessel head and S'G #1 lower head.
RU-16, -17, -148 High Alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS

TIME: 1050

MESSAGE NO. N

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Implement high rate blowdown on S/G #1 to keep level below 80%.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: CO

MESSAGE NO. P

TIME: 1055

LOCATION: Unit 2 Control Room (Sim 1)

INSTRUCTION:

Pass the following message to CO at this time.

Note:

Deliver this message only if the simulator is not operating, when operator attempts to use spray to depressurize the plant and reduce primary to secondary differential pressure.

Spray valve controller has failed, both spray valves are shut. Repair time will be 2 hours.

Unit 2 Control Room (Sim)

CO: Inform SS, attempt to open other Spray valve (falls).

SS: Direct CO to use aux. spray to reduce plant pressure.

TSC

Direct OSC to troubleshoot fault.

OSC

Brief and dispatch team to investigate.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: CO

TIME: 1055

MESSAGE NO. P

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

INDICATIONS IN CONTROL ROOM

Spray valves indicate shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: EC

TIME: 1100

MESSAGE NO. Q

LOCATION: Technical Support Center

MESSAGE:

Declare a SITE AREA EMERGENCY per EPIP-02, Appendix A, "BCS Leak > 44 gpm" and "BCS Leak Rate Greater than Charging Pump Capacity"

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO: R

TIME: 1100

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS/ CO at this time.

Note:

Deliver this message only if the simulator is not operating.

SC-221 is a normally open valve. The valve has failed shut due to a burned up solenoid operator. SS will either direct Chem Tech to sample via hot leg, or troubleshoot the failed valve.

Additional troubleshooting data is found in Appendix N, OSC Mini-Scenarios.

SESS alarms due to lineup for sampling Steam Generators.

Be aware of plant conditions.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1100

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM
SESS Alarm

INDICATIONS IN CONTROL ROOM
SC-221 (Downcomer Sample Line) is shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO: T

TIME: 1130

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS CO at this time.

Note:

Deliver this message only if SS has not yet ordered a PASS sample.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS/CO

TIME: 1130

MESSAGE NO. T

LOCATION: Unit 2 Control Room (Sim 2)

MESSAGE:

Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS/CO

TIME: 1145

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM
MSRV Trouble Alarm

INDICATIONS IN CONTROL ROOM
#1 S/G Safety valve indicates open.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: SS CO

MESSAGE NO. 8

TIME: 1145

LOCATION: Outside Unit 2 Near MSSS

INSTRUCTION:

Controller direct team leader call in the following message to be passed to the Unit 2 Control Room (Simulator) at this time:

Note:

Call in message to alert Control Room (Sim) of start of release.

#1 S/G Safety Valve spring has failed, the safety is open and a release of activity to the environment has started.

Unit 2 Control Room STSC (Sim)

SS: Recognize that a release of steam has started, evaluate source. When #1 S/g is determined to be leaking, begin dose projection efforts. Inform OSC TSC.

TSC

EC: Evaluate plant conditions. Assist in mitigation effort. Consider protective measures. Recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY.

EOF

RAC: Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, CO

TIME: 1145

MESSAGE NO. 8

LOCATION: Outside of Unit 2 near the MSSS

MESSAGE:

Call in the following message to pass to the Unit 2 Control Room (Simulator):

"I just heard a sound from the direction of the Unit 2 MSSS, kind of a bang or pop, and now there is steam visible flowing out near the top."

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: OSC Coordinator

MESSAGE NO. 9

TIME: 1155

LOCATION: OSC

INSTRUCTION:

Deliver this message to the OSC Coordinator at this time.

Note:

OSC Repair Coordinator direct electrician to investigate.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: OSC Coordinator

TIME: 1210

MESSAGE NO 10

LOCATION: Operations Support Center

MESSAGE:

Electrician troubleshooting low volume on plant page speaker in OSC returned with step ladder. While setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the speaker, and breaks it off. The entire OSC is immediately and continuously sprayed with water (approximately 40 gpm). As fire main pressure drops, the fire pump starts. Increased header pressure increases spray flow rate to 75gpm.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: AC

TO: ALL

MESSAGE NO. 11

TIME: 1300

LOCATION: All Facilities

INSTRUCTION:

Pass the following message to All Facility Managers at this time.

Note:

Deliver this message as directed by the master controller when all objectives have been demonstrated and the plant is ready to enter shutdown cooling.

All Players

Secure from the exercise.
Clean and re-stow emergency equipment.
Prepare for facility critiques.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: ALL

TIME: 1300

MESSAGE NO. 11

LOCATION: All Facilities

MESSAGE:

Seizure from the Exercise.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM from

TO to

MESSAGE NO. number

TIME: time

LOCATION: location

INSTRUCTION:

Pass the following message to her at this time
notes

Note:

actions

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: for

TIME: 1100

MESSAGE NO. number

LOCATION:

MESSAGE:

TEXT

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	1.60E-11	1.60E-11	1.60E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	5.25E-07	5.25E-07	5.25E-07	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.12E-01	1.12E-01	1.12E-01	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	1.00E+00	1.00E+00	1.00E+00	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	3.16E-01	3.16E-01	3.16E-01	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	7.87E-01	7.87E-01	7.87E-01	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	3.28E-02	6.37E-02	9.19E-02
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	5.78E-06	1.12E-05	1.62E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	2.70E-03	2.61E-03	2.43E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.37E+04	2.33E+04	2.14E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.24E+04	2.21E+04	2.03E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.20E-01	1.46E-01	1.72E-01	1.97E-01	2.21E-01	2.46E-01
RU-5	uCi/cc	2.11E-05	2.58E-05	3.03E-05	3.46E-05	3.89E-05	4.31E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-139 Ch 2	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.44E-03	2.42E-03	2.34E-03	2.32E-03	2.36E-03	2.38E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.11E+04	2.08E+04	2.06E+04	2.03E+04	2.01E+04	1.98E+04
RU-151	mR/hr	2.00E+04	1.97E+04	1.95E+04	1.92E+04	1.90E+04	1.88E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	3.76E-01	1.34E+02	2.63E+02	3.89E+02	5.12E+02	6.33E+02
RU-5	uCi/cc	6.60E-05	4.60E-02	9.05E-02	1.34E-01	1.32E-01	1.30E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.54E+02	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-139 Ch 2	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.17E-03	2.27E-05	2.26E-05	2.25E-05	2.24E-05	2.23E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-148	R/hr	1.00E+00	2.28E+03	2.27E+03	2.26E+03	2.25E+03	2.25E+03
RU-149	R/h	1.00E+00	1.09E+02	1.06E+02	1.06E+02	1.05E+02	1.05E+02
RU-150	mR/hr	1.96E+04	3.85E+07	3.81E+07	3.77E+07	3.74E+07	3.70E+07
RU-151	mR/hr	1.86E+04	3.64E+07	3.61E+07	3.57E+07	3.54E+07	3.51E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	7.90E+01	1.40E+07	1.39E+07	1.38E+07	1.36E+07	1.35E+07
RU-157 Ch 2	mR/hr	1.00E+01	1.37E+02	1.36E+02	1.35E+02	1.34E+02	1.33E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	7.50E+02	8.65E+02	9.77E+02	1.09E+03	1.19E+03	1.30E+03
RU-5	uCi/cc	1.29E-01	1.27E-01	1.25E-01	1.24E-01	1.22E-01	1.21E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-139 Ch 2	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.23E-05	2.22E-05	2.21E-05	2.20E-05	2.20E-05	2.19E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-148	R/hr	2.24E+03	2.23E+03	2.22E+03	2.22E+03	2.21E+03	2.20E+03
RU-149	R/hr	1.05E+02	1.05E+02	1.04E+02	1.04E+02	1.04E+02	1.03E+02
RU-150	mR/hr	3.67E+07	3.64E+07	3.61E+07	3.58E+07	3.55E+07	3.52E+07
RU-151	mR/hr	3.48E+07	3.45E+07	3.42E+07	3.39E+07	3.36E+07	3.34E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.34E+07	1.33E+07	1.31E+07	1.30E+07	1.27E+07	1.23E+07
RU-157 Ch 2	mR/hr	1.32E+02	1.31E+02	1.30E+02	1.28E+02	1.26E+02	1.23E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

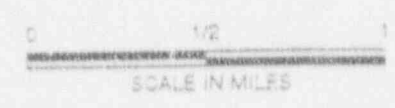
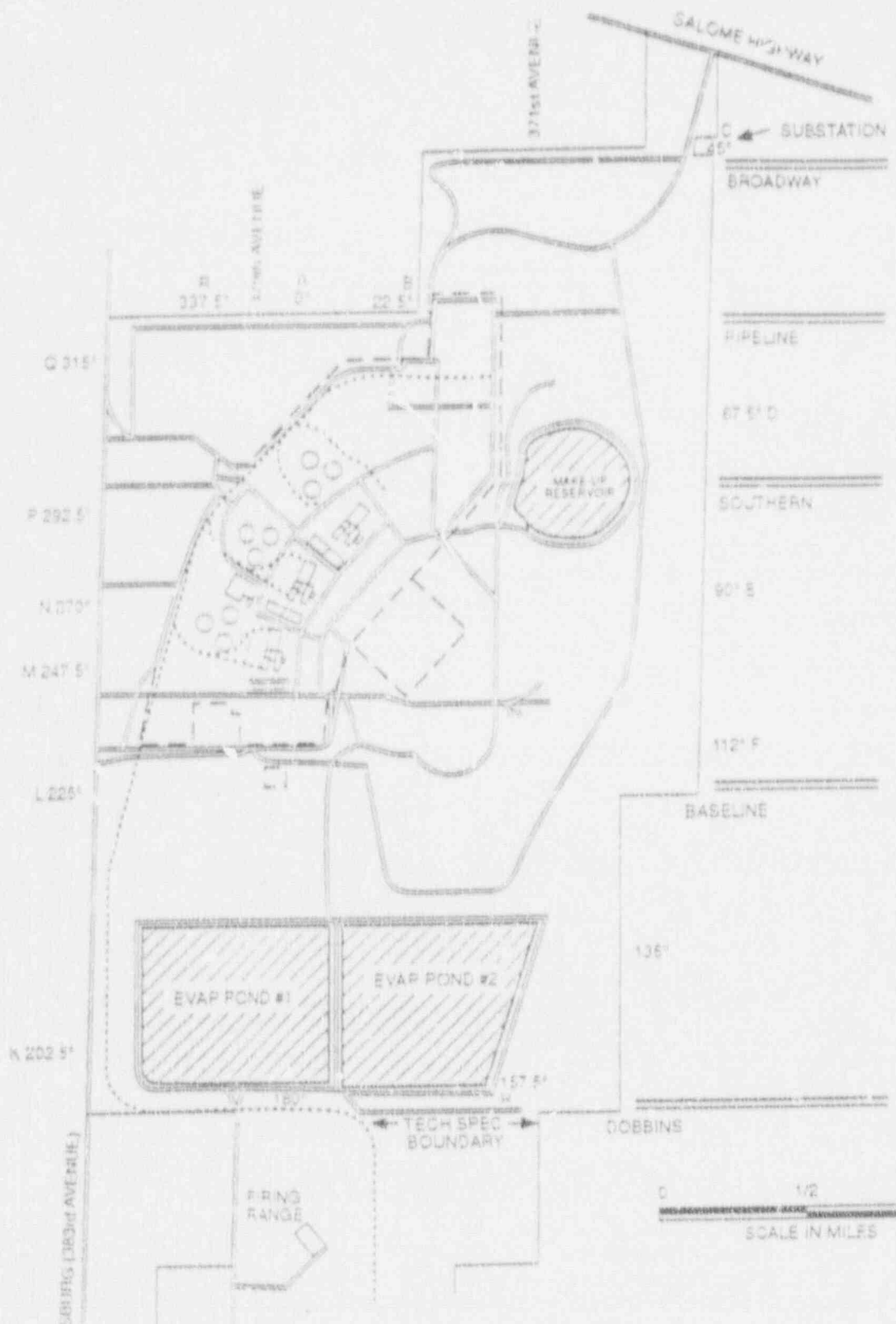
	DRILL+	300	310	320	330	340	350
Monitor	Units	1230	1240	1250	1300	1310	1320
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.40E+03	1.50E+03	1.60E+03	1.69E+03	1.79E+03	1.88E+03
RU-5	uCi/cc	1.20E-01	1.18E-01	1.17E-01	1.16E-01	1.14E-01	1.13E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-139 Ch 2	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.19E-05	2.18E-05	2.18E-05	2.17E-05	2.17E-05	2.16E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	300	310	320	330	340	350
Monitor	Units	1230	1240	1250	1300	1310	1320
RU-148	R/hr	2.20E+03	2.19E+03	2.18E+03	2.18E+03	2.17E+03	2.17E+03
RU-149	R/hr	1.03E+02	1.03E+02	1.02E+02	1.02E+02	1.01E+02	1.01E+02
RU-150	mR/hr	3.50E+07	3.47E+07	3.45E+07	3.42E+07	3.40E+07	3.37E+07
RU-151	mR/hr	3.31E+07	3.29E+07	3.26E+07	3.24E+07	3.21E+07	3.19E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.20E+07	1.17E+07	1.13E+07	1.10E+07	1.07E+07	1.03E+07
RU-157 Ch 2	mR/hr	1.21E+02	1.19E+02	1.16E+02	1.14E+02	1.12E+02	1.09E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	8.00E+06	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

Monitor	DRILL+	360	370	380	390
		1330	1340	1350	1400
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.98E+03	2.07E+03	2.17E+03	2.27E+03
RU-5	uCi/cc	1.12E-01	1.10E-01	1.08E-01	1.07E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-28	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.19E+04	7.16E+04	7.16E+04	7.14E+04
RU-139 Ch 2	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.16E-05	2.15E-05	2.15E-05	2.14E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	360	370	380	390
Monitor	Units	1330	1340	1350	1400
RU-148	R/hr	2.16E+03	2.15E+03	2.15E+03	2.14E+03
RU-149	R/hr	1.00E+02	9.86E+01	9.81E+01	9.75E+01
RU-150	mR/hr	3.35E+07	3.32E+07	3.30E+07	3.27E+07
RU-151	mR/hr	3.16E+07	3.14E+07	3.11E+07	3.09E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.06E+07	9.67E+06	9.33E+06	9.00E+06
RU-157 Ch 2	mR/hr	1.07E+02	1.05E+02	1.02E+02	1.00E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01

- A 0°
- AB 11°
- B 22.5°
- BC 34°
- C 45°
- CD 56°
- D 67.5°
- DE 79°
- E 90°
- EF 101°
- F 112°
- G 124°
- G 135°
- GH 146°
- H 157.5°
- HJ 169°
- J 180°
- JK 191°
- K 202.5°
- KL 214°
- L 225°
- LM 236°
- M 247.5°
- MN 259°
- N 270°
- NP 281°
- P 292.5°
- PO 304°
- O 315°
- OR 326°
- R 337.5°
- RA 349°



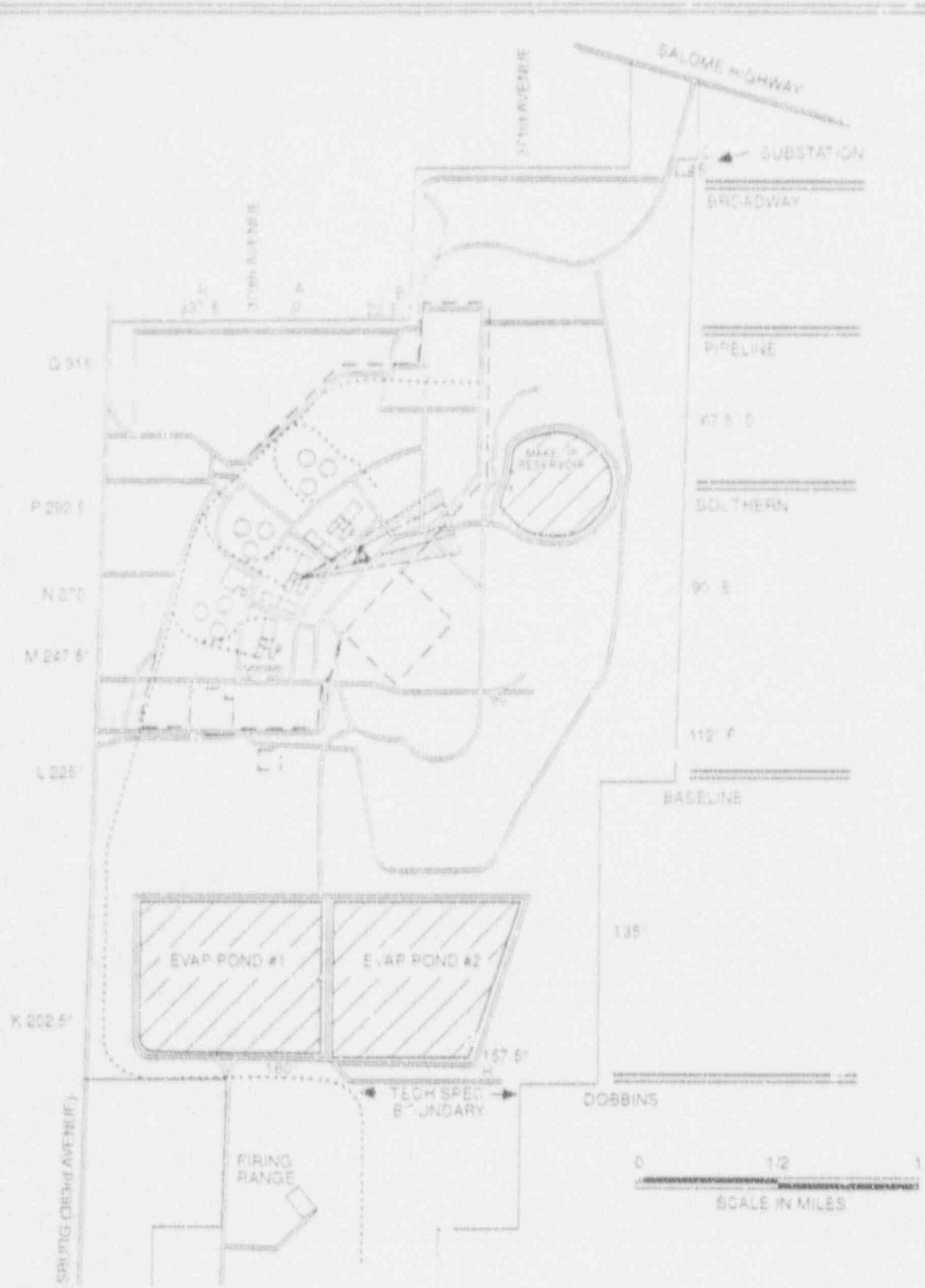
Point	Generation Data Ret			Edge of Plume Data Ret			Air Samples Collected per Minute		Notes	Smokers
	W.C. (mR/hr)	W.C. (mR/hr)	Fraker (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Frak (cpm)	Ag2 Cartridge	Filter Paper		
ALL	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ

ON-SITE INSTRUMENT READINGS

TIME 7:00 11:00



- A 0'
- AB 11'
- B 22.5'
- BC 3'
- C 45'
- CD 56'
- D 67.5'
- DE 79'
- E 90'
- EF 101'
- F 112'
- FG 114'
- G 125'
- GH 146'
- H 157.5'
- I 169'
- J 180'
- JK 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 259'
- N 270'
- NP 281'
- P 292.5'
- PO 304'
- Q 315'
- QR 326'
- R 337.5'
- RA 349'



Point Location	Centelene Dose Rate			Edge of Frame Dose Rate			A-15000 Counts per Minute		Filter Paper	ID Card	Sm/yr
	W.C. (mR/hr)	W.C. (mR/hr)	Fishes (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fishes (cpm)	Ag2 Cartridge	Filter Paper			
A	2800	2800	> 100,000	6300	2680	> 100,000	3216 mR/hr	AS READ	9.980 D4	AS READ	

ON SITE INSTRUMENT READINGS

TIME 11:55 12:00



- A 0
- AB 11
- B 22
- BC 34
- C 45
- CD 56
- D 67.5
- DE 78
- E 89
- EF 101
- F 112
- FG 124
- G 135
- GH 146
- H 157.5
- I 169
- J 180
- JK 191
- K 202.5
- KL 214
- L 225
- LM 236
- M 247.5
- MN 259
- N 270
- NP 281
- O 292.5
- PO 304
- P 315
- QR 326
- R 337.5
- RA 349



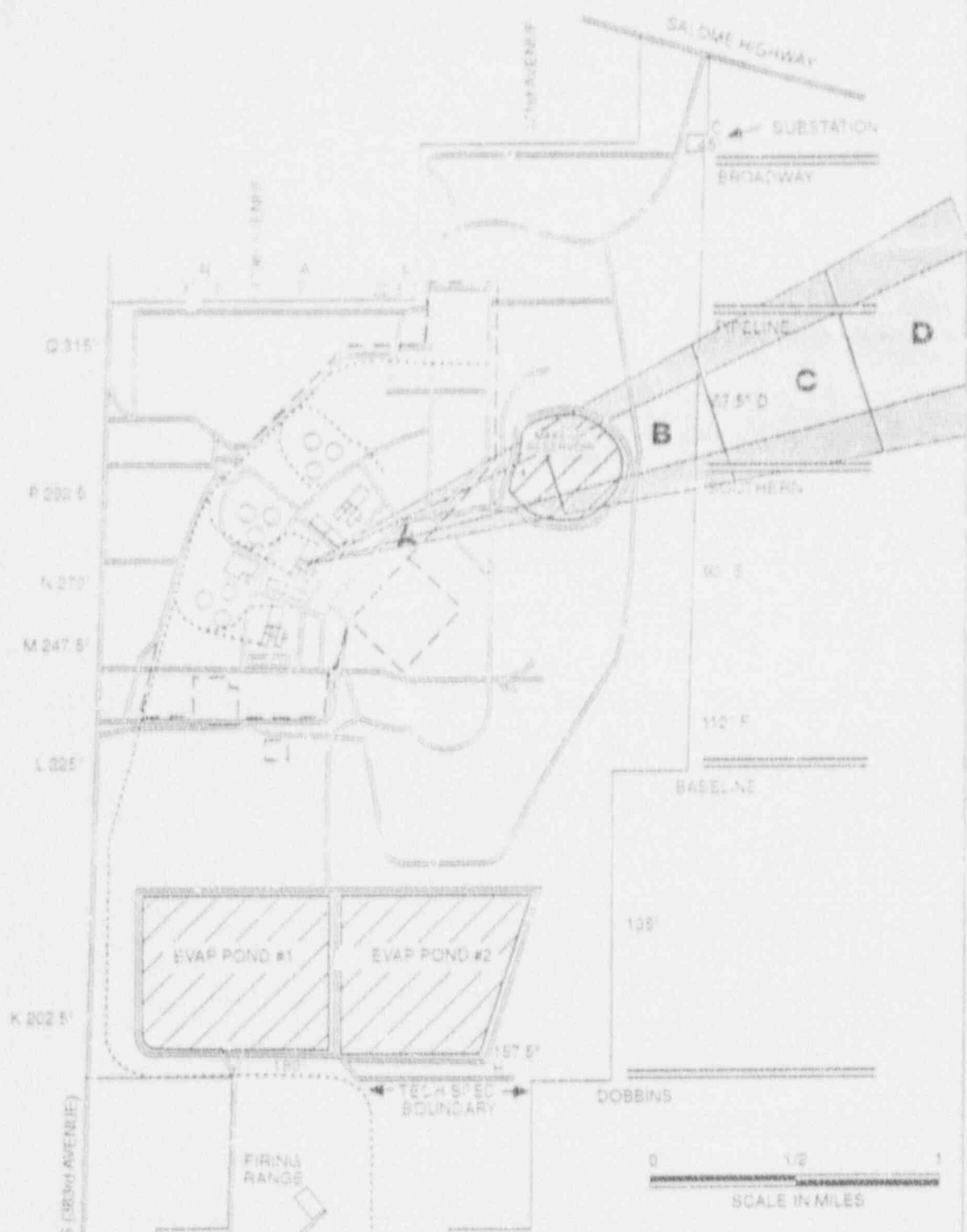
Pitons Location	Centreline Data Rate			Edge of Frame Data Rate			Air Samples Counts per Minute		Filter Paper	Circs	Scrips
	W.C.	W.C.	Folker	W.C.	W.C.	Folker	Ap2	Folker			
	mR/hr	mR/hr	cpm	mR/hr	mR/hr	cpm	mR/hr	mR/hr			
A	43750	7875	>100,000	4375	788	>100,000	2625	mR/hr	AS READ	8135.04	AS READ
B	16380	8180	>100,000	1638	818	>100,000	951	mR/hr	AS READ	3041.04	AS READ
C	7640	2627	>100,000	764	262	>100,000	456	mR/hr	AS READ	432.04	AS READ

ON SITE INSTRUMENT READINGS

TIME: 12:00 - 12:10



A 0'
 AB 11'
 B 22.5'
 BC 34'
 C 45'
 CD 56'
 D 67.5'
 DE 79'
 E 90'
 F 101'
 FG 124'
 G 130'
 GH 146'
 H 167.5'
 HI 169'
 I 180'
 JK 191'
 K 202.5'
 KL 214'
 L 225'
 LM 236'
 M 247.5'
 MN 259'
 N 270'
 NP 281'
 P 292.5'
 Q 304'
 Q 315'
 QR 326'
 R 337.5'
 RA 349'



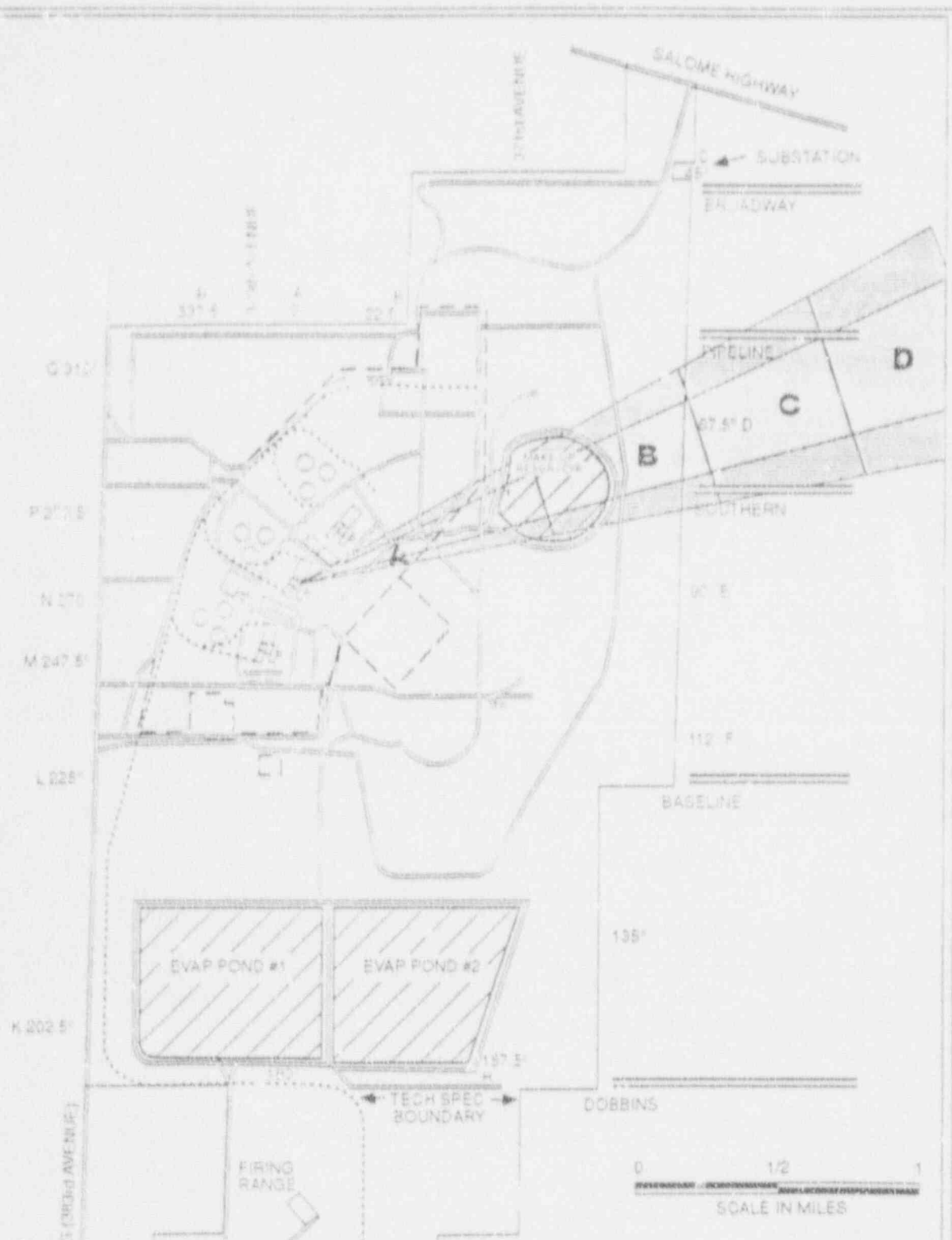
Point Location	Centuries			Edge of Ponds			Air Samples		Date	Empire	
	Dose Rate			Dose Rate			Counts per Minute				
	W.C. (mR/hr)	W.C. (mR/hr)	Fuel-1 (cpm)	W.U. (mR/hr)	W.C. (mR/hr)	Fuel-1 (cpm)	A92 CPM/dp	Fuel-1 CPM			
1	24.21	12041	> 100,000	2402	1204	> 100,000	1445	mR/hr	AS READ	4.47E-04	AS READ
2	9490	4745	> 100,000	949	475	> 100,000	569	mR/hr	AS READ	1.78E-04	AS READ
3	545	2721	> 100,000	545	271	> 100,000	327	mR/hr	AS READ	1.01E-04	AS READ
4	2727	1364	> 100,000	273	136	> 100,000	224	mR/hr	AS READ	6.92E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 15:10 - 13:30



- A 0
- AB 11
- B 22.5
- BC 34
- C 4
- CD 66
- D 67.5
- DE 75
- E 90
- EF 107
- F 112
- FG 124
- G 135
- GH 146
- H 157.5
- I 169
- J 180
- JK 191
- K 202.5
- KL 214
- L 225
- LM 236
- M 247.5
- N 259
- O 270
- NP 281
- P 292.5
- Q 304
- QR 306
- R 317.5
- RA 349



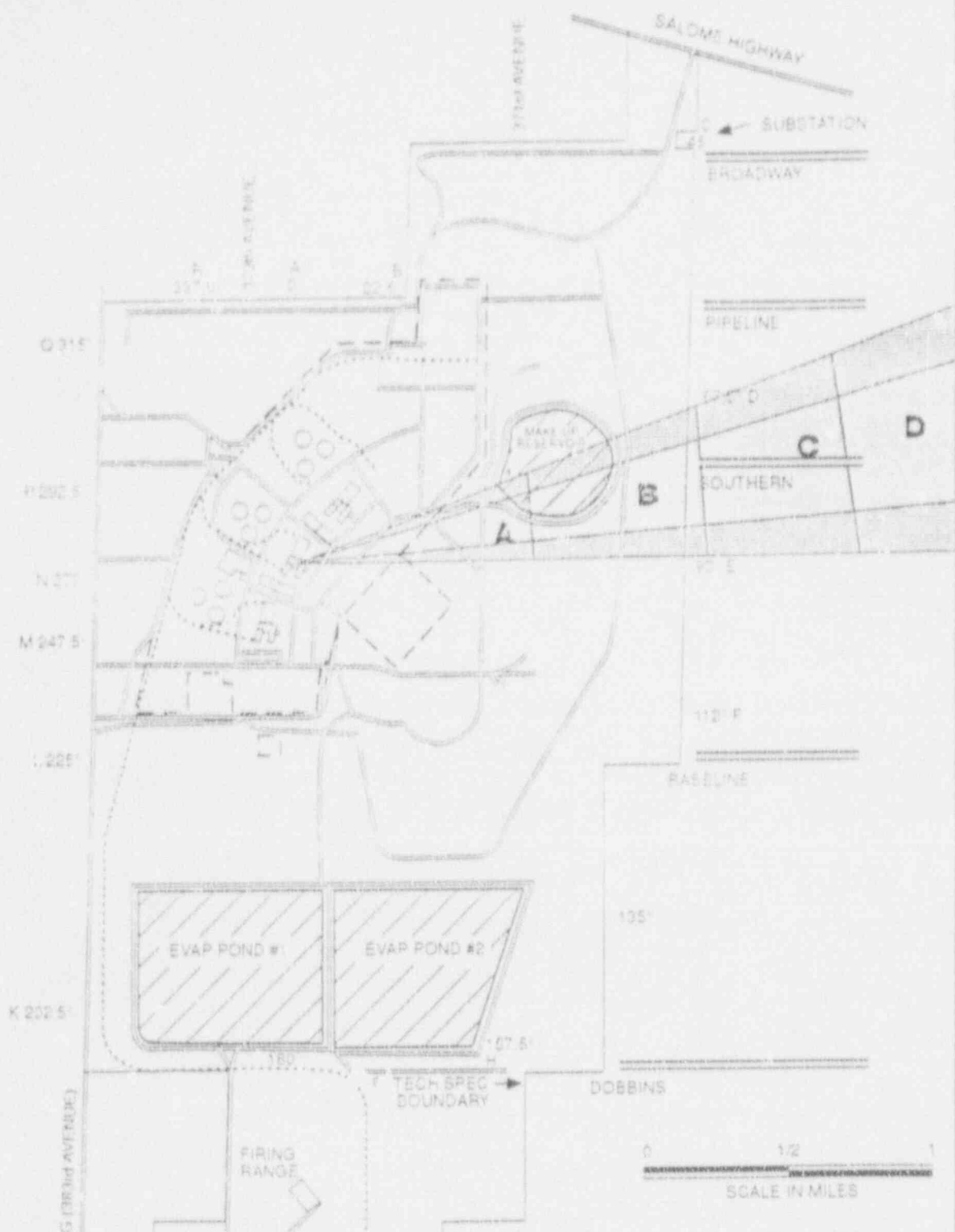
Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Soils
	W/C (mR/hr)	W/C (mR/hr)	Filter (cpm)	W/C (mR/hr)	W/C (mR/hr)	Filter (cpm)	4-g2 Cartridge	Filter Paper	Soils (cpm)
A	255.32	13286	> 100,000	2453	1227	> 100,000	1582 mR/hr	AS READ	4.93E-04 AS READ
B	104.97	5234	> 100,000	1047	523	> 100,000	628 mR/hr	AS READ	1.58E-04 AS READ
C	60.18	3009	> 100,000	601	301	> 100,000	361 mR/hr	AS READ	1.12E-04 AS READ
D	41.17	2058	> 100,000	412	206	> 100,000	247 mR/hr	AS READ	7.65E-05 AS READ

ON-SITE INSTRUMENT READINGS

TIME 11:20 - 11:30



- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- CD 56'
- D 67.5'
- DE 79'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- I 169'
- J 181'
- JK 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- N 259'
- NP 261'
- P 292.5'
- Q 304'
- R 315'
- OR 326'
- R 337.5'
- RA 349'



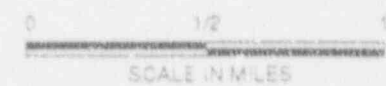
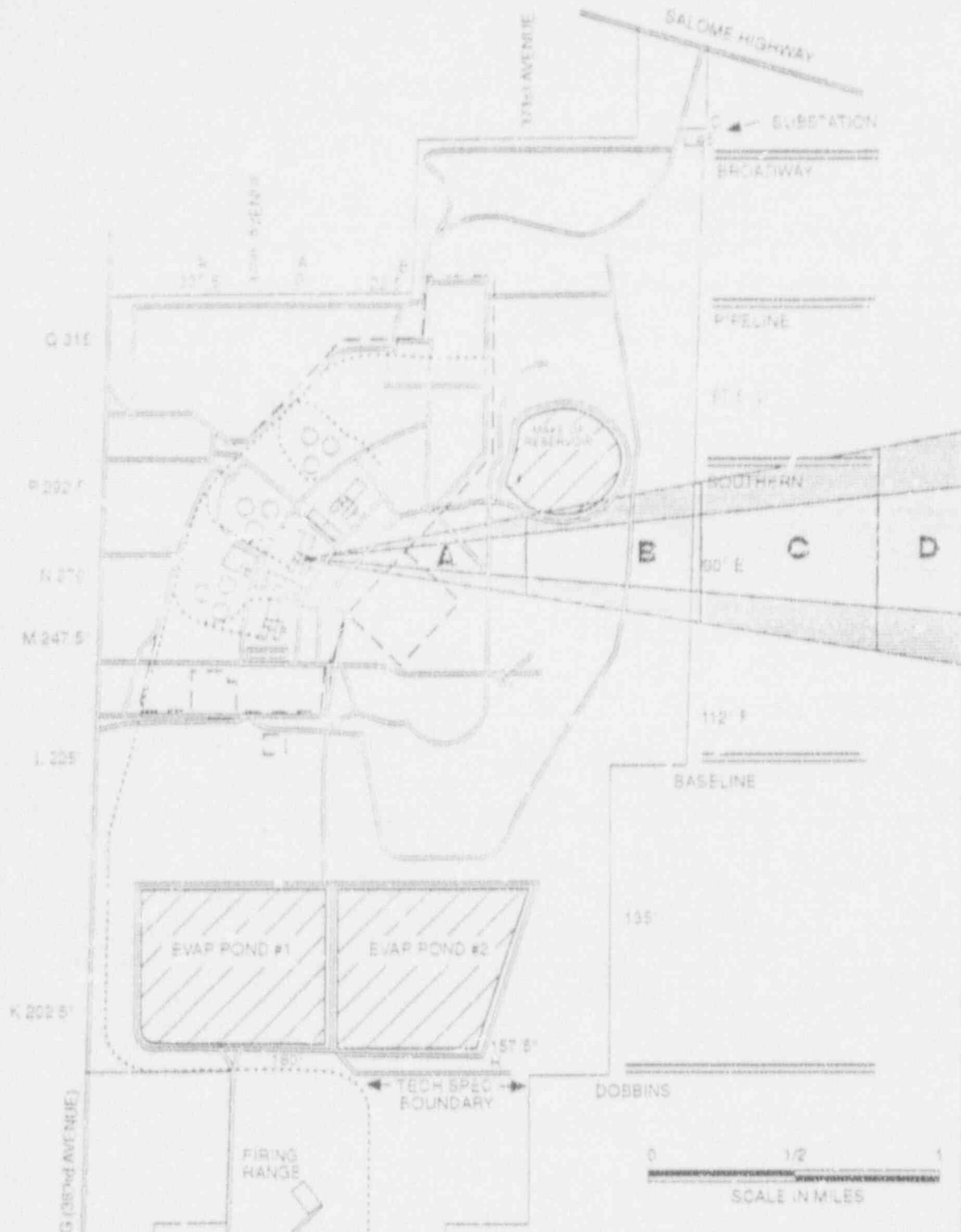
Pump Location	Centrals Dose Rate			Edge of Plume Dose Rate			Air Samplers Counts per Minute		In-line Gas	Smears
	W.O. (mR/hr)	W.O. (rR/hr)	Filter (cpm)	W.O. (mR/hr)	W.O. (rR/hr)	Filter (cpm)	Ag1	Paper		
							Cartridge		μCi/cm ²	logpm
A	18465	8733	> 100,000	1847	393	> 100,000	1168 mR/hr	AS READ	3.62E-04	AS READ
B	7054	3627	> 100,000	705	353	> 100,000	423 mR/hr	AS READ	3.1E-04	AS READ
C	4110	2055	> 100,000	411	205	> 100,000	247 mR/hr	AS READ	7.63E-05	AS READ
D	3006	1503	> 100,000	301	150	> 100,000	180 mR/hr	AS READ	5.59E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:30 12:40



- A 0'
- AB 11'
- B 23.5'
- BC 34'
- C 45'
- CD 54'
- D 71.5'
- DE 79'
- E 90'
- EP 101'
- F 112'
- FS 124'
- G 135'
- GP 148'
- H 157.5'
- HJ 169'
- J 180'
- K 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 258'
- N 270'
- NP 281'
- PD 304'
- O 315'
- OP 326'
- P 337.5'
- PA 349'

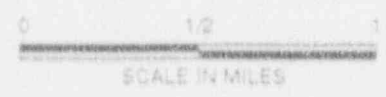
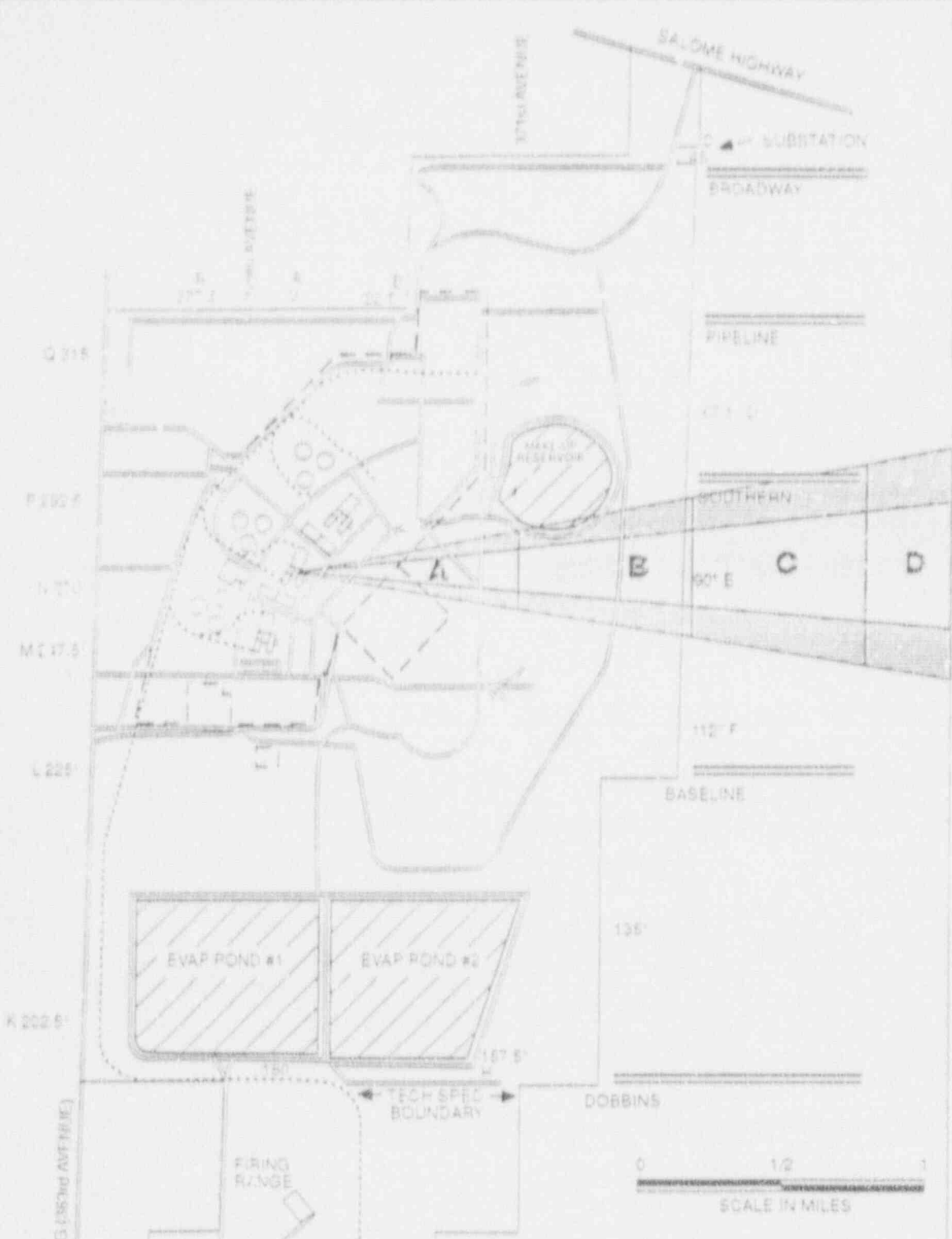


Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Sampling Counts per Minute		Filter Paper	Time	Remarks
	W/D (mR)	W/C (pCi/m)	Excess (ppm)	W/D (mR/hr)	W/C (pCi/m)	Excess (ppm)	Ag2 Cartridge	Filter Paper			
A	18870	8438	> 100,000	687	844	> 100,000	1712 mR/hr	AS READ	3 13E 04	AS READ	
B	5012	3004	> 100,000	801	301	> 100,000	351 mR/hr	AS READ	1 13E 04	AS READ	
C	3049	1923	> 100,000	305	152	> 100,000	183 mR/hr	AS READ	5 55E 05	AS READ	
D	7108	1204	> 100,000	24	120	> 100,000	44 mR/hr	AS READ	4 47E 04	AS READ	

ON-SITE INSTRUMENT READINGS
 TIME 12:40 12:50



- A 0'
- AB 11'
- B 22'
- BC 34'
- C 48'
- CD 68'
- D 87'
- DE 70'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 138'
- GH 148'
- H 167'
- IJ 169'
- J 169'
- KL 171'
- K 202'
- KL 214'
- L 225'
- M 238'
- N 247'
- MN 259'
- O 270'
- NP 281'
- P 292'
- PO 304'
- Q 315'
- QR 326'
- R 337'
- RA 340'



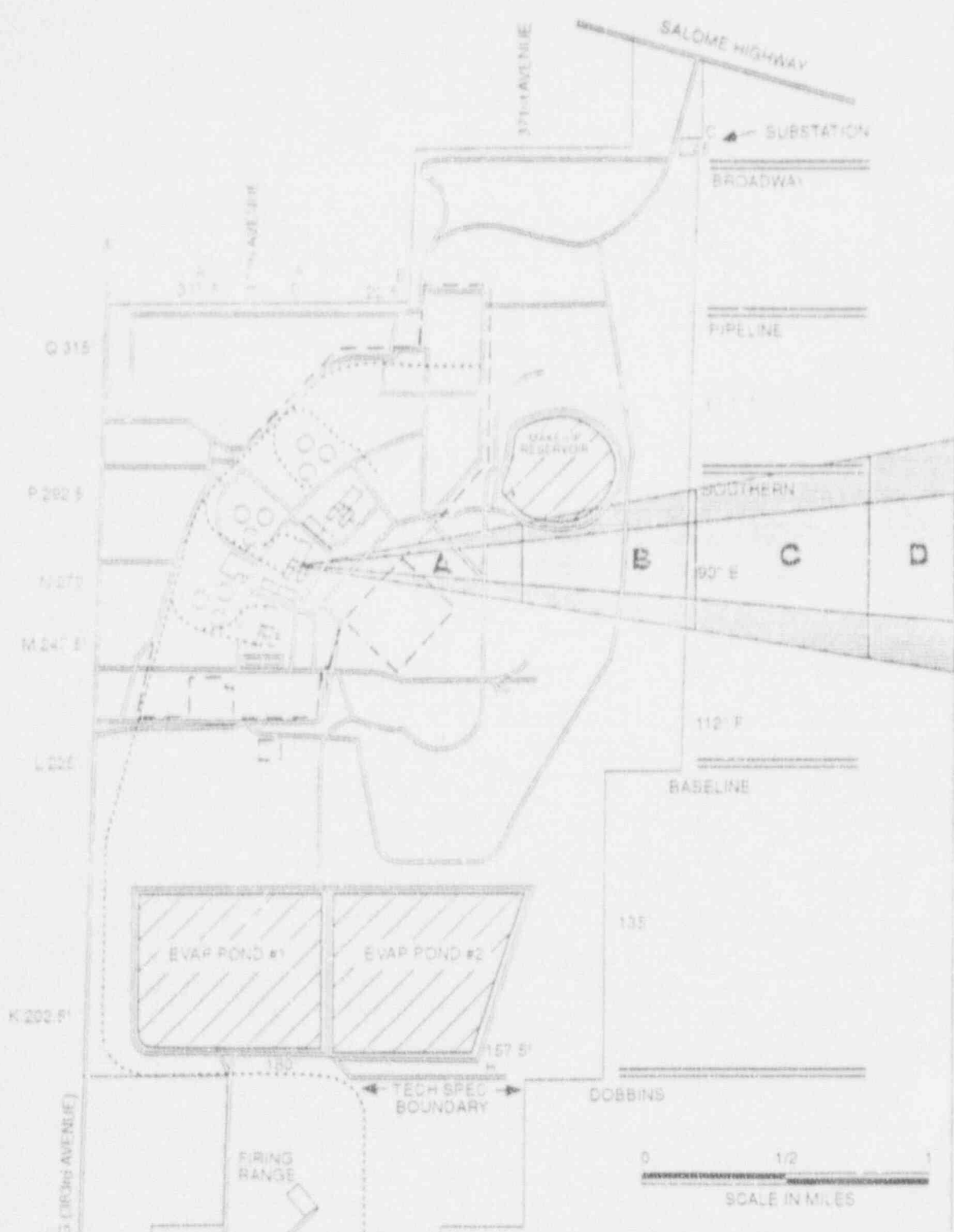
Name Location	Cannine Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Wind Dir	Speed
	W.D.	W.C.	Fissile	W.D.	W.C.	Fissile	Ag2	Total		
	mR/hr	mR/hr	cpm	mR/hr	mR/hr	cpm	cpm	cpm		
A	1784	8771	> 100,000	1784	877	> 100,000	1052	mR/hr AS READ	4.52E-04	AS READ
B	6247	3124	> 100,000	625	312	> 100,000	375	mR/hr AS READ	1.16E-04	AS READ
C	3182	1592	> 100,000	318	159	> 100,000	192	mR/hr AS READ	5.88E-05	AS READ
D	250	125	> 100,000	250	125	> 100,000	80	mR/hr AS READ	4.65E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:00 13:00



- A 0
- AB 11
- B 22 E
- BC 34
- C 45
- CD 56
- D 67 E
- DE 79
- E 90
- EF 101
- F 112
- FG 124
- G 135
- GH 146
- H 157 E
- IJ 168
- J 180
- K 191
- K 202 E
- KL 214
- L 225
- LM 236
- M 247 E
- MN 258
- N 270
- NR 281
- P 292 E
- PD 304
- Q 315
- QR 326
- R 337 E
- RA 348



Pump Location	Centerline Data			Edge of Pumps Data			Air Samples Counts per Minute		Filter Paper	Iodine Conc.	Sheets
	W.D. (m-ft)	W.C. (m-ft)	Flow (lpm)	W.D. (m-ft)	W.C. (m-ft)	Flow (lpm)	Ag2 Cartridge	Ag2 Cartridge			
A	17403	8803	>100 000	1760	480	>100 000	105E	105E	AS READ	3 278 04	AS READ
B	8280	3140	>100 000	628	512	>100 000	377	377	AS READ	1 171 04	AS READ
C	3184	1892	>100 000	318	189	>100 000	191	191	AS READ	5 911 55	AS READ
D	2419	1280	>100 000	252	128	>100 000	15	15	AS READ	1 681 05	AS READ

ON-SITE INSTRUMENT READINGS
 Time 11:00 - 14:00



10 MILE ENVIRONMENTAL DATA: 08,300 - 11,50

10 MILE ENVIRONMENTAL DATA

TIME: 7:00-11:50

Thru Location	Contributors		Edge of Plenum		Air Samples		Inflow	
	W.C. (Inflow)	AS HEAD	W.C. (Inflow)	AS HEAD	Count per Minute	Filter	W.C. (Inflow)	AS HEAD
ALL	AS HEAD	AS HEAD	AS HEAD	AS HEAD	Count per Minute	Filter	W.C. (Inflow)	AS HEAD



10 MILE
ENVIRONMENTAL DATA

DATE: 11.50.12.26

Phone Location	Centrations Dose Rate		Edge of Plum Dose Rate		Age Specific Dose Rate		Age Specific Dose Rate		Age Specific Dose Rate	
	W.C. (mR/hr)	W.C. (mR/hr)	W.C. (mR/hr)	W.C. (mR/hr)	Age (mR/hr)	Age (mR/hr)	Age (mR/hr)	Age (mR/hr)	Age (mR/hr)	Age (mR/hr)
1	5.27E4	26.38E7	2.7E2	>10E+000	3165	3165	3165	3165	3165	3165

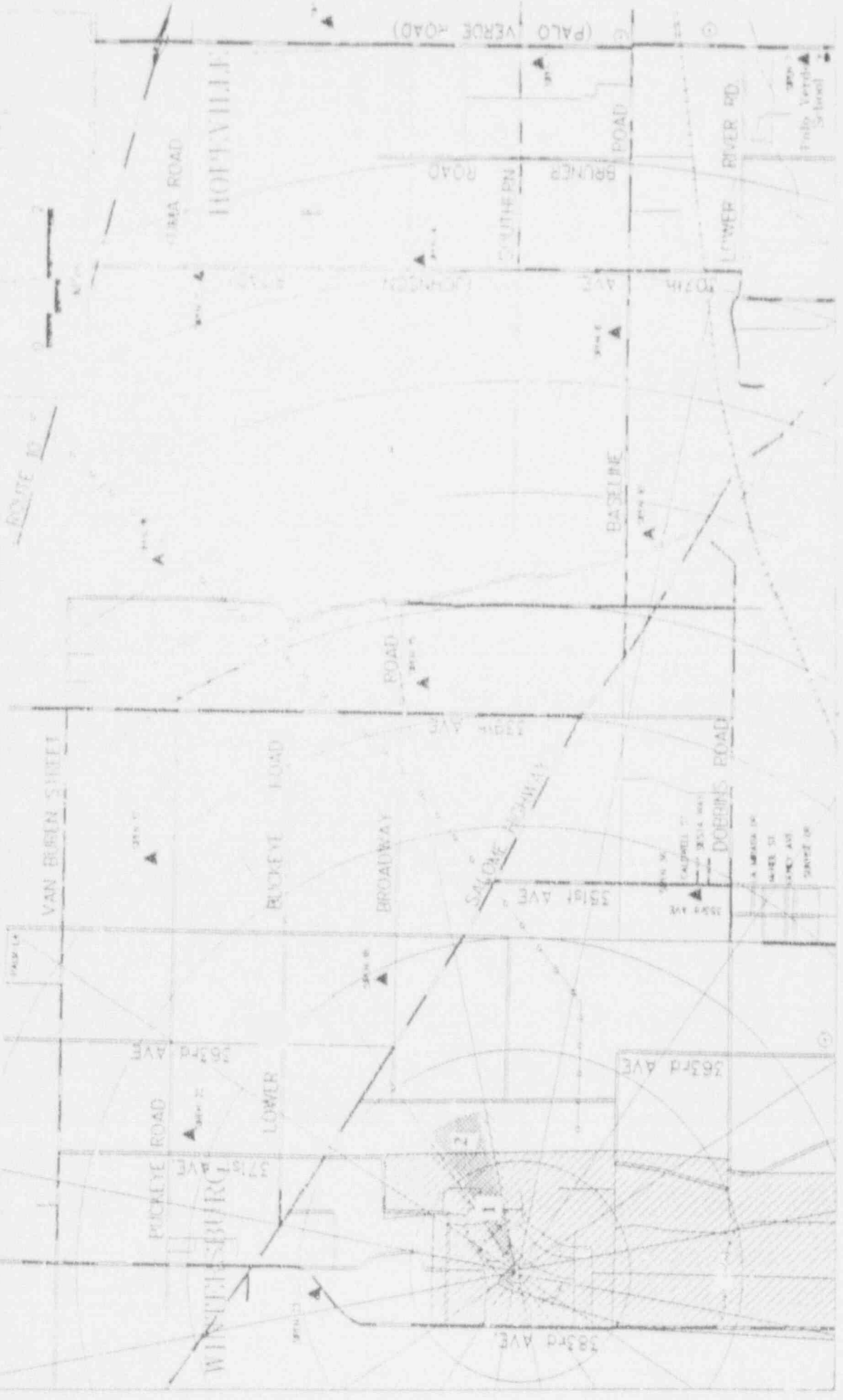


- Found Road
- Highway Road
- Other Road
- Transmission Line
- School
- Substation
- Tower
- Stream

10 MBE
ENVIRONMENTAL DATA

TIME: 12:00-12:10

Phone Location	Contributor		Edge of Plank		As Shown		Address	City	State
	W.C. (Contrib)	W.C. (Contrib)	W.C. (Contrib)	W.C. (Contrib)	W.C. (Contrib)	W.C. (Contrib)			
1	8159	2-100-000	1610	815	2-100-000	975	4514	AS	MO
2	7828	3014	781	381	2-100-000	412	4514	AS	MO



10 MILE
ENVIRONMENTAL DATA

TIME 12:40 12-20



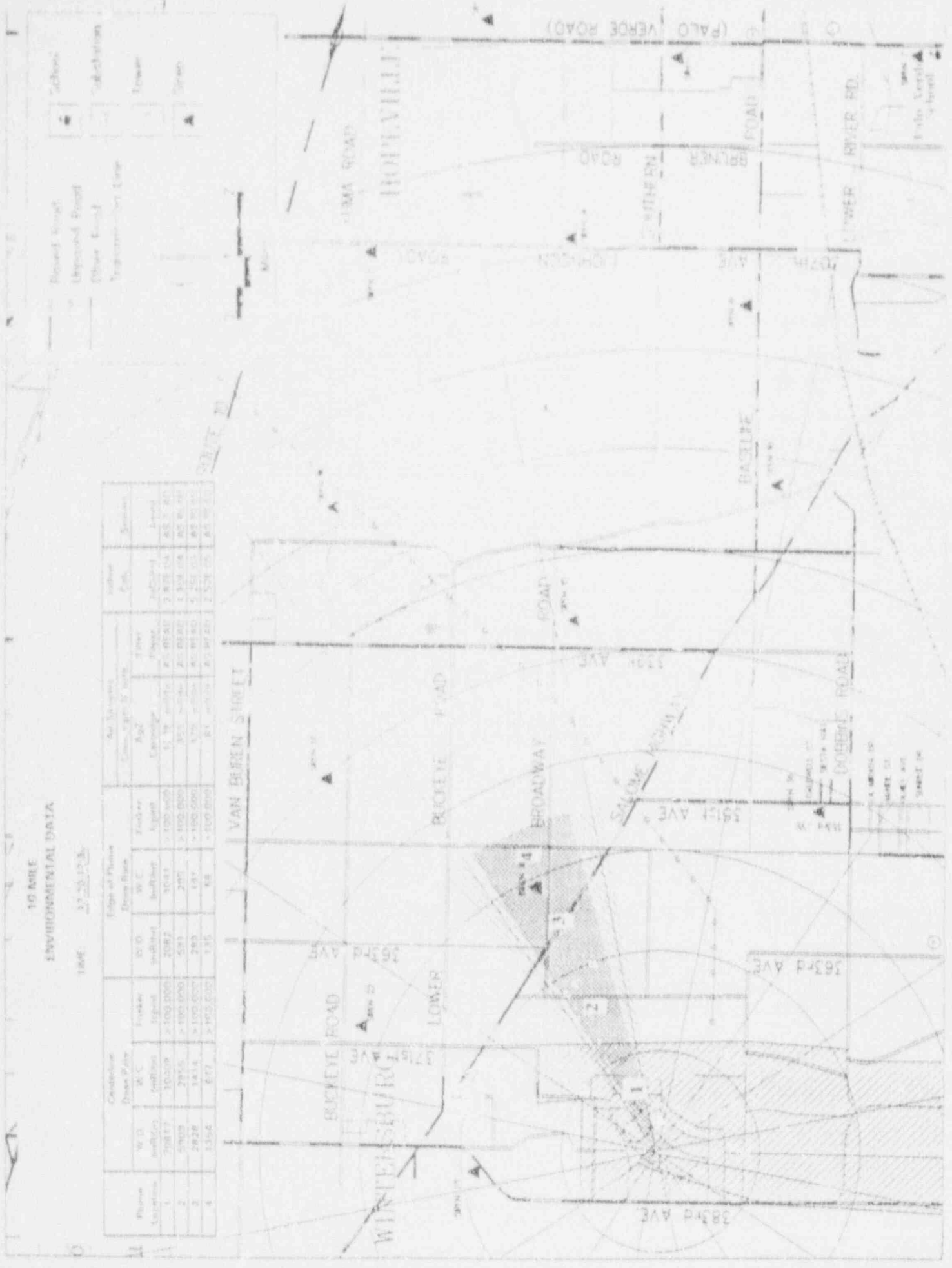
Figure	Construction		Edge of Plume		Air Concentration			Action	
	W.C. (sq ft)	W.C. (sq ft)	W.C. (sq ft)	W.C. (sq ft)	Appt	Category	Value	Code	Remarks
1	18990	9445	1899	945	1113	coll	85-85 AD	3-514-04	AS-84-01
2	5372	2676	537	268	271	coll	85-85 AD	9-942-21	AS-84-01
3	3566	1783	357	179	315	coll	85-85 AD	6-638-03	AS-84-01



10 MILE
ENVIRONMENTAL DATA

TIME: 11:20 A.M.

Phone	Concentration		Edges of Photos		Air Temperature		Number	Species
	W.C. inches	W.C. inches	W.C. inches	W.C. inches	Edge	Edge		
1	20817	10.2109	2082	10.13	11.39	11.39	2, 878, 154	AS, 7, 40
2	5902	2955	591	297	10.00	10.00	1, 354, 114	AS, 6, 49
3	2828	1414	283	141	10.00	10.00	1, 251, 11	AS, 9, 31
4	1354	677	135	68	10.00	10.00	2, 529, 25	AS, 9, 11



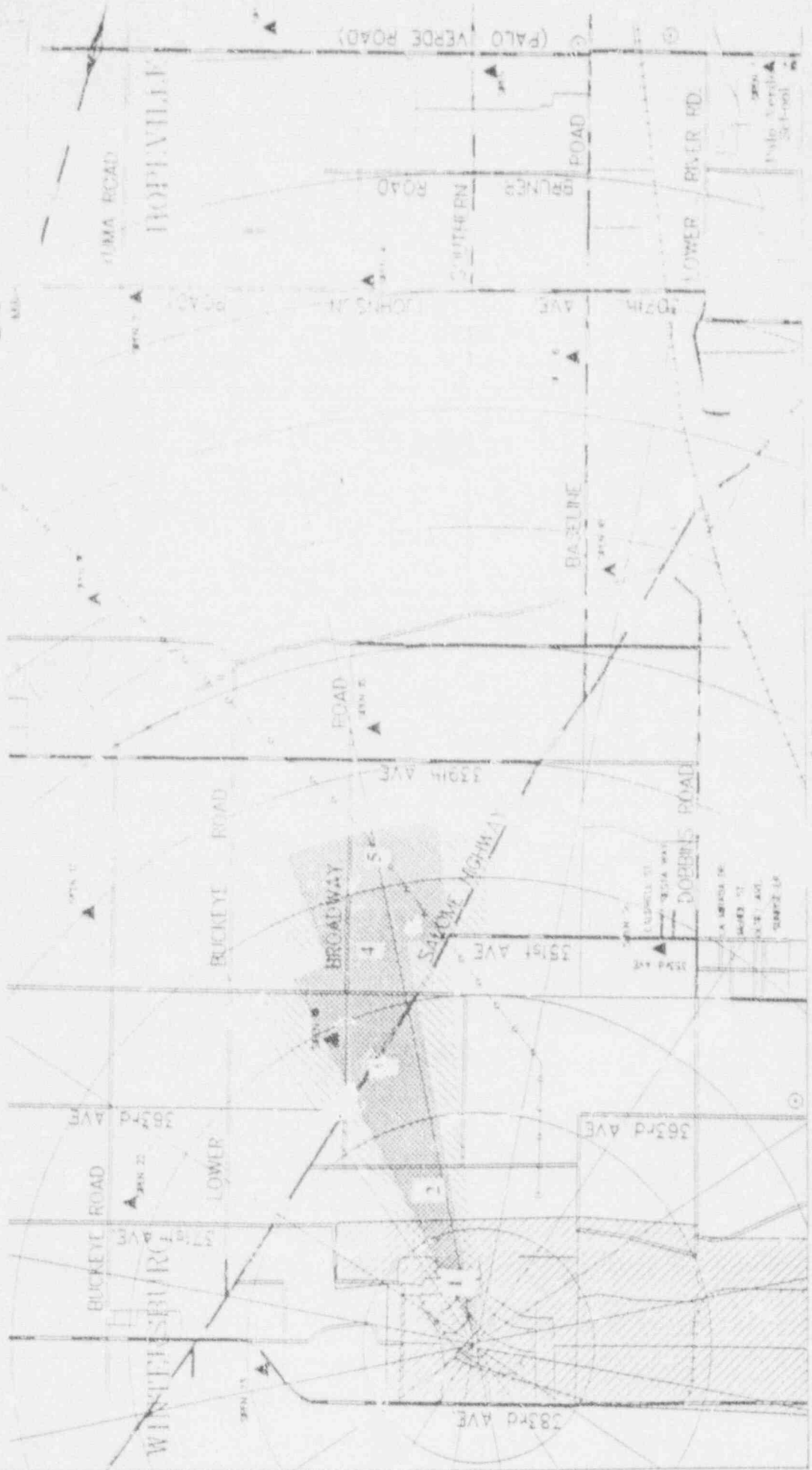
10 MILE
ENVIRONMENTAL DATA

TIME 12.30 1.2.70

Phy. Location	Concentrations		Edges of Phases		Dist. from		Dist. from		Dist. from		Dist. from	
	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)	W.C. (mB/h)
1	12779	6390	12779	6390	700	1000	700	1000	700	1000	700	1000
2	3659	1829	3659	1829	350	500	350	500	350	500	350	500
3	1766	883	1766	883	176	264	176	264	176	264	176	264
4	1047	523	1047	523	104	156	104	156	104	156	104	156
5	590	295	590	295	59	87	59	87	59	87	59	87



0 1 2 Miles



10 MILE
ENVIRONMENTAL DATA

TIME 12:40 12:50

Phone Location	Continuation Dose Rate		Edges of Plume Dose Rate		Air Sampling Counts per Minute		Ambient Conc.		Source
	W/C (mR/hr)	Feeder (mR/hr)	W/C (mR/hr)	Feeder (mR/hr)	April (CPM)	Other (CPM)	W/C (mR/hr)	Feeder (mR/hr)	
1	10900	> 100,000	5025	> 100,000	> 100,000	> 100,000	1.87E-04	6.7E-04	AS REACT
2	2981	1441	288	> 100,000	> 100,000	> 100,000	1.75E-04	6.5E-04	AS REACT
3	1320	694	139	> 100,000	> 100,000	> 100,000	8.3E-05	2.5E-04	AS REACT
4	873	413	83	> 100,000	> 100,000	> 100,000	1.0E-04	3.5E-04	AS REACT
5	553	273	55	> 100,000	> 100,000	> 100,000	3.3E-05	1.0E-04	AS REACT
6	468	233	47	> 100,000	> 100,000	> 100,000	1.8E-05	6.0E-05	AS REACT



10 MILE
ENVIRONMENTAL DATA

TIME: 12:50-13:00

Phone Location	Commissio		Edge of Plume		This Incident		Inches	Cable	Sensors
	W.C. (inches)	Feeder (inches)	W.C. (inches)	Multiplier	Count/Sec	Volume			
1	10464	5232	10464	522	673	AS READ	1.94E-14	AS READ	AS READ
2	7994	1497	7994	150	180	AS READ	5.56E-05	AS READ	AS READ
3	1440	720	1440	72	85	AS READ	2.62E-05	AS READ	AS READ
4	858	429	858	43	53	AS READ	1.59E-07	AS READ	AS READ
5	924	281	924	29	34	AS READ	1.07E-06	AS READ	AS READ
6	413	207	413	21	25	AS READ	7.67E-06	AS READ	AS READ
7	313	157	313	16	19	AS READ	5.81E-06	AS READ	AS READ

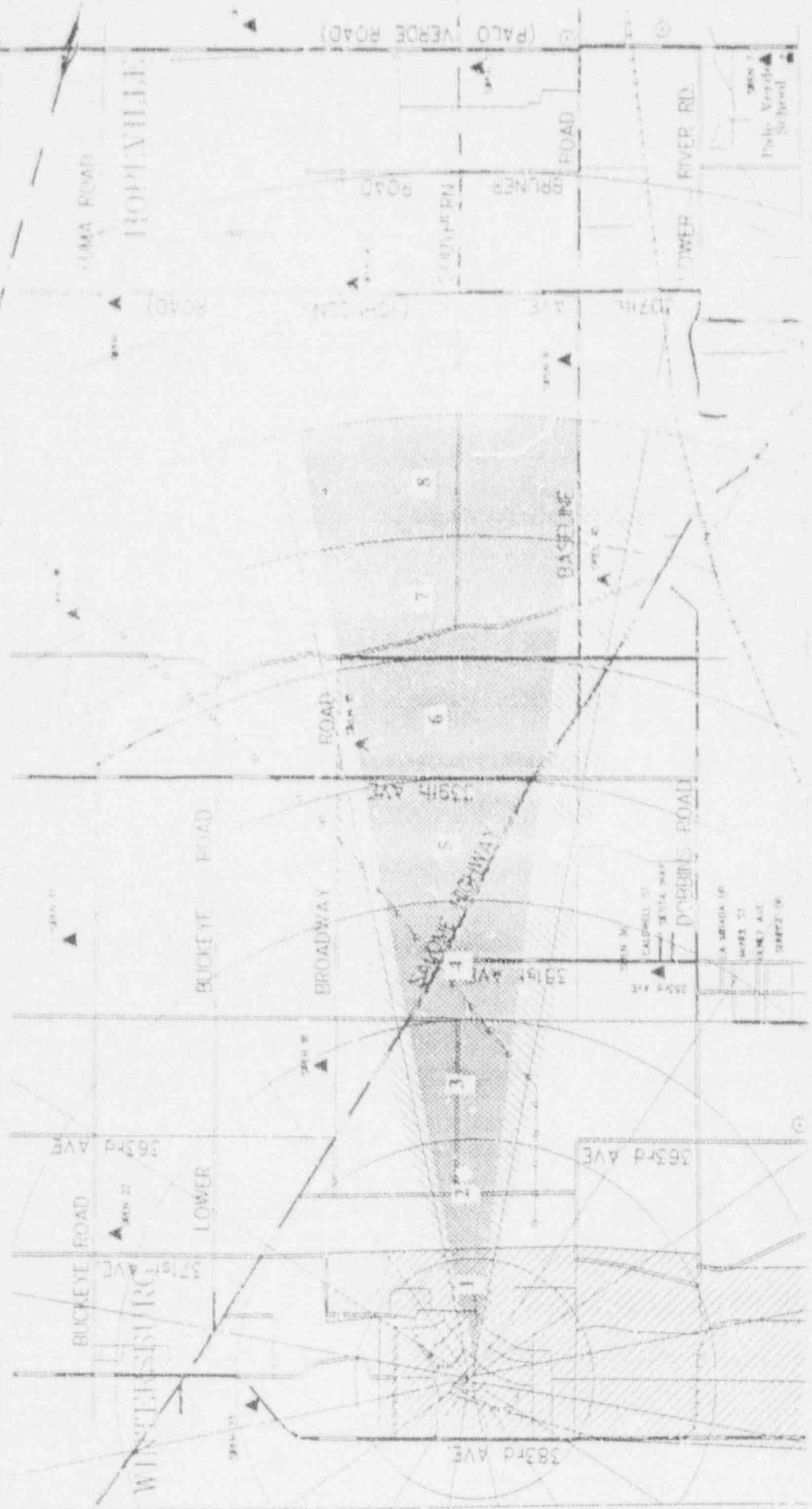


10 MILE
ENVIRONMENTAL DATA

TIME: 13:50-13:10

Phone Location	Concentration		Edge of Plume		Air Sampling		Inflow	Source
	W.C. (ppm)	Truck (lb/day)	W.C. (ppm)	Truck (lb/day)	Concentration (ppm)	Flow (gpm)		
1	5500	>100,000	1050	>100,000	>100,000	>100,000	AS HEAD	AS HEAD
2	3010	>100,000	303	>100,000	181	181	AS HEAD	AS HEAD
3	1450	>100,000	145	>100,000	87	87	AS HEAD	AS HEAD
4	875	>100,000	87	>100,000	43	43	AS HEAD	AS HEAD
5	580	>100,000	58	>100,000	29	29	AS HEAD	AS HEAD
6	416	>100,000	42	>100,000	21	21	AS HEAD	AS HEAD
7	336	>100,000	32	>100,000	16	16	AS HEAD	AS HEAD
8	249	>100,000	25	>100,000	13	13	AS HEAD	AS HEAD

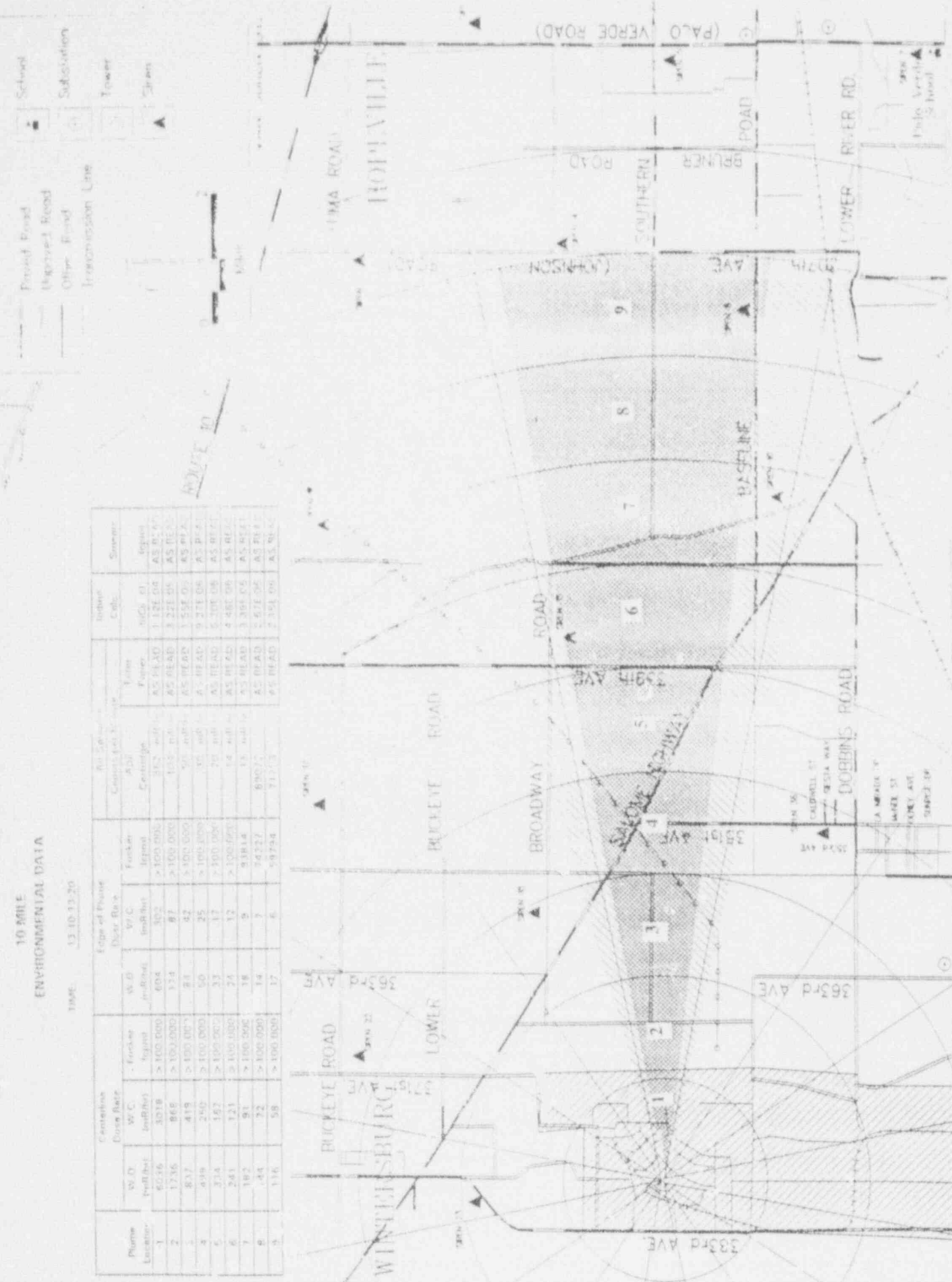
ROUTE 70



10 MILE
ENVIRONMENTAL DATA

TIME 13:10:13.20

Plume Location	Centrals Disk Rate		Edge of Plume Disk Rate		Fueler Legend	Fueler Count per E- Count	Fueler Centrifuge	Fueler ADJ	Fueler ADJ	Inlet Code	Source
	W.C. pH/ft	W.D. pH/ft	57 C pH/ft	57 C pH/ft							
1	60.16	30.18	60.4	30.2	> 100.000	> 100.000	392	AS HEAD	AS HEAD	AS HEAD	AS HEAD
2	12.16	8.68	12.4	8.7	> 100.000	> 100.000	115	AS HEAD	AS HEAD	AS HEAD	AS HEAD
3	8.37	4.19	8.8	4.2	> 100.000	> 100.000	95	AS HEAD	AS HEAD	AS HEAD	AS HEAD
4	4.19	2.10	4.2	2.5	> 100.000	> 100.000	30	AS HEAD	AS HEAD	AS HEAD	AS HEAD
5	3.74	1.97	3.3	1.7	> 100.000	> 100.000	19	AS HEAD	AS HEAD	AS HEAD	AS HEAD
6	2.41	1.21	2.5	1.2	> 100.000	> 100.000	14	AS HEAD	AS HEAD	AS HEAD	AS HEAD
7	1.82	0.91	1.8	0.9	> 100.000	> 100.000	9	AS HEAD	AS HEAD	AS HEAD	AS HEAD
8	1.45	0.72	1.4	0.7	> 100.000	> 100.000	7	AS HEAD	AS HEAD	AS HEAD	AS HEAD
9	1.16	0.58	1.7	0.6	> 100.000	> 100.000	6	AS HEAD	AS HEAD	AS HEAD	AS HEAD



10 MILE
ENVIRONMENTAL DATA

TIME 13:00-14:00

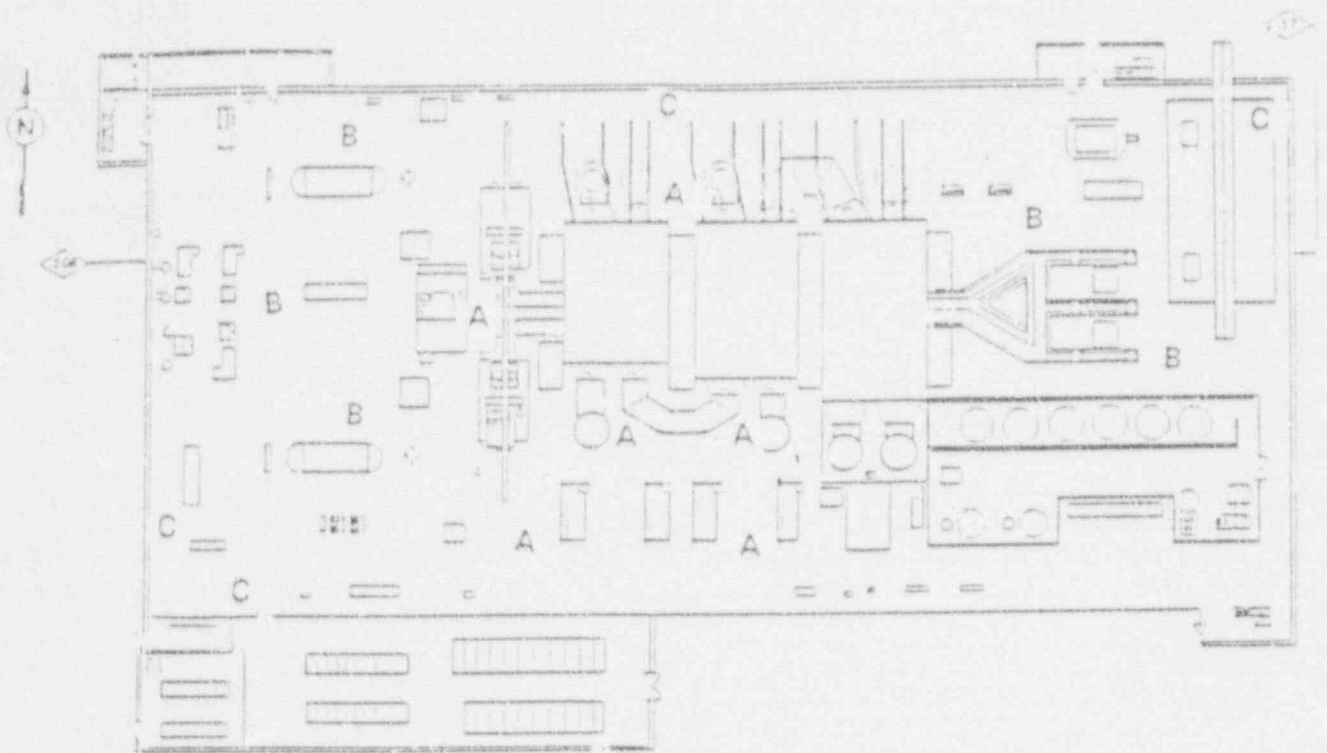
Point Location	Concentration		Distance		Wind		Direction		Frequency		Count		Filter		Label		Remarks	
	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³	W.C. ft/ft ³
1	6.280	3.295	6.79	3.60	> 100 000	> 100 000	437	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
2	1.950	0.94	1.35	0.8	> 100 000	> 100 000	117	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
3	0.42	0.21	0.4	0.2	> 100 000	> 100 000	3.8	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
4	0.62	0.31	0.6	0.3	> 100 000	> 100 000	2.1	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
5	3.16	1.58	2.2	1.1	> 100 000	> 100 000	14	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
6	2.71	1.36	2.1	1.1	> 100 000	> 100 000	12	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
7	2.06	1.02	1.5	0.8	> 100 000	> 100 000	11	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
8	1.62	0.81	1.1	0.6	> 100 000	> 100 000	8	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
9	1.31	0.66	1.1	0.6	> 100 000	> 100 000	8	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD
10	1.08	0.54	1.1	0.6	> 100 000	> 100 000	6	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD	AS HEAD



PASS RADIOLOGICAL INFORMATION

	Drill Time		
	8:00-10:40 mR/hr	10:40-11:20 mR/hr	After 11:20 mR/hr
<u>RCS PASS</u>			
Unshielded sample dose rate; contact	3	9329	8339
Unshielded sample dose rate; 3 feet	As Read	9	8
Shielded sample dose rate; contact	As Read	767	687
Shielded sample dose rate; 3 feet	As Read	1	1

100 TURBINE BUILDING



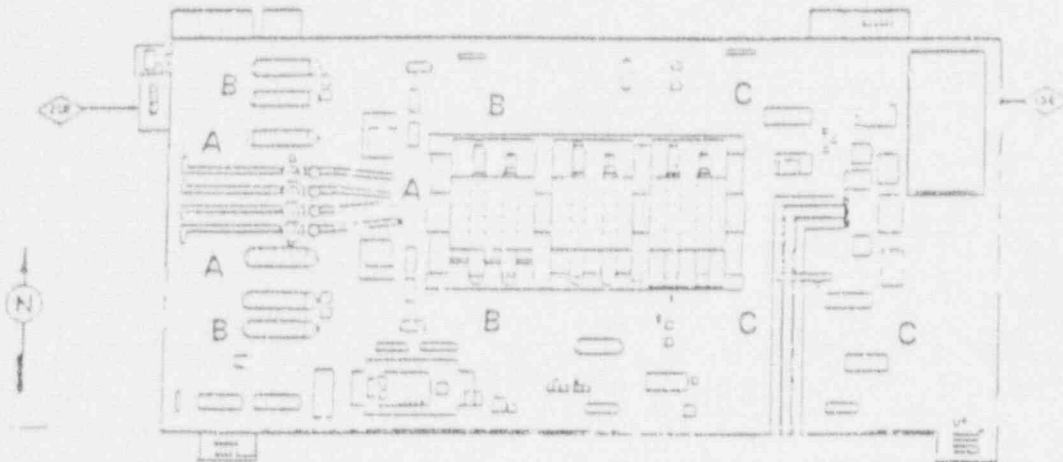
1 DOSE RATE INFORMATION

TIME	mR/m - UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
0900 On	AS READ	AS READ	AS READ	N/A	N/A	N/A	
	60	15	< 2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
0900 On	AS READ	AS READ	AS READ	AS READ	

140 TURBINE BUILDING
MEZZANINE DECK



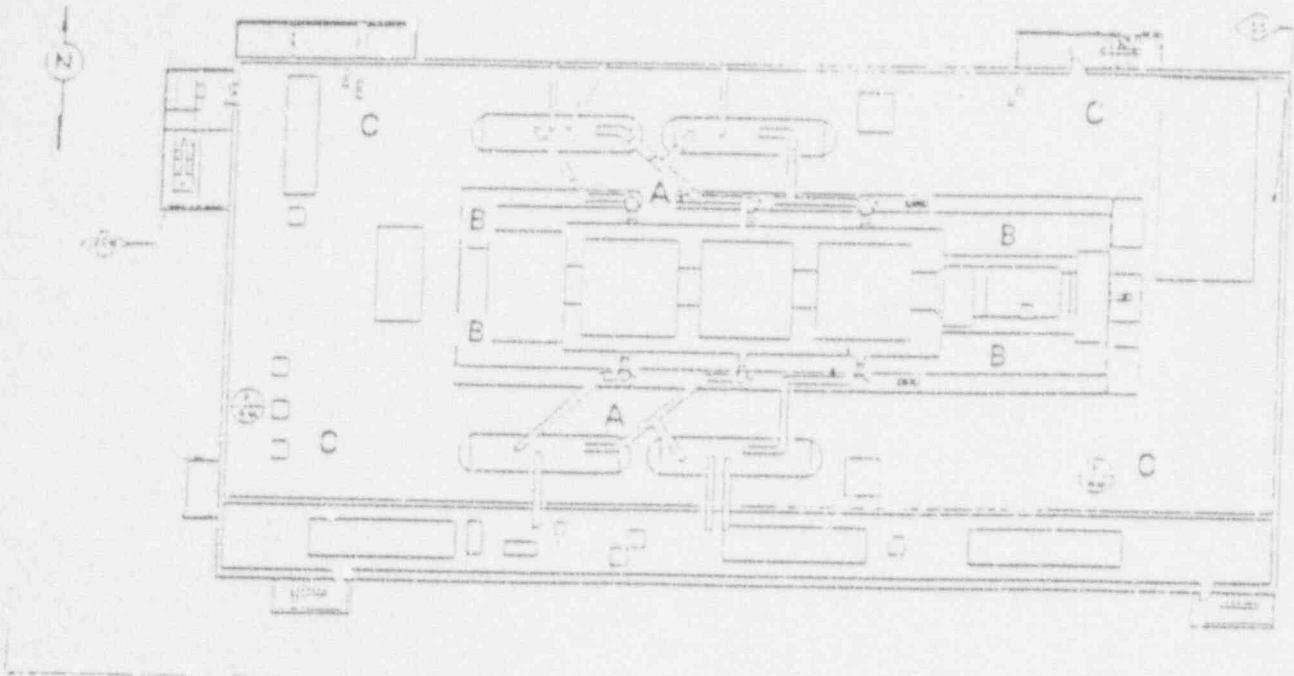
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
OSDC On	AS READ	AS READ	AS READ	N/A	N/A	N/A	
OSDC - On	20	10	< 1	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
OSDC On	AS READ	AS READ	AS READ	AS READ	

176' TURBINE BUILDING
OPERATING DECK



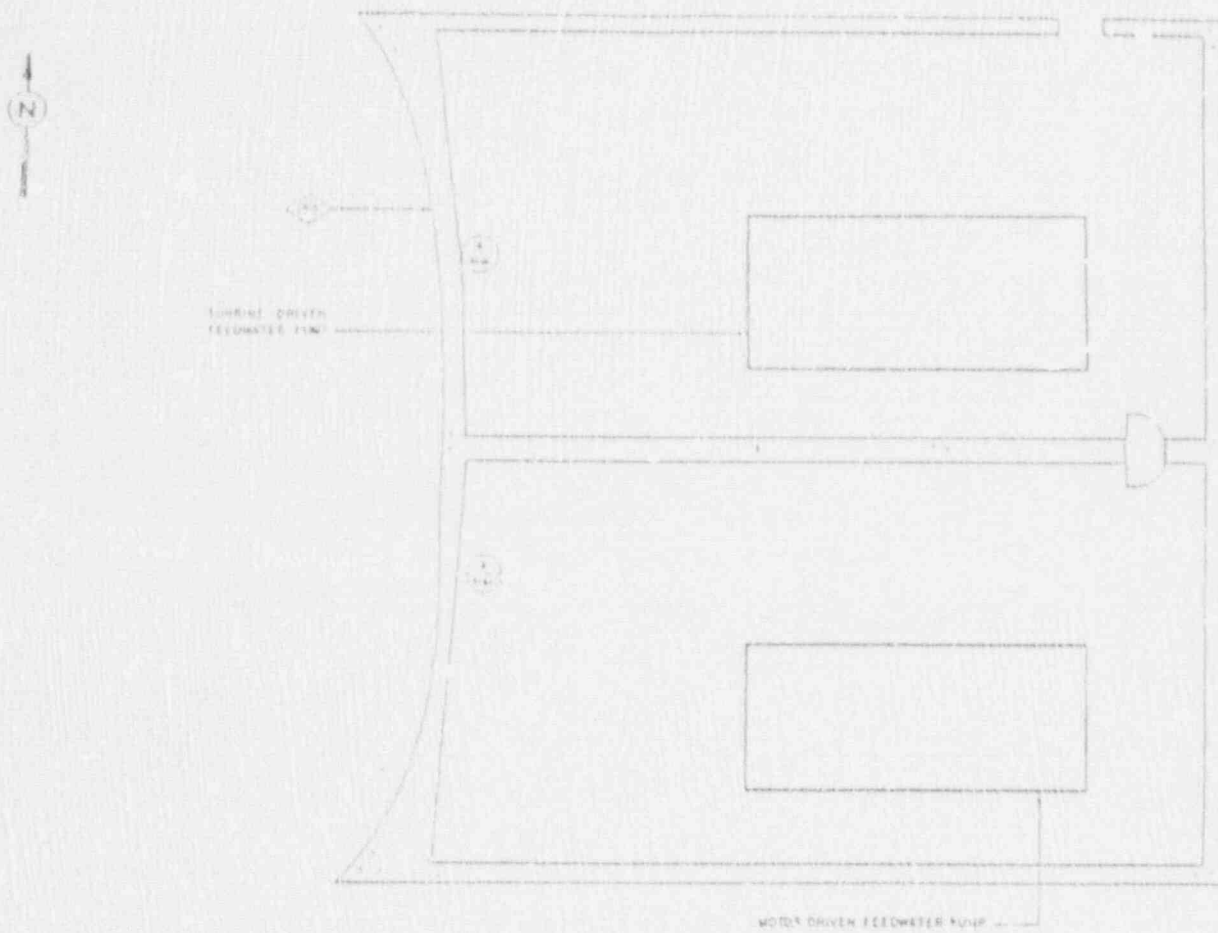
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	E	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0900-On	12	5	<1	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/hr	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
0900-On	AS READ	AS READ	AS READ	AS READ	

81' - 89' M.S.S.S. - AUXILIARY FEEDWATER
PUMP ROOMS "A" AND "B"



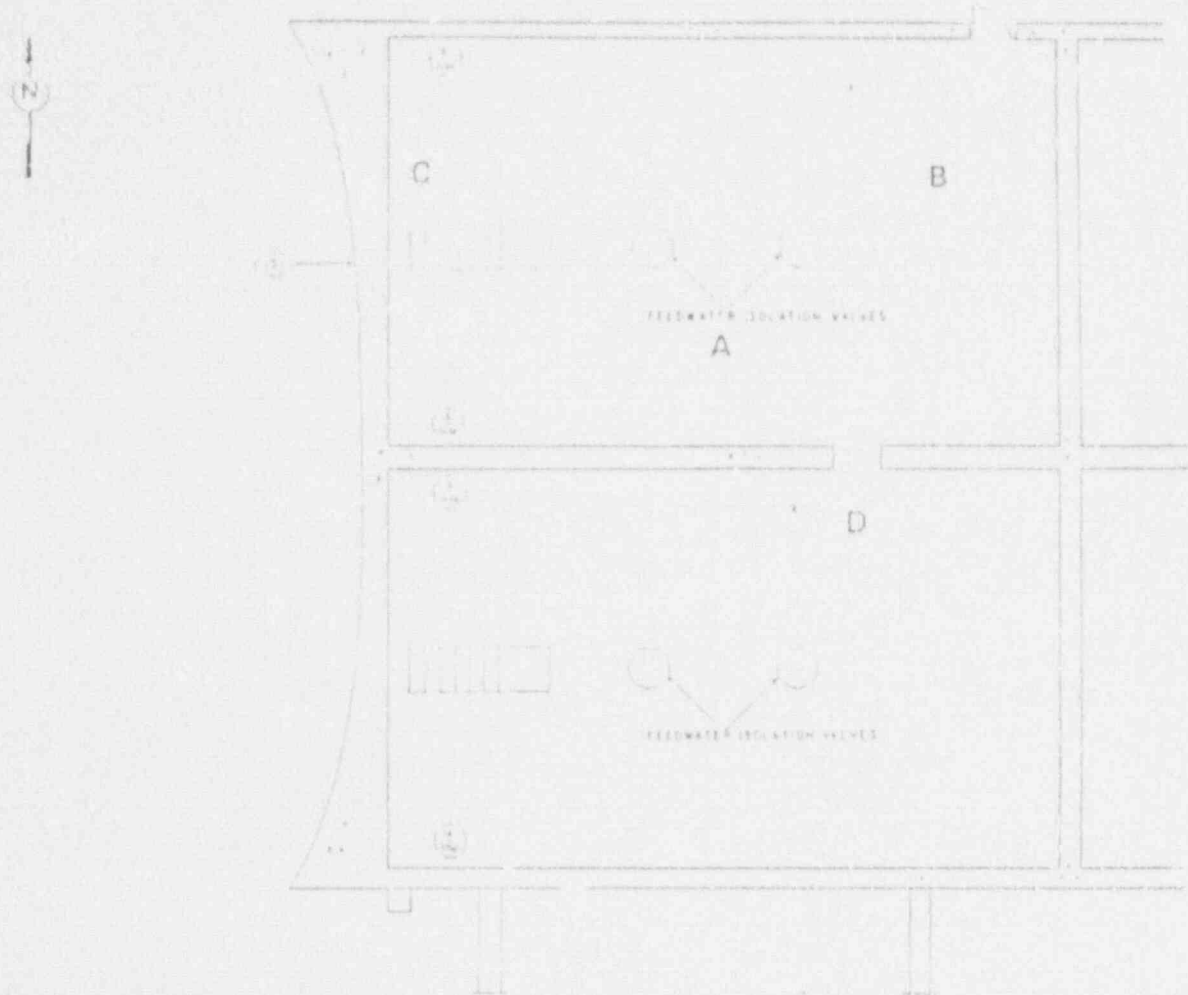
1. DOSE RATE INFORMATION

TIME	UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/c	uCi/cc	LEVELS IN CPM	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	

120 - 132 M.S.S.S. - MAIN STEAM
RELIEF VALVE ROOMS "A" & "B"



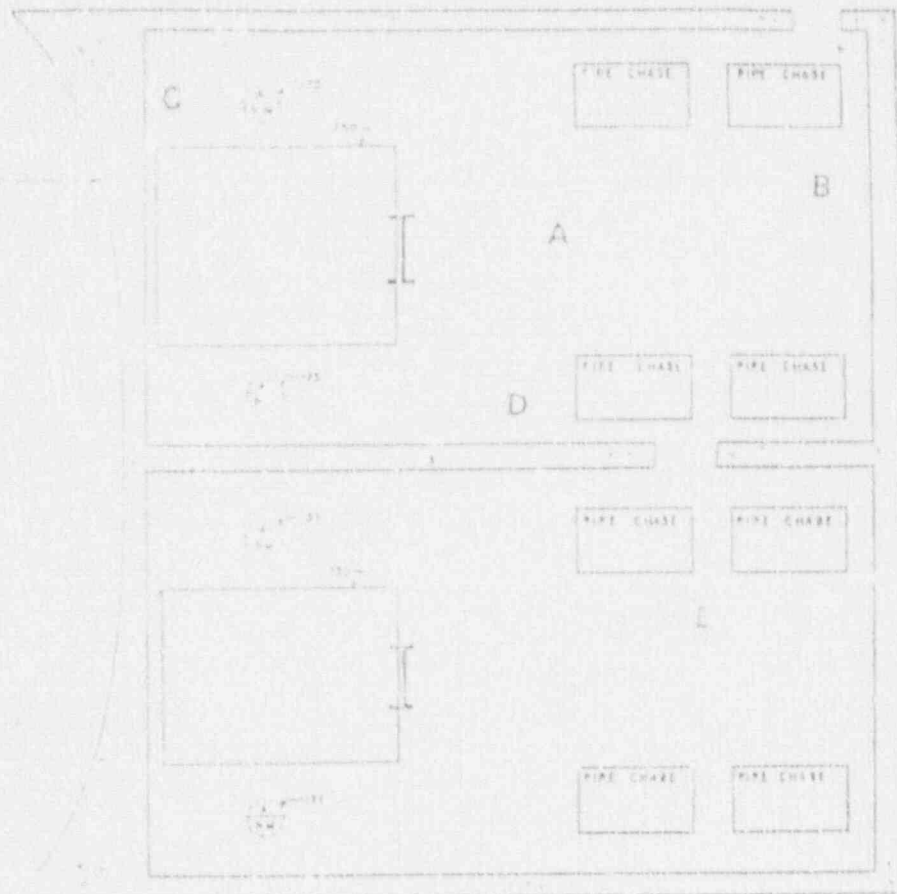
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	AS READ	N/A	N/A	
900	4	2	2	AS READ	N/A	N/A	
1030	2	85	85	AS READ	N/A	N/A	
1040	28 R/hr	15 R/hr	15 R/hr	282	N/A	N/A	
1200	26 R/hr	14 R/hr	14 R/hr	264	N/A	N/A	
1300 On	23 R/hr	12 R/hr	12 R/hr	235	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	9.74E-11	8.62E-11	8.09E-11	AS READ	
1030	4.21E-10	4.83E-10	5.07E-10	AS READ	
1040	8.11E-07	9.16E-07	9.79E-07	AS READ	
1200	8.02E-07	9.13E-07	9.66E-07	AS READ	
1300 On	7.92E-07	9.11E-07	9.50E-07	AS READ	

140' x 148' M.S.S.S. - UPPER MAIN
STEAM LINE ROOMS "A" & "B"



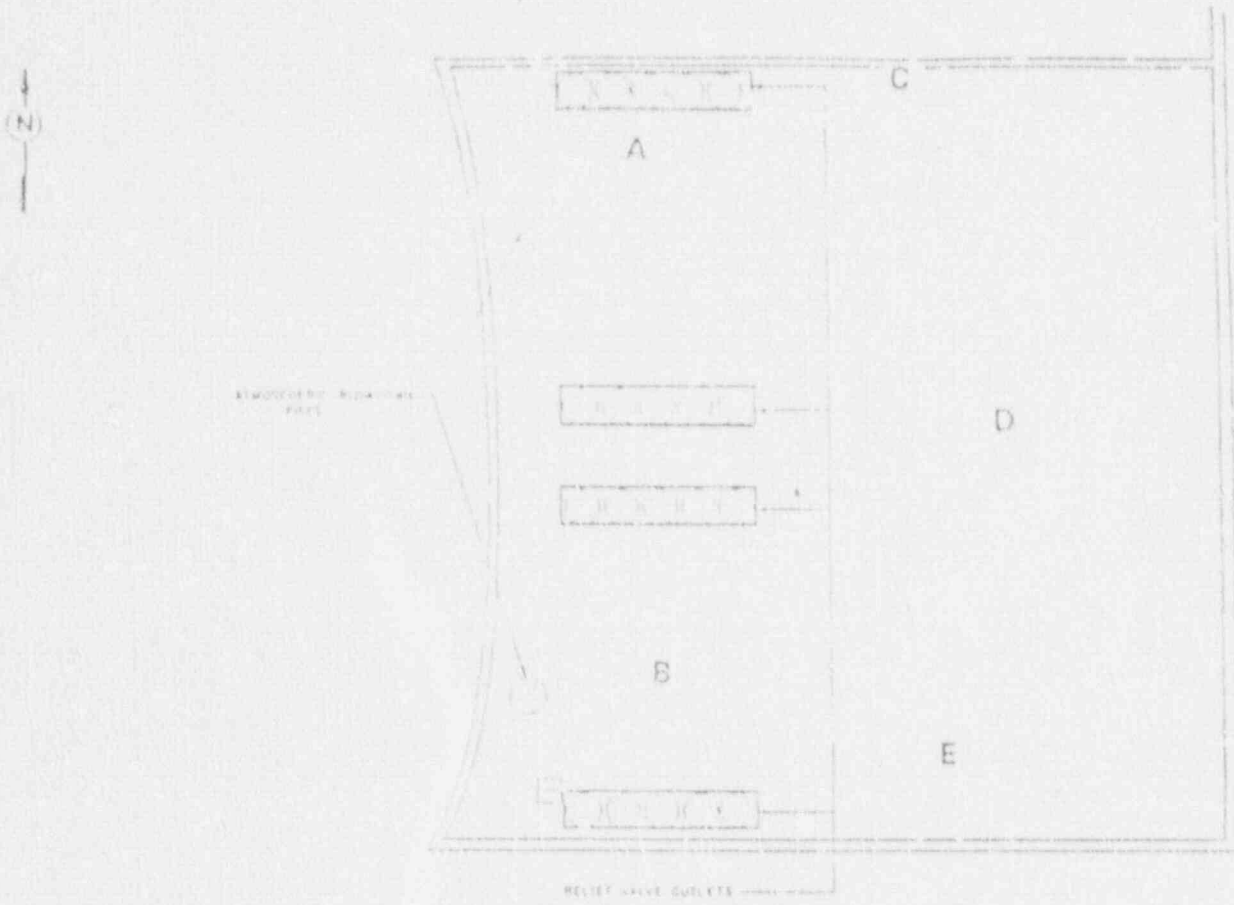
1. DOSE RATE INFORMATION

TIME HRS	mR/hr UNLESS NOTED						GENERAL NOTES
	A	B	C	D	E	F	
800	AS READ	AS READ	AS READ	AS READ	AS READ	N/A	
900	2	1	1	2	AS READ	N/A	
1030	79	59	59	71	AS READ	N/A	
1040	14 R/hr	10 R/hr	14 R/hr	10 R/hr	123	N/A	
1200	13 R/hr	10 R/hr	13 R/hr	10 R/hr	115	N/A	
1300 On	14 R/hr	8 R/hr	14 R/hr	8 R/hr	84	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME HRS	GAS uCi/cc	IODINE uCi/cc	PARTIC uCi/cc	CONTAMINATION LEVELS IN CFM	GENERAL NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	9.74E-11	9.07E-11	9.04E-11	AS READ	
1030	4.21E-10	4.88E-10	5.34E-10	AS READ	
1040	8.11E-07	9.64E-07	1.03E-06	AS READ	
1200	9.02E-07	9.81E-07	1.02E-06	AS READ	
1300 On	7.92E-07	9.59E-07	1.00E-06	AS READ	

167' M.S.S.S.
ROOF



1. DOSE RATE INFORMATION

TIME	R/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800-1140	AS READ	AS READ	AS READ	AS READ	AS READ	N/A	
1145	1734	179	1387	69	55	N/A	
1300 On	1340	107	1072	54	43	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC.	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
80-1140	AS READ	AS READ	AS READ	AS READ	
1145	3.19E+02	9.40E+00	1.47E-02	7.25E+07	
1300 On	3.14E+02	0.89E+00	1.44E-02	7.15E+07	

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 09:00 - 10:40

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	4.06E-02
Xe-131	12.00 D	1.86E-03
Xe-133	5.25 D	<u>3.40E-01</u>
Total Activity:		3.82E-01

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>7.99E-04</u>
Total Activity:		7.99E-04

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>8.52E-05</u>
Total Activity:		8.52E-05

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	1.14E-01
I-132	2.29 H	1.13E-01
I-133	20.8 H	2.19E-01
I-135	6.59 H	<u>1.93E-01</u>
Total Activity:		6.40E-01

Grand Total Activity: 1.02E+00

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 10:40 - 11:20

Nuclide Type: fission gas

Nuclide	Half-life	Decay Corr uCi/ML
Kr-87	1.27 H	3.29E+01
Xe-131	12.00 D	3.39E+00
Xe-135	5.25 D	<u>6.21E+02</u>
Total Activity:		6.57E+02

Nuclide Type: fission

Nuclide	Half-life	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.45E+00</u>
Total Activity:		1.45E+00

Nuclide Type: FP

Nuclide	Half-life	Decay Corr uCi/ML
Te-129	1.12 H	<u>0.061856</u>
Total Activity:		0.061856

Nuclide Type: halogen

Nuclide	Half-life	Decay Corr uCi/ML
I-131	8.04 D	2.08E+02
I-132	2.29 H	1.33E+02
I-133	20.8 H	3.84E+02
I-135	6.59 H	<u>3.04E+02</u>
Total Activity:		1.03E+03

Grand Total Activity: 1.69E+03

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: After 11:20

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	2.09E+01
Xe-131	12.00 D	3.30E+00
Xe-133	5.25 D	<u>6.19E+02</u>
Total Activity:		6.44E+02

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.45E+00</u>
Total Activity:		1.45E+00

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>3.69E-02</u>
Total Activity:		3.69E-02

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	2.08E+02
I-132	2.29 H	1.03E+02
I-133	20.8 H	3.75E+02
I-135	6.59 H	<u>2.79E+02</u>
Total Activity:		9.65E+02

Grand Total Activity: 1.31E+03

CHEMISTRY DATA

Type of Sample: Steam Blowdown
 Sample Time: 09:00 - 10:40

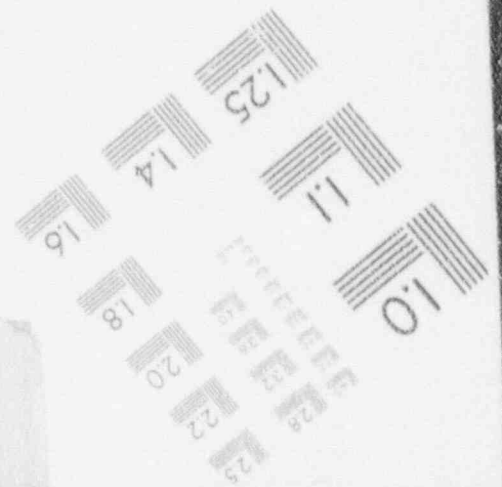
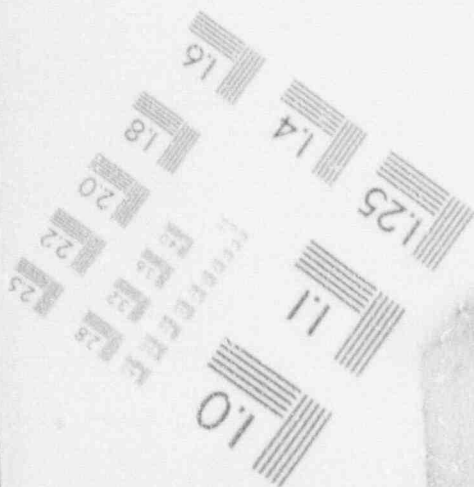
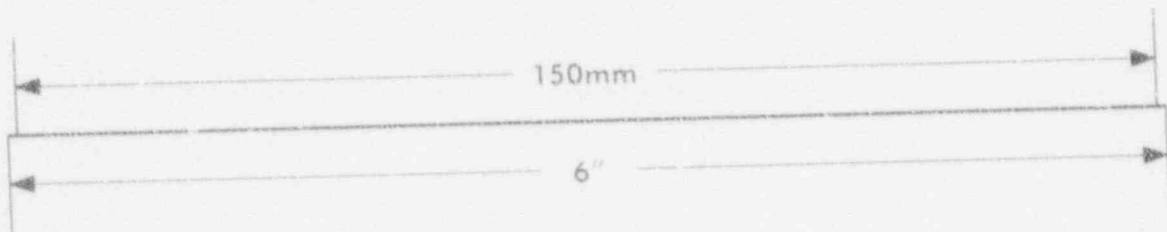
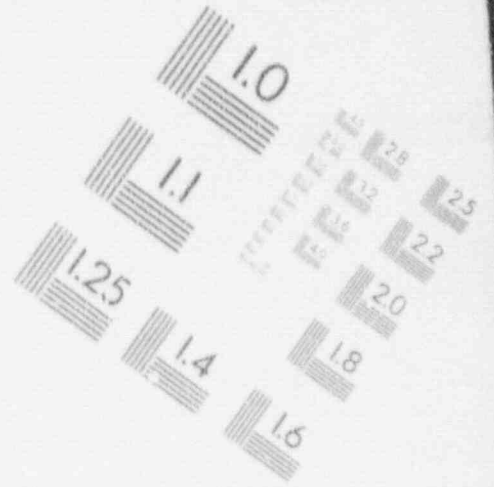
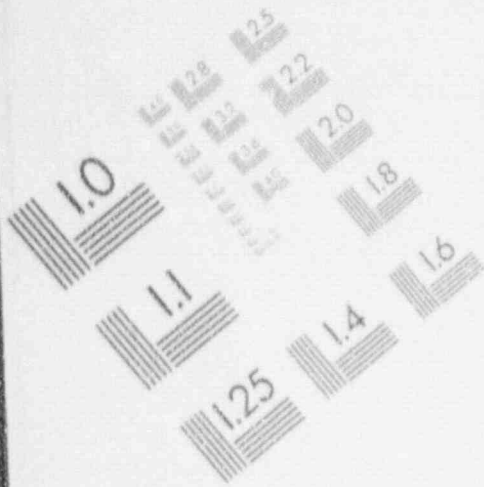
Nuclide Type: halogen		Decay Corr
Nuclide	Half-life	uCi/ML
I-131	8.04 D	5.93E-03
I-132	2.29 H	5.55E-03
I-133	20.8 H	1.14E-02
I-135	6.59 H	<u>9.86E-03</u>
Total Activity:		3.27E-02

Nuclide Type: fission		Decay Corr
Nuclide	Half-life	uCi/ML
Te-132	3.25 D	<u>4.17E-05</u>
Total Activity:		4.17E-05

Nuclide Type: FP		Decay Corr
Nuclide	Half-life	uCi/ML
Te-129	1.12 H	<u>3.93E-06</u>
Total Activity:		3.93E-06
Grand Total Activity:		3.28E-02

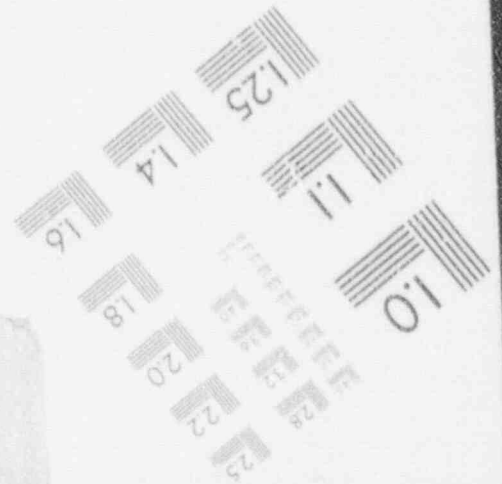
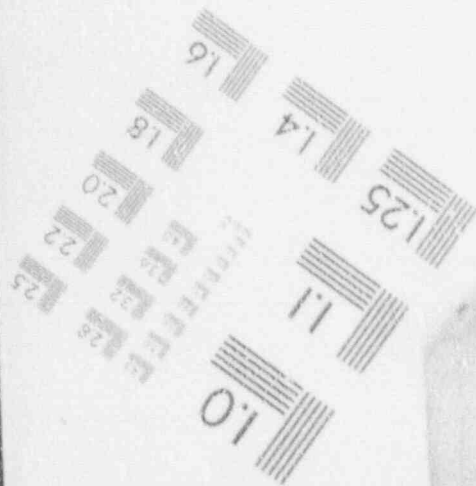
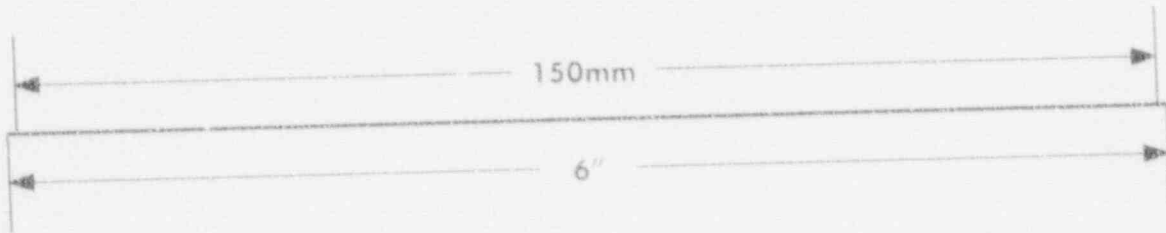
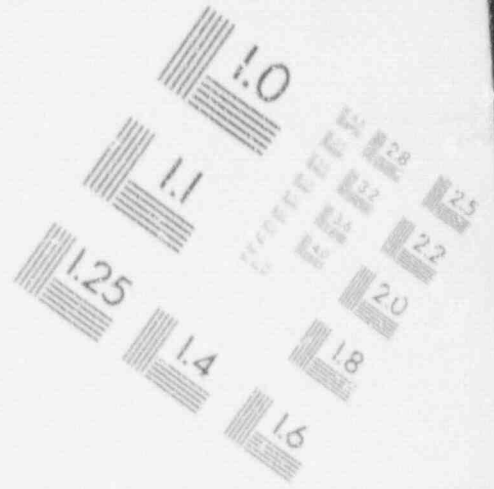
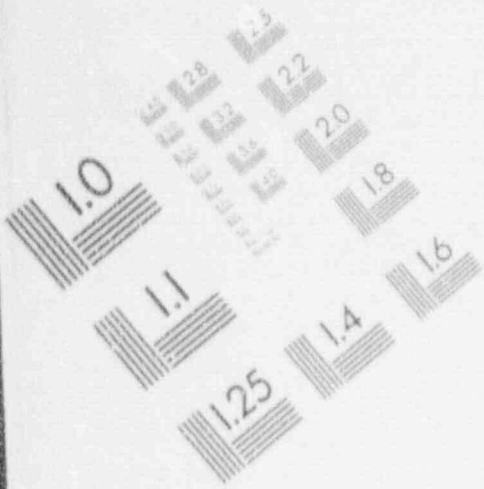
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IMAGE EVALUATION TEST TARGET (MT-3)



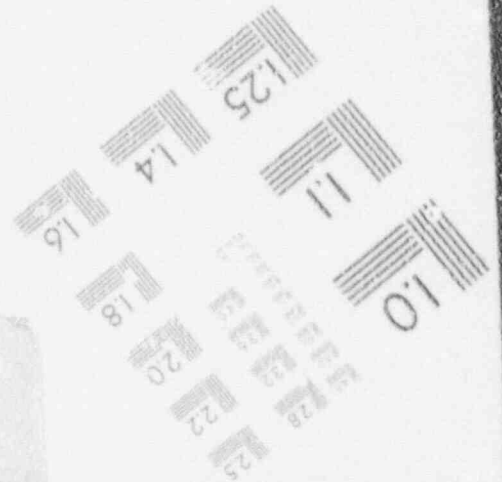
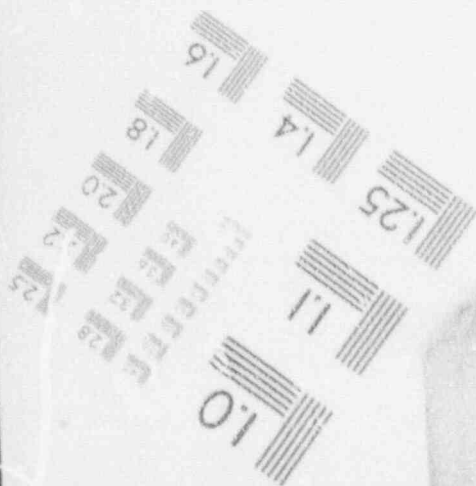
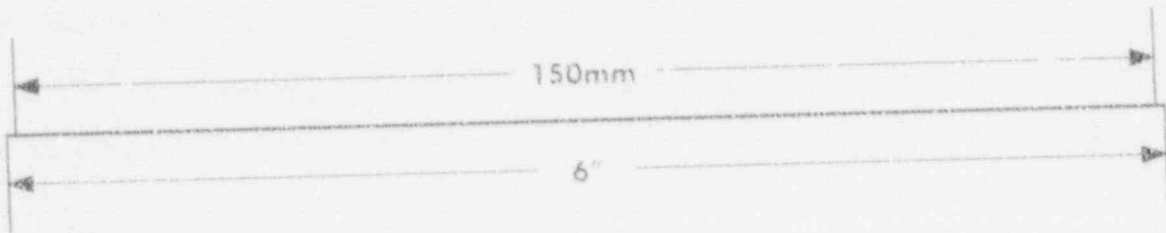
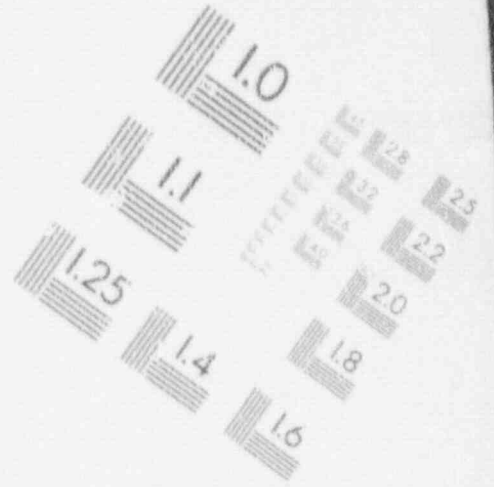
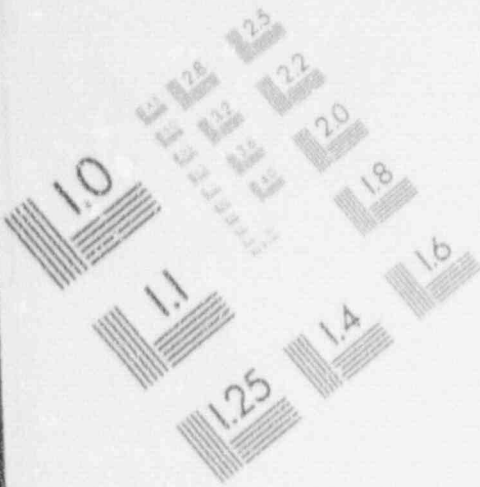
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IMAGE EVALUATION TEST TARGET (MT-3)



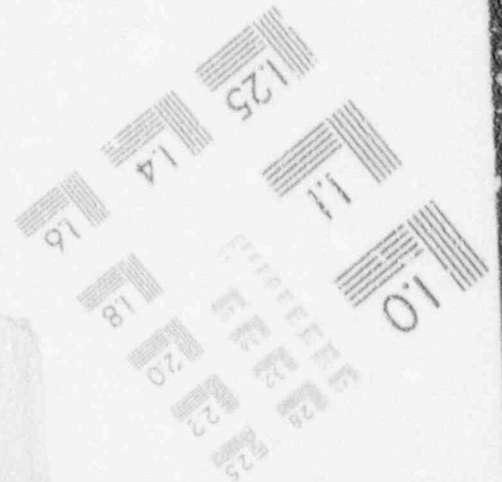
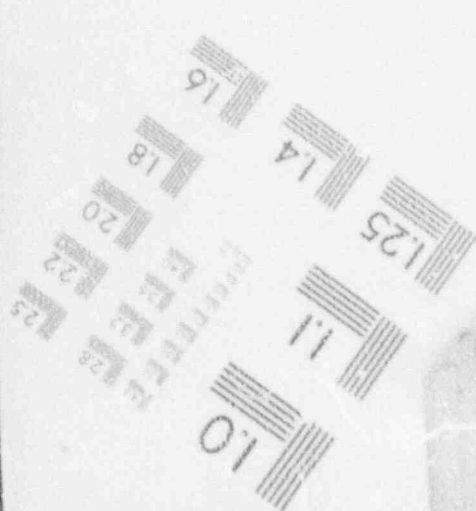
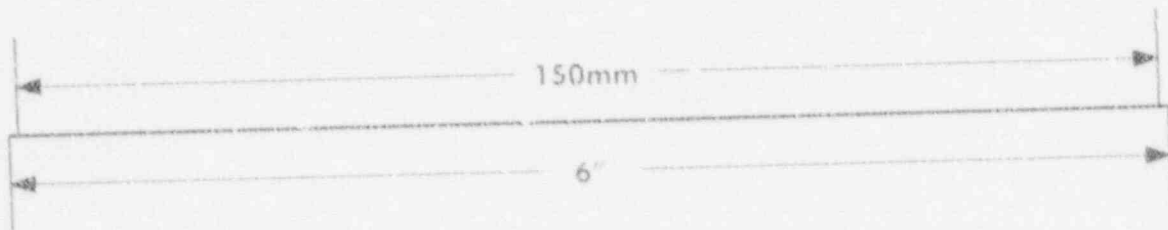
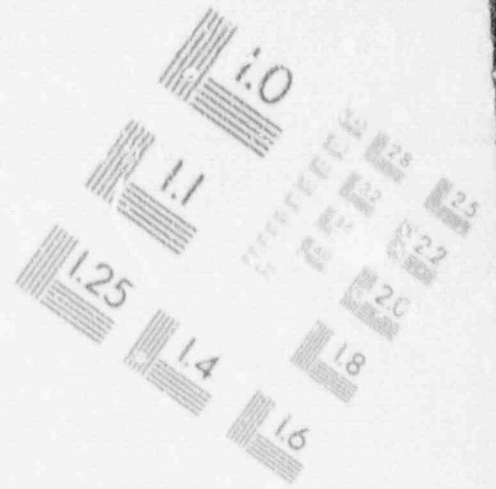
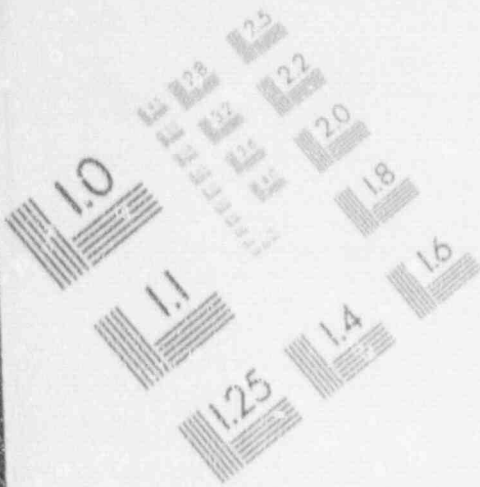
1

IMAGE EVALUATION
TEST TARGET (MT-3)



1

IMAGE EVALUATION TEST TARGET (MT-3)



PVNGS Annual Exercise

3.1 Initial Conditions

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1SI11 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG B Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

PVNGS Annual Exercise

3.2 Narrative Summary

This scenario is based on a leak developing in a U-Tube in Steam Generator #1. The operators assess the leak and determine that a shutdown is required per 41AO-1ZZ08. Before the reactor can be tripped, at approximately 30 % Reactor Power, the leaking tube fails catastrophically, and leak rate increases to approximately 400 gpm. Operators manually trip the reactor and initiate Safety Injection. Operators re-diagnose the accident and transition to 41OP-1ZZ06 "Tube Rupture" based on the initiation of Safety Injection. When operators attempt to rapidly reduce the flow through the ruptured tube by depressurizing the RCS, the spray valve controller fails, necessitating the use of slower auxiliary spray to reduce pressure. Operators use Safety Injection to maintain RCS inventory, auxiliary spray to reduce pressure and steam the un-affected steam generator to cool the RCS.

A sudden failure of RCP-1A impeller sends debris from the failed impeller through the core. Fuel damage occurs. Fission products enter the coolant and flow into the failed Steam Generator. When a spring on the #1 Steam Generator Safety Valve fails, the safety valve lifts, and a release of RCS activity begins to the environment from the failed relief valve.

The scenario will be mitigated by:

- Normal Primary to Secondary leak response actions.
- Restoration of the Spray Valve controller to expedite plant depressurization.
- Cooldown and stabilization of the plant.
- Performance of off-site radiological monitoring and evaluation.

PVNGS Annual Exercise
3.3 Major Sequence of Events

0700 -0030 Initial Conditions, Simulator Board walkdown.

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1S111 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG B Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

3.3 Major Sequence of Events (Continued)

- 0800 0000 Medical Emergency:
Spent resin spill occurs during transfer when a flexible coupling blows out. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-21. RU-21 indicates off-scale high locally and in the Control Room. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg. Radwaste Operators notify Security, Fire Protection and the Control Room.
- 0810 0010 While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred. Operators check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset. They inform Unit 2 Control Room and continue troubleshooting.
- 0815 0015 EMTs and Radiation Protection Technicians arrive in the Radwaste Building, assess the situation medically and radiologically, and prepare the victim for transport to a medical facility.
- 0835 0035 Control Room declares an ALERT based on EPIP-02 Appendix B, Tab 1 "Direct Radiation Readings within the Unit Increase by a Factor of 1000." The Control Room should realize that "Transportation of internally or externally contaminated injured person to offsite hospital" (when this event occurs) constitutes a Notification of Unusual Event" per EPIP-02 Appendix B, Tab 1. This emergency classification level is superseded by the ALERT.
- 0900 0100 RCS tube leak starts in "A" Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, and RU-139 channel-2 High alarm, and by a mismatch between charging and letdown flow. Operators enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02.
- 0902 0102 Initial determination of the leak rate exceeds 1 gpm (approximately 12 gpm). Preliminary indications by blowdown radiation monitors indicate S/G 1 is faulted. Operators continue leak rate determinations.

3.3 Major Sequence of Events (Continued)

- 1006 0206 Shutdown continues. Operators trip the "B" Main Feed Pump
- 1010 0210 Shutdown continues. Operators trip the "B" Condensate Pump
- 1015 0215 RCP-1A high vibration alarms and eccentricity alarms activate. Operators analyze the vibration, but magnitude of eccentricity is below the 10 mils mandatory shutdown point per 79AC-OSV01. Since immediate shutdown of the RCP is not required, operators continue monitoring.
- 1030 0230 With reactor power at approximately 30%, operators are briefing for manual Reactor Trip at 20% power. The leaking Steam Generator tube ruptures [Simulator Operator will key leak rate to 30%]. RCS leak rate increases to approximately 400 gpm. The RCS rapidly depressurizes [PZR trouble alarm on lowering level, PZR pressure low alarm, PZR level low alarm, #1 S/G level increasing confirms faulted S/G].
- 1035 0235 Operators manually trip the reactor and initiate SI. Radiation levels in the secondary plant increase due to the higher leak rate. Operators re-diagnose the tube leak and transition to 41RO-1ZZ06 "Tube Rupture" based on SIAS. The large tube rupture meets the criteria of EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity." Two check marks in Appendix A merit declaration of a SITE AREA EMERGENCY.
- 1040 0240 Immediately prior to operators' attempt to shut down RCP-1A and -2A per 41RO-1ZZ06, RCP-1A impeller fails. Debris from the impeller are flushed into the core. The loose parts monitor alarms. Hot leg ARMs and area ARMs increase indicating possible fuel damage. RCP-2A is tripped manually, RCP-1B and -2B are running normally. SS should direct a RCS sample if the normal post-trip sample has not already been ordered. RU-16 and -17 indicate greater than 10 times their high alarm setpoints, which operators may view as an additional indication for a SITE AREA EMERGENCY per EPIP-02 Appendix B, Tab 2 "Major Damage to spent fuel with a release of radioactivity to the Containment or Fuel Handling Building resulting in valid radiation readings > 10 times the high radiation alarms on any of the following: RU-16, -17, -31, -33, -143, or -145", despite the fact that the only radioactive release is to the isolated faulted Steam Generator.
- 1050 0250 S/G #1 level increases rapidly due to the tube rupture. Operators line up and conduct a high rate blowdown of #1 S/G to maintain level below 80%.

3.3 Major Sequence of Events (Continued)

- 1055 0255 When operators attempt to rapidly depressurize the plant with spray to reduce the Primary to Steam Generator differential pressure, they find that the spray valves will not open in the Control Room. The Spray Valve controller has failed. Operators use slower Aux. Spray to lower pressure, and commence troubleshooting the failed Spray Valves.
- 1100 0300 TSC Emergency Coordinator declares a SITE AREA EMERGENCY based on EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity.", if not already done, and makes appropriate notifications. Operators are expected to use safety injection systems to makeup inventory losses or continue steaming using auxiliary feed to cool the RCS and remove heat from the core.
- 1145 0345 Main Steam safety relief valve trouble alarm. Indications of #1 S/G relief lifted. Un-Monitored release to the environment occurs via the lifting relief in the MSSS.
- 1200 0400 With the primary to secondary leak in combination with the lifting relief, the EC should recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and "> 10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.
- 1210 0410 While investigating low volume on the plant paging speaker in the OSC, electrician strikes a sprinkler system spray head with a ladder. One OSC sprinkler system spray head is damaged. The damaged sprinkler head sprays down the room. Before the fire main in that area can be isolated, the room is thoroughly wet. Emergency supplies and paperwork are rendered unserviceable. Telephones in the OSC are OOS. Emergency Response personnel should be evacuated to the alternate OSC, or to another suitable location. OSC supervisory personnel and RP personnel should take plume exposure during the evacuation into account.
- 1230 0430 Operators continue to cool down the RCS and depressurize to control the release rate from the ruptured S/G. Attempts to shut the leaking relief valve will be ineffective due to temperature and radiation levels in the vicinity of the valve.
- 1300 0500 When plant is ready to be placed on shutdown cooling, and all objectives have been demonstrated, secure from the Exercise.

Appendix A
Scenario Controller Guide

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0730	1	C-1 All	SS All	<p><u>INITIAL CONDITIONS</u></p> <p>Unit 2 is operating at 100% power; middle of core B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants as noted in the day tank sight glass. The Fuel cell has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-15H1 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. No Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today.</p> <p><u>Annunciators in Control Room</u></p> <p>IC DG B Trip IC DG B Emergency Manual Trip IC DG B High Priority Trouble</p>	<p><u>Unit 2 Control Room (CR) [Simulator]:</u></p> <p>Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards</p>		<p>0730 - All controllers distribute the initial conditions to all Facility managers and key players as they are manned during the exercise.</p> <p><u>NOTE:</u> Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.</p> <p>All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.</p> <p>All troubleshooting information for LPSI "B" troubleshooting and repair will be found in the OSC Mini-Scenarios, Appendix N</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0800	2	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-20 indicates 1000 mR/hr. RU-21 indicates 500 mR/hr. RU-22 indicates 7000 mR/hr.</p>	Be aware of plant conditions. Attempt to validate the high radiation alarms in the Rad Waste Building. SS should realize that valid high radiation alarms in the area constitute an ALERT per EPIP-02 App B Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"		Flex coupling has blown out during resin transfer. Approximately 5 - 6 Ci of normal hot resin have spilled on the floor of the Rad Waste Building. Elevated radiation levels due to the spill.
0800	3	C-4b	RWO	Spent resin spill: Flexible coupling blows out during transfer. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-20 and -21. RU-22 indicates 7000 mR/hr locally. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg.	<p><u>Resin Transfer Scene:</u> Radwaste Operator notify Security, Fire Protection and the Control Room.</p> <p><u>Security</u> Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification.</p> <p><u>Fire Protection (FP)</u> Shift Captain, dispatch EMTs to the scene. Notify medical.</p> <p><u>Unit 2 CR [Sim]:</u> SS: Notify Radiation Protection (RP). Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.</p>		Scene controller, posing as a RWO standing by at the scene, phones in the notification of the resin spill to extension 4444

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0810	4	C-4	RT Ldr at DG "B"	While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.	<p>Check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset.</p> <p>Inform Unit 2 Control Room.</p> <p>Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG train transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.</p>		<p>NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios, <u>Appendix N</u>.</p>
0815	5	C-4b	EMT / RPT	EMTs and RPTs arrive at the scene of the Resin Spill.	<p><u>Fire Protection</u> EMTs: evaluate medical situation and begin immediate treatment. Report status of the victim to Unit 2 CR (Sim).</p> <p><u>Security</u> Officer on-scene: Establish and maintain communications at the scene. Assist in transport of victims to the Site Medical Facility. Security Shift Captain (SSC): Prepare for security support of handling and transport of the victim. Notify the vehicular access (sally) port.</p> <p><u>RPT</u> Perform initial radiological assessment of the victim and the immediate area. Report the status to medical and the Unit 2 CR (Sim).</p>		<p>EMTs and RPTs begin to arrive at the scene. Controller interact with EMTs and RPTs to provide information required to assess condition of the contaminated injured worker. EMTs and RPTs should determine that the worker is contaminated and requires transportation to a medical facility.</p> <p>NOTE: The remainder of the medical and radiological data relating to the contaminated</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0815 Cont	5 Cont				<p>Unit 2 Control Room (Sim)</p> <p>SS: Evaluate the RPT reports and continue to monitor the on-going events.</p> <p>Determine injury and contamination status of the victim. Pass information to the CR.</p>	MB	<p>injured worker will be provided from the Medical Emergency Scenario, <u>App. M</u></p> <p>0840 - (C-4b) Prompt on-site medical to arrange for ground evacuation of injured worker. (See App. M)</p>
0820				<p>With notification of the resin spill in the Rad Waste building, SS has validated ARM alarms, and has sufficient information to declare an ALERT per EPIP-02, App B Tab 1, "Direct Radiation Readings within the plant increase by a factor of 1000"</p>		A	<p>0835 (C-1) To ensure ALERT is declared</p>
0830				<p>Radiological and Medical assessment of the victim is complete. Initial contamination control measures are in place.</p>	<p>Fire Protection</p> <p>EMTs prepared for transport on litter to Site Medical Facility and ambulance.</p> <p>RPTs</p> <p>Contamination control boundaries and methodologies are in place for movement of the victim.</p>		<p>NOTE: Detailed medical and radiological data relating to the contaminated injured worker will be provided from the Medical Emergency Scenario, <u>Appendix M</u>. Initial move of injured worker to the Radwaste Building fence area for rapid transport to ambulance is <u>only</u> required for life-threatening injury, and is not required in this case.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0835	A	C-1	SS	Declare an ALERT per EPIP-02, Appendix B, Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"	<p><u>Unit 2 Control Room (Sim)</u> SS/On-shift Emergency Coordinator declare the ALERT. Direct notifications in accordance with (IAW) EPIP-04.</p> <p><u>Satellite Technical Support Center (STSC)</u> STSC Communicator make appropriate notifications per EPIP-04.</p> <p><u>Operations Support Center (OSC)</u> Begin Activation.</p> <p><u>Technical Support Center (TSC)</u> Begin Activation.</p> <p><u>Emergency Operations Facility (EOF)</u> Begin Activation.</p>		Deliver this message only if SS has not declared the ALERT by this time.
0902	6	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-141 Alert alarm RU-4 High alarm RU-139 Channel 1 and 2 high alarm</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor initiates the Emergency Plan per EPIP-02. Inform TSC/OSC.</p>		RCS tube leak (12%) starts in #1 Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, RU-139 ch-1 & 2 High alarm, and mismatch between charging and letdown flow.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0902	B	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> FZR Level Channel X deviation low PZR Level Channel Y deviation low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> Pressurizer level indicates 50% and lowering slowly Pressurizer backup heaters cycling in auto</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 41CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor informs TSC/JSC.</p>		Deliver this message only if the simulator is not operational. Lowering Pressurizer level gives additional indications of RCS leak.
0902	C	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 66 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination.</p>		Deliver to AO if Simulator is not operational, when performing leak rate determination. Initial determination of leak rate is 12 gpm. Rate may be increasing.
0905	D	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 53 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination. SS report to TSC/OSC</p>		Deliver to AO if Simulator is not operational, when performing second leak rate determination: 35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0913	E	C-1	SS, AO	Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 30 gpm	Unit 2 Control Room (Sim) AO report leak rate to SS/Shift EC. SS report leak rate to TSC/OSC Technical Support Center EC recognizes that >44 gpm leak rate is a redundant indication for ALERT per EPIP-02, App B, Tab 2.		[use 12% break for the 15 minute leak rate check]. Deliver to AO if Simulator is not operational, when performing second leak rate determination: 58 gpm mismatch indicates increasing rate of RCS primary to secondary leakage. 41AO-1ZZ08 Step 2 should be complete by this time to minimize release to the environment. NOTE: Per 41AO-1ZZ08 4.0 "...a controlled shutdown is much preferred over tripping the unit." Controllers <u>must</u> pay attention to player decision-making process on mode of shutdown. Controllers may need to increase the leak rate to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage from a rapid power reduction or trip.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0914	F	C-1	SS/ Shift EC	DO NOT TRIP THE UNIT. Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.	<u>UNIT 2 CONTROL ROOM (Sim)</u> Commence normal shutdown by boration at the one hour rate (approximately 5% power per minute). Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.		Deliver to SS / Shift EC if the decision is made to shut the unit down using a Reactor Trip, vice a controlled shutdown at a 5% per minute rate.
0920				Shutdown in progress. Reactor Power 94%			Be aware of plant conditions.
0930	7	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm <u>INDICATIONS IN CONTROL ROOM</u> RU-5 ALERT alarm	<u>UNIT 2 CONTROL ROOM (Sim)</u> SS Direct chemistry perform 74CH-9ZZ66.		RU-5 alarm due to cross-contamination of "A" Steam Generator from the feed and condensate system.
0940				Contaminated injured worker is ready for offsite transportation by ambulance.	SS/EC/EOD should all realize that this is a redundant indication for NUE.		

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0945				Reactor shutdown continues. Reactor Power 74%.			
0950				Reactor shutdown continues. Reactor Power 69%.			
1000				Reactor shutdown continues. Reactor Power 62%.			
1006	G	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> FW Pump 7B Disch Vlv Pos NI Open FWPT B Hyd Cont Press Trip FWPT B HP SV Pos Closed FWPT B LP SV Pos Closed <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Feed Pump is tripped			Deliver this message only if simulator is imperative, when operators trip "B" Main Feed Pump.
1010	H	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> CNDS Pump B Disch Vlv Pos NI Open CNDS Pump B Recirc Flow Low <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Condensate Pump is tripped			Deliver this message only if the simulator is imperative, when operators trip "B" Main Condensate Pump. Reactor Shutdown continues. Reactor power at 51%.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1015	J	C-1	SS, CO	ANNUNCIATORS IN CONTROL ROOM RCP-1A vibration alarm RCP-1A Eccentricity alarm INDICATIONS IN CONTROL ROOM RCP-1A vibration indicates 4 mils.	Unit 2 Control Room (Sim) AO performs 79AC-COSV01 to analyze vibration problem.		Deliver this message only if the simulator is not operating. Initial indication of worsening RCP fault, which will lead to rotor failure. 79AC-COSV01 requires pump shutdown for displacement of 10 mils.
1020				Reactor Shutdown continues Reactor power 45%			
1030				Reactor Shutdown continues Reactor power 31%			Operators should brief the anticipated reactor trip
1032	K	C-1	SS, CO	ANNUNCIATORS IN CONTROL ROOM VCT Level Low PZR Nar Range Press Ch A,B,C Low PZR Wide Range Press Ch A,B,C,D Low PZR Level Ch X Deviation Low PZR Level Ch Y Deviation Low INDICATIONS IN CONTROL ROOM VCT Level indicate: 31.9% Pzr Press indicates 2218 psia	Operators see increased leak rate and isolate letdown to attempt to control lowering pressurizer level		Simulator operator key leak rate to 30%. Steam Generator Tube Rupture begins. Leak rate increases to 460 gpm.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1035	L	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u></p> <p>Master Turb Trip Gen/Reac Initiated Trip 125V Trip Bus Energized Remote Man RPS Ch A Ch A Trip Ckt Bkr Pos Remote Man RPS Ch B Ch B Trip Ckt Bkr Pos Remote Man RPS Ch C Ch C Trip Ckt Bkr Pos Remote Man RPS Ch D Ch D Trip Ckt Bkr Pos CEDM Pwr Bus UNDV 1, 2, 3, 4 CEA 01 through 89 at Btm Steam Bypass Valve 1 - 6 Open Permissive SIAS A Man Act CIAS A Man Act DG Start Signal A Actuated DG Start Signal B Actuated</p> <p><u>INDICATIONS IN CONTROL ROOM</u></p> <p>Reactor Trip Turbine Trip Generator Trip All CEAs indicate fully inserted</p>	<p>Take all immediate actions for Tube Rupture, radiagnose leak and transition to 41AO-1ZZ06 "S/G Tube Rupture" based on SIAS.</p>		<p>Deliver this message only if the simulator is not operational, following manual reactor trip and SI after Steam Generator Tube Rupture.</p> <p>NOTE: CIAS will isolate RU-1. Operators will have to manually line up the monitor from the Control Room to place it back in service. Radiological data assumes that the monitor is returned to service. If monitor is not deliberately placed back in service, indicate "offline" on RMS data sheets prior to passing out to players.</p>

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TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1042	M	C-1	SS, CO	<p><u>ANNUNCIATOR[®] IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm Loose Parts Monitor Alarm RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates > 10 mils. RCP-1A Indicates Tripped Loose Parts Monitor indicates alarms on lower vessel head and S/G #1 lower head. RU-16, -17, -148 High Alarm</p>	Be aware of plant conditions.		Deliver this message only if the simulator is not operating. RCP-1A rotor fails, RCP trips. Remaining operating pumps -2A, -1B and -2B will flush rotor debris through the core. RCS Rad levels increase.
1045					<p><u>Unit 2 CR/STSC (Sim)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator.</p> <p><u>TSC</u> EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct implant team activities.</p> <p><u>OSC</u> OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.</p> <p><u>EOF</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>	Q	Sufficient information is available for declaration of a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity". (1100) C-2 To ensure SAE is declared.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1050				Wide range level in #1 S/G is approaching 80%. Operators line up and conduct high rate blowdown on S/G #1 to keep level below 80%.		N	(1050) C-1 to ensure operators conduct high rate blowdown to control #1 S/G level.
1050	N	C-1	SS	Implement high rate blowdown on S/G #1 to keep level below 80%.			Deliver this message only if operators fail to conduct high rate blowdown on #1 S/G with level exceeding 80%.
1055	P	C-1	CO	INDICATIONS IN CONTROL ROOM Spray valves indicate shut	Unit 2 Control Room (Sim) CO: Inform SS, attempt to open other Spray valve (fails). SS: Direct CO to use aux. spray to reduce plant pressure. <u>TSC</u> Direct CSC to troubleshoot fault. <u>OSC</u> Brief and dispatch team to investigate.		Deliver this message only if the simulator is not operating, when operator attempts to use spray to depressurize the plant and reduce primary to secondary d/p. Spray valve controller has failed, both spray valves are shut. Repair time will be 2 hours. All additional troubleshooting and repair information for the Spray Valve Controller will be found in the OSC Mini-Scenarios, <u>Appendix N</u>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSES	CM	CONTROLLER NOTES
1100	Q	C-2	TSC/ EC	Declare a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity".	<p>Unit 2 CR/STSC (Sim)</p> <p>SS: Continue to direct the evaluation and mitigation effort.</p> <p>Ops Advisor: Continue to update the Ops Coordinator.</p> <p><u>TSC</u></p> <p>EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures.</p> <p>RPC: Evaluate radiological conditions, direct inplant team activities.</p> <p><u>OSC</u></p> <p>OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.</p> <p><u>EOF</u></p> <p>EOD: Evaluate plant conditions, update EOC/TOC.</p>		Deliver this message only if a SAE has not yet been declared.
1100	R	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u></p> <p>SESS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u></p> <p>SC-221 (Downcomer Sample Line) is shut.</p>	<p>Be aware of plant conditions.</p> <p>SC-221 is a normally open valve. The valve has failed shut due to a burned up solenoid operator.</p> <p>SS will either direct Chem Tech to sample via hot leg, or troubleshoot the failed valve.</p>		<p>Deliver this message only if the simulator is not operating.</p> <p>Additional troubleshooting data is found in Appendix N, OSC Mini-Scenarios.</p> <p>SESS alarms due to lineup for sampling Steam Generators.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1110					#1 Steam Generator is isolated, beginning cooldown at initial rate of 30°F/hr, increasing to 75°F/hr when under control.		Be aware of plant conditions.
1130	T	C-1	SS, CO	Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.			Deliver this message only if SS has not yet ordered a PASS sample.
1145	U	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> MSEV Trouble Alarm. <u>INDICATIONS IN CONTROL ROOM</u> #1 SIC Safety valve indicates open.			Deliver this message if the simulator is not operating.

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1145	8	C-4a	On-Site RMT	<p>Call in the following message to be passed to the Unit 2 Control Room (Simulator):</p> <p>"I just heard a loud noise from the direction of the Unit 2 MSSS, kind of a bang or crack, and now there is steam visible flowing out near the top."</p>	<p><u>Unit 2 Control Room/STSC (Sim)</u> SS: Recognize that a release of steam has started, evaluate source. When #1 S/g is determined to be leaking, begin dose projection efforts. Inform OSC/TSC. TSC EC: Evaluate plant conditions. Assist in mitigation effort. Consider protective measures.</p> <p><u>TSC</u> EC: recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and "> 10% in Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. EOF - RAC. Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.</p>	W	<p>Call in message to alert Control Room (Sim) of start of release. #1 S/G Safety Valve spring has failed, the safety is open and a release of activity to the environment has started. (1200) C-2 Ensure a GE is declared.</p>
1155	9	C-4a	OSC Coord.	<p>You are having trouble hearing announcements over the plant page speaker in the OSC.</p>	<p>OSC Repair Coordinator direct electrician to investigate.</p>		

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1200	W	C-2	T S C, EC	"Declare a GENERAL EMERGENCY per EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere."			Deliver this message only if EC has not yet declared a GENERAL EMERGENCY
1210	10	C-4	OSC Coord.	Electrician troubleshooting low volume on plant page speaker in OSC returned with stepladder. While setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the speaker, and breaks it off. The entire OSC is immediately and continuously sprayed with water (approximately 40 gpm). As fire main pressure drops, the fire pump starts. Increased header pressure increases spray flow rate to 75gpm.	<p><u>OSC</u> Attempt to save documentation, equipment, and procedures. Move temporarily to the RP island area. Isolate the fire main in the OSC. Evaluate damage. Based on lack of communications and ruined procedures, evacuate to the backup OSC.</p> <p><u>TSC</u> Continue to monitor and evaluate plant conditions. Coordinate OSC evacuation.</p> <p><u>EOE</u> RAC: Monitor radiological conditions and make appropriate recommendations for minimizing exposure during OSC relocation.</p>	X	<p>(1220) C-4 Ensure OSC is evacuated to the backup OSC.</p> <p>Controllers begin randomly hanging up phones in use to simulate loss of phone lines. Direct players to ignore ringing phones.</p> <p>Controller communications will continue unaffected on the PBX line.</p> <p>Remaining troubleshooting and repair scenario will be found in the OSC Main Scenarios, Appendix N</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1220	X	C-4	OSC Dir.	Relocate OSC functions to the backup OSC.	OSC Prepare and evacuate the OSC.		Deliver this message as directed by the Master Controller, only if OSC relocation has not yet been ordered.
1215							Cooldown continues, Release to the environment continues.
1230				Adjust Coolant Charging Pump Vibration Damper; due to continued cooldown and depressurization of the RCS.	Team will adjust CCP Pulsation dampers per procedure. No additional information or equipment indications beyond those in the applicable procedures are required.		Deliver to team leader assigned to adjust CCP pulsation dampers per 41A0-1ZZ06
1235					CS should elect to continue cooldown by steaming, but make preparations for shutdown cooling		Conditions are met for entering S/D cooling per 41A0-1ZZ06, App A, Pgs. 15 of 17, Step 26 RCS temp 289 F, Pri to S/G dip 67 psid, safety systems open.
1300	11	AC	ALL	Secure from the Exercise.	Secure from the exercise. Clean and re-stow emergency equipment. Prepare for facility critiques.		Deliver this message as directed by the master controller when the plant is ready to enter S/D cooling.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1 / All

TO: SS / All

MESSAGE NO. 1

TIME: 0730

LOCATION: Unit 2 Control Room (Simulator)

INSTRUCTION:

Pass the following message to the Shift Supervisor at this time.

Note:

Pass the following message to facility managers and key players in all facilities as they are manned in the course of the Exercise.

NOTE: Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-2

TO: SS, CO

MESSAGE NO. 2

TIME: 0800

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS and CO at this time.

Note:

Flex coupling has blown out during resin transfer. Approximately 5 - 6 kCi of normal hot resin have spilled on the floor of the Rad Waste Building. Elevated radiation levels due to the spill of resin.

Be aware of plant conditions. Attempt to validate the high radiation alarms in the Rad Waste Building. SS should realize that valid high radiation alarms in the area constitute an ALERT per FPIP-02 App B Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 0800

MESSAGE NO. 2

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS alarm

INDICATIONS IN CONTROL ROOM

RU-20 indicates 1000 mR/hr.

RU-21 indicates 500 mR/hr.

RU-22 indicates 7000 mR/hr.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RWO

MESSAGE NO. 3

TIME: 0800

LOCATION: Radwaste Building, Scene of resin transfer.

INSTRUCTION:

Pass the following message to RWO at this time.

Note:

Scene controller, posing as a RWG standing by at the scene, phones in the notification of the resin spill to extension 4444

Resin Transfer Scene:

Radwaste Operator notify Security, Fire Protection and the Control Room.

Security

Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification.

Fire Protection (FP)

Shift Captain, dispatch EMTs to the scene. Notify medical.

Unit 2 CR (Siml)

SS: Notify Radiation Protection (RP). Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: RWO

TIME: 0800

MESSAGE NO. 3

LOCATION: Radwaste Building, Scene of resin transfer.

MESSAGE:

Spent resin spill:

Flexible coupling blows out during transfer. Resin spills out onto the floor.

Local area radiation levels increase. RU-22 alarms, followed by RU-20 and -21.

Local area radiation levels indicate up to 7000 mR/hr.

One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, and is suffering from a compound fracture of the lower left leg.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RT Leader at DG-B

MESSAGE NO. 4

TIME: 0810

LOCATION: Diesel Generator B

INSTRUCTION:

Pass the following message to RT Leader at this time.

Note:

DG-B fuel oil transfer pump failed after pumping 100 gallons

RT informs Unit-2 Control Room (Sim.) and checks breaker for pump. Breaker PHB-M3212 is tripped and will not reset.

Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG train transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.

NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: RT Leader DG-B

TIME: 0810

MESSAGE NO. 4

LOCATION: Diesel Generator "B"

MESSAGE:

While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: EMT / RPT

MESSAGE NO. 5

TIME: 0815

LOCATION: Radwaste Building, Scene of resin spill

INSTRUCTION:

Pass the following message to EMT / RPT at this time.

Note:

EMTs and RPTs begin to arrive at the scene. Controller interact with EMTs and RPTs to provide information required to assess condition of the contaminated injured worker. EMTs and RPTs should determine that the worker is contaminated and requires transportation to an off-site medical facility.

NOTE: The remainder of the medical and radiological data relating to the contaminated injured worker will be provided from the Medical Emergency Scenario, Appendix M.

Fire Protection

EMTs: evaluate medical situation and begin immediate treatment. Report status of the victim to Unit 2 CR (Sim).

Security

Officer on-scene: Establish and maintain communications at the scene. Assist in transport of victims to the Site Medical Facility.

Security Shift Captain (SSC): Prepare for security support of handling and transport of the victim. Notify the vehicular access (sally) port.

RPT

Perform initial radiological assessment of the victim and the immediate area. Report the status to medical and the Unit 2 CR (Sim).

Unit 2 Control Room (Sim)

SS: Evaluate the RPT reports and continue to monitor the on-going events.

Determine injury and contamination status of the victim. Pass information to the CR.

DRILL MESSAGE FORM

THIS IS A DRILL!
**DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS**

TO: EMT / RPT

TIME: 0515

MESSAGE NO. 5

LOCATION: Radwaste Building, Scene of resin spill

MESSAGE:

EMTs and RPTs arrive at the scene of the Resin Spill.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS

MESSAGE NO. A

TIME 0835

LOCATION: Unit 2 Control Room (Sim 1)

INSTRUCTION:

Pass the following message to SS at this time.

Note:

Deliver this message only if SS has not declared the ALERT by this time.

Unit 2 Control Room

SS/On-shift Emergency Coordinator declare the ALERT. Direct notifications in accordance with (JAW) EPIP-04.

Satellite Technical Support Center (STSC)

STSC Communicator make appropriate notifications per EPIP-04.

Operations Support Center (OSC)

Begin Activation.

Technical Support Center (TSC)

Begin Activation.

Emergency Operations Facility (EOF)

Begin Activation.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS

TIME: 0835

MESSAGE NO. A

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Declare an ALERT per EPIP-02, Appendix B, Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C.J.

TO: SS, CO

MESSAGE NO. 6

TIME: 0902

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, CO at this time.

Note:

RCS tube leak (12%) starts in "A" Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, RU-139 ch-1 & 2 High alarm, and mismatch between charging and letdown flow.

Unit 2 Control Room (Sim)

Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor initiates the Emergency Plan per EPIP-02. Inform TSC/OSC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO SS CO.

TIME 0902

MESSAGE NO. 6

LOCATION: Unit 2 Control Room, Sim 1

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS Alarm

INDICATIONS IN CONTROL ROOM

RU-141 Alert alarm

RU-4 High alarm

RU-139 Channel 1 high alarm

RU-139 Channel 2 high alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-I

TO: SS, CO

MESSAGE NO. B

TIME: 0902

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, CO at this time.

Note:

Deliver this message only if the simulator is not operational.

Lowering Pressurizer level gives additional indications of RCS leak.

Unit 2 Control Room (Sim.)

Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor informs TSC/OSC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO.

TIME: 1702

MESSAGE NO. B

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

PZR Level Channel X deviation low

PZR Level Channel Y deviation low

INDICATIONS IN CONTROL ROOM

Pressurizer level indicates 50% and lowering slowly

Pressurizer backup heaters cycling in auto

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, AQ

TIME: 1700

MESSAGE NO. C

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination:
Charging Flow: 88 gpm
Letdown Flow: 66 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7262, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM C.I.

TO SS, AO

MESSAGE NO. D

TIME: 0905

LOCATION: Unit 2 Control Room (Sim)

INSTRUCTION:

Pass the following message to SS, AO at this time.

Note:

Deliver to AO if Simulator is not operational, when performing second leak rate determination:

35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.

Unit 2 Control Room (Sim)

AO report to SS/Shift EC. Continue leak rate determination.

SS report to TSC/OSC

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, AD

TIME: 0905

MESSAGE NO. D

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination

Charging Flow: 85 gpm

Letdown Flow: 53 gpm

UNIT 2 CR (SIMULATOR) PHONE: N7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, AO

MESSAGE NO: F

TIME: 10:13

LOCATION: Unit 2 Control Room (Sim)

INSTRUCTION

Pass the following message to SS, AO at this time.

Note:

[use 12% break for the 15 minute leak rate check].

Deliver to AO if Simulator is not operational, when performing second leak rate determination:
58 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.

41AO-1ZZ08 Step 2 should be complete by this time to minimize release to the environment.

NOTE: Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties. Controllers must pay attention to player decision-making process on mode of shutdown. Controllers may need to increase the leak rate to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage from a rapid power reduction or trip.

Unit 2 Control Room (Sim)

AO report to SS/Shift EC.

SS report to TSC/OSC

Technical Support Center

EC recognizes that > 44 gpm leak rate is a redundant indication for ALERT per EPIP-02, App B, Tab 2.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, GD

TIME: 0813

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination
Charging Flow: 88 gpm
Leidown Flow: 30 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS / Shift EC

TIME: 1814

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

DO NOT TRIP THE UNIT.

Per 41AQ-12Z08.4.0: "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7201, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 0330

MESSAGE NO: 7

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM
RMS Alarm

INDICATIONS IN CONTROL ROOM
RU-5 ALERT alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLED INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO. G

TIME: 1006

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Deliver this message only if simulator is inoperative, when operators trip "B" Main Feed Pump.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1700

MESSAGE NO: G

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

FW Pump 7B Disch Vlv Pos. N1 Open
FWPT B Hyd Cont Press Trip
FWPT B HP SV Pos Closed
FWPT B LF SV Pos Closed

INDICATIONS IN CONTROL ROOM

"B" Main Feed Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO. 18

TIME: 1010

LOCATION: Unit 2 Control Room (Sim 1)

INSTRUCTION:

Pass the following message to SS CO at this time.

Notes:

Deliver this message only if the simulator is inoperative, when operators trip "B" Main Condensate Pump.

Reactor Shutdown continues, Reactor power at 51%.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS-CD

TIME: 1030

MESSAGE NO. H

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

CNDS Pump B Disch Vlv Pos Not Open
CNDS Pump B Regirn Flow Low

INDICATIONS IN CONTROL ROOM

"B" Main Condensate Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO SS/CO

TIME 1015

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates 4 mils.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1032

MESSAGE NO. K

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

VCT Level Low
PZR Nar Rnge Press Ch A Low
PZR Nar Rnge Press Ch B Low
PZR Nar Rnge Press Ch C Low
PZR Wide Rnge Press Ch A Low
PZR Wide Rnge Press Ch B Low
PZR Wide Rnge Press Ch C Low
PZR Wide Rnge Press Ch D Low
PZR Level Ch X Deviation Low
PZR Level Ch Y Deviation Low

INDICATIONS IN CONTROL ROOM

VCT Level indicates 31.9%
PZR Press indicates 2218 psia

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1035

MESSAGE NO: 1

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

INDICATIONS IN CONTROL ROOM

Master Turb Trip
Gen/Reac Initiated Trip
125V Trip Bus Energized
Remote Man RPS Ch A
Ch A Trip Ckt Bkr Pos
Remote Man RPS Ch B
Ch B Trip Ckt Bkr Pos
Remote Man RPS Ch C
Ch C Trip Ckt Bkr Pos
Remote Man RPS Ch D
Ch D Trip Ckt Bkr Pos
CEDM Pwr Bus UNDV 1, 2, 3, 4
CEA 01 through 89 at Btm
Steam Bypass Valve 1 - 6 Open Permissive
SIAS A Man Act
CIAS A Man Act
DG Start Signal A Actuated
DG Start Signal B Actuated

Reactor Trip
Turbine Trip
Generator Trip
All CEAs indicate fully inserted

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME 1040

MESSAGE NO. M

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm
Loose Parts Monitor Alarm
RMS Alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates > 10 mils.
RCP-1A Indicates Tripped
Loose Parts Monitor indicator alarms on lower vessel head and S/G #1 low or head
RU-16, -17, -148 High Alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS

TIME: 1050

MESSAGE NO: N

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Implement high rate blowdown on S/G #1 to keep level below 80%

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: CO

TIME: 1055

MESSAGE NO. P

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

INDICATIONS IN CONTROL ROOM

Spray valves indicate shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: FC

TIME: 1101

MESSAGE NO. Q

LOCATION: Technical Support Center

MESSAGE:

Declare a SITE AREA EMERGENCY per EDIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity".

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1100

MESSAGE NO. R

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM
SESS Alarm

INDICATIONS IN CONTROL ROOM
SC-221 (Downcomer Sample Line) is shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1130

MESSAGE NO. T

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO. U

TIME: 1035

LOCATION: Unit 2 Control Room (Sim 1)

INSTRUCTIONS:

Pass the following message to SS CO at this time.

Note:

Deliver this message if the simulator is not operating.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS:CO

TIME: 1045

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

MSRV Trouble Alarm

INDICATIONS IN CONTROL ROOM

#1 S/G Safety valve indicates open.

UNIT 2 CR (SIMULATOR) PHONE: N7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, CO

TIME: 1145

MESSAGE NO. 8

LOCATION: Outside of Unit 2 near the MSSS

MESSAGE:

Call in the following message to pass to the Unit 2 Control Room (Simulator):
"I just heard a loud noise from the direction of the Unit 2 MSSS. There was a large amount of steam visible flowing out from the top."

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: OSC Coordinator

TIME: 1155

MESSAGE NO. 9

LOCATION: OSC

MESSAGE:

You are having trouble hearing announcements over the plant page speaker in the OSC.

UNIT 2 CP (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: OSC Coordinator

TIME: 1210

MESSAGE NO: 10

LOCATION: Operations Support Center

MESSAGE:

Electrician troubleshooting low volume on plant range speaker at OSC returned with step ladder. While setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the speaker, and breaks it off. The entire OSC is immediately and continuously sprayed with water (approximately 40 gpm). As the main pressure drops, the fire pump starts. If tested head pressure increases spray flow rate to 75gpm.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DEPL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: OSC Director

TIME: 1220

MESSAGE NO. N

LOCATION: Operations Support Center

MESSAGE:

Relocate OSC functions to the backup OSC.

UNIT 2 CR (SIMULATOR) PHONE: N7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

PS PVNGS

APP B-60

R: 04/21/92

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: AC

TO: ALL

MESSAGE NO. 11

TIME: 1300

LOCATION: All Facilities

INSTRUCTION:

Pass the following message to All Facility Managers at this time.

Note:

Deliver this message as directed by the master controller when all objectives have been demonstrated, and the plant is ready to enter shutdown cooling.

All Plants

Secure from the exercise.

Clean and re-stow emergency equipment.

Prepare for facility critiques.

CONTROLLER INSTRUCTIONS

C. LL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: from

TO: to

MESSAGE NO. number

TIME: time

LOCATION: location

INSTRUCTION

Pass the following message to for at this time.

Notes

Note:

actions

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	1.60E-11	1.60E-11	1.60E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	5.25E-07	5.25E-07	5.25E-07	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.12E-01	1.12E-01	1.12E-01	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	1.00E+00	1.00E+00	1.00E+00	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	3.16E-01	3.16E-01	3.16E-01	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	7.87E-01	7.87E-01	7.87E-01	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

Monitor	DRILL+ Units	60	70	80	90	100	110
		0830	0840	0850	0900	0910	0920
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	3.28E-02	6.37E-02	9.19E-02
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	5.78E-06	1.12E-05	1.62E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	2.70E-03	2.61E-03	2.43E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.37E+04	2.33E+04	2.14E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.24E+04	2.21E+04	2.03E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.20E-01	1.46E-01	1.72E-01	1.97E-01	2.21E-01	2.46E-01
RU-5	uCi/cc	2.11E-05	2.58E-05	3.03E-05	3.46E-05	3.89E-05	4.31E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-139 Ch 2	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.44E-03	2.42E-03	2.34E-03	2.32E-03	2.36E-03	2.38E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.11E+04	2.08E+04	2.06E+04	2.03E+04	2.01E+04	1.98E+04
RU-151	mR/hr	2.00E+04	1.97E+04	1.95E+04	1.92E+04	1.90E+04	1.88E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	3.76E-01	1.34E+02	2.63E+02	3.89E+02	5.12E+02	6.33E+02
RU-5	uCi/cc	6.60E-05	4.60E-02	9.05E-02	1.34E-01	1.32E-01	1.30E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.54E+02	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-139 Ch 2	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.17E-03	2.27E-05	2.26E-05	2.25E-05	2.24E-05	2.23E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-148	R/hr	1.00E+00	2.28E+03	2.27E+03	2.26E+03	2.25E+03	2.25E+03
RU-149	R/hr	1.00E+00	1.09E+02	1.06E+02	1.06E+02	1.06E+02	1.05E+02
RU-150	mR/hr	1.96E+04	3.85E+07	3.81E+07	3.77E+07	3.74E+07	3.70E+07
RU-151	mR/hr	1.86E+04	3.64E+07	3.61E+07	3.57E+07	3.54E+07	3.51E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	7.90E+01	1.40E+07	1.39E+07	1.38E+07	1.36E+07	1.35E+07
RU-157 Ch 2	mR/hr	1.00E+01	1.37E+02	1.36E+02	1.35E+02	1.34E+02	1.33E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL*	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	7.50E+02	8.65E+02	9.77E+02	1.09E+03	1.19E+03	1.30E+03
RU-5	uCi/cc	1.29E-01	1.27E-01	1.25E-01	1.24E-01	1.22E-01	1.21E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-139 Ch 2	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.23E-05	2.22E-05	2.21E-05	2.20E-05	2.20E-05	2.19E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-148	R/hr	2.24E+03	2.23E+03	2.22E+03	2.22E+03	2.21E+03	2.20E+03
RU-149	R/hr	1.05E+02	1.05E+02	1.04E+02	1.04E+02	1.04E+02	1.03E+02
RU-150	mR/hr	3.67E+07	3.64E+07	3.61E+07	3.58E+07	3.55E+07	3.52E+07
RU-151	mR/hr	3.48E+07	3.45E+07	3.42E+07	3.39E+07	3.36E+07	3.34E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.34E+07	1.33E+07	1.31E+07	1.30E+07	1.27E+07	1.23E+07
RU-157 Ch 2	mR/hr	1.32E+02	1.31E+02	1.30E+02	1.28E+02	1.26E+02	1.23E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

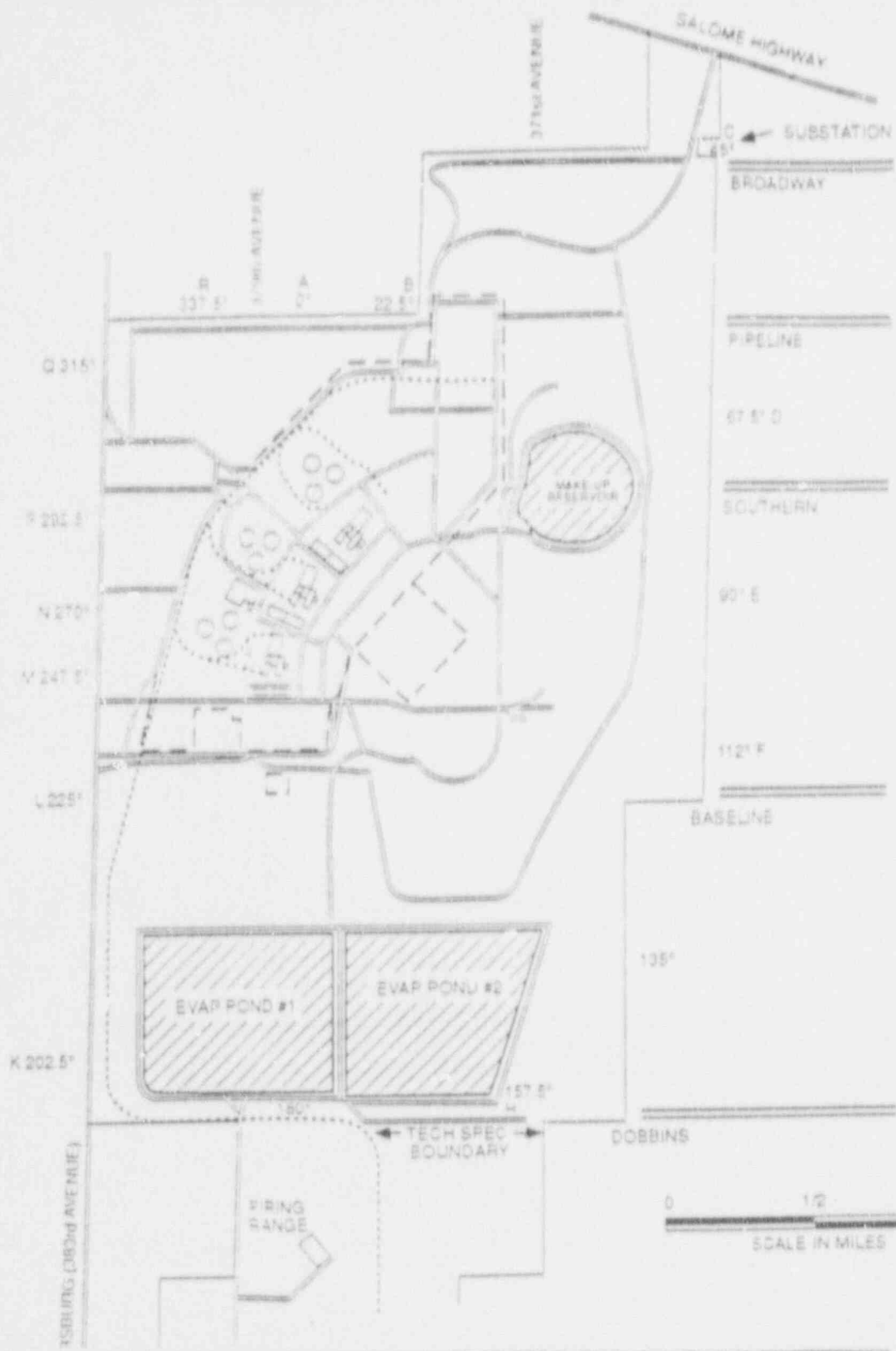
	DRILL+	300	310	320	330	340	350
Monitor	Units	1230	1240	1250	1300	1310	1320
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.40E+03	1.50E+03	1.60E+03	1.69E+03	1.79E+03	1.88E+03
RU-5	uCi/cc	1.20E-01	1.18E-01	1.17E-01	1.16E-01	1.14E-01	1.13E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-139 Ch 2	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.19E-05	2.18E-05	2.17E-05	2.17E-05	2.17E-05	2.16E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Monitor	DRILL+ Units	300	310	320	330	340	350
		1230	1240	1250	1300	1310	1320
RU-148	R/hr	2.20E+03	2.19E+03	2.18E+03	2.18E+03	2.17E+03	2.17E+03
RU-149	R/hr	1.03E+02	1.03E+02	1.02E+02	1.02E+02	1.01E+02	1.01E+02
RU-150	mR/hr	3.50E+07	3.47E+07	3.45E+07	3.42E+07	3.40E+07	3.37E+07
RU-151	mR/hr	3.31E+07	3.29E+07	3.26E+07	3.24E+07	3.21E+07	3.19E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.20E+07	1.17E+07	1.13E+07	1.10E+07	1.07E+07	1.03E+07
RU-157 Ch 2	mR/hr	1.21E+02	1.19E+02	1.16E+02	1.14E+02	1.12E+02	1.09E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	8.00E+06	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	360	370	390	390
Monitor	Units	1330	1340	1350	1400
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.98E+03	2.07E+03	2.17E+03	2.27E+03
RU-5	uCi/cc	1.12E-01	1.10E-01	1.08E-01	1.07E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-139 Ch 2	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.16E-05	2.15E-05	2.15E-05	2.14E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Monitor	RILL+ Units	360 1330	370 1340	380 1350	390 1400
RU-148	R/hr	2.16E+03	2.15E+03	2.15E+03	2.14E+03
RU-149	R/hr	1.00E+02	9.86E+01	9.81E+01	9.75E+01
RU-150	mR/hr	3.35E+07	3.32E+07	3.30E+07	3.27E+07
RU-151	mR/hr	3.16E+07	3.14E+07	3.1E+07	3.09E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+07	9.67E+06	9.33E+06	9.00E+06
RU-157 Ch 2	mR/hr	1.07E+02	1.05E+02	1.02E+02	1.00E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01

A 0°
 AB 11°
 B 22.5°
 BC 34°
 C 45°
 CD 56°
 D 67.5°
 DE 79°
 E 90°
 EF 101°
 F 112°
 FG 124°
 G 135°
 GH 146°
 H 157.5°
 HI 169°
 J 180°
 JK 191°
 K 202.5°
 KL 214°
 L 225°
 LM 236°
 M 247.5°
 MN 259°
 N 270°
 NP 281°
 P 292.5°
 PQ 304°
 Q 315°
 QR 326°
 R 337.5°
 RA 349°



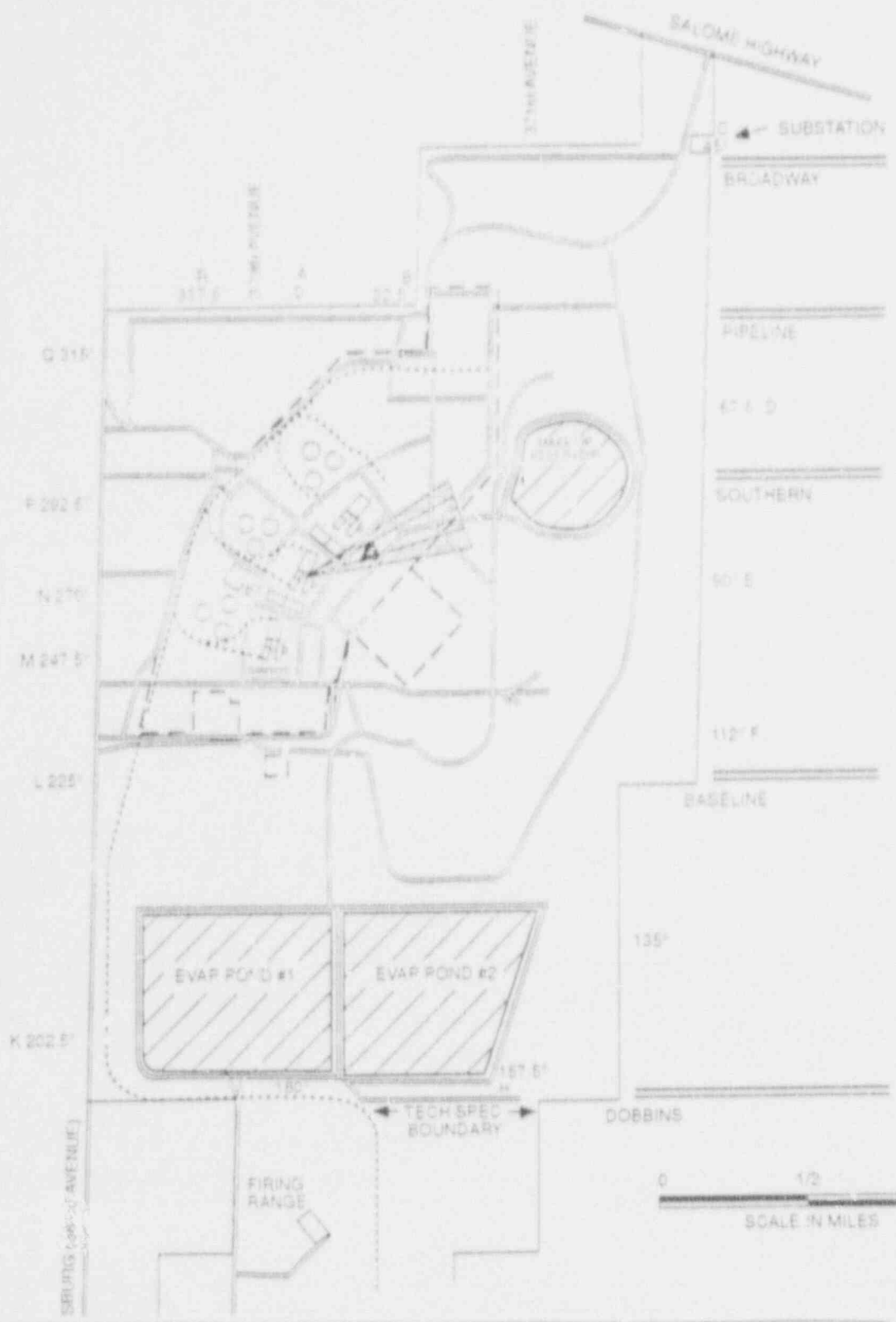
Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Iodine Calc.	Breaks
	W.C. (mR/hr)	W.C. (mR/hr)	Fissher (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fissher (cpm)	Ag2 Cartridge	Filter Paper	(uCi/cp)	(uCi)
	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ
ALL	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ

ON SITE INSTRUMENT READINGS

TIME: 7:00:11.50



- A 0
- AB 11'
- B 23.5
- BC 34
- C 45
- CD 56
- D 67.5
- DE 79
- E 90'
- EF 101
- F 112
- FG 124
- G 135
- GH 146
- H 157.5
- I 169
- J 181
- JK 191
- K 202.5
- KL 214
- L 225
- LM 236
- M 247.5
- MN 259
- N 270'
- NP 281
- P 292.5
- PO 304
- Q 315
- QR 326
- R 337.5
- RA 349



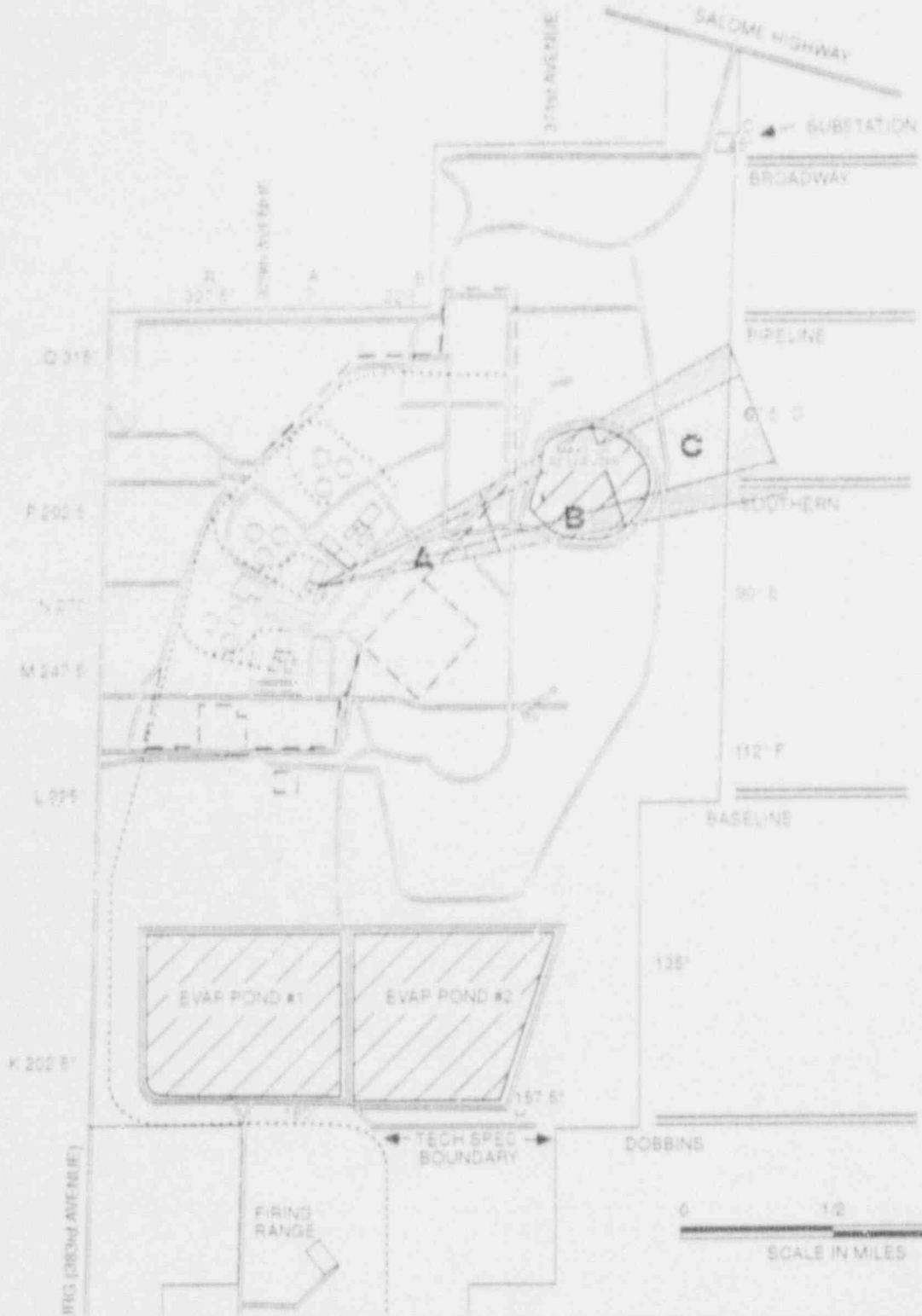
Flume Location	Centerline Data Rate				Edge of Flume Data Rate			Air Sampling		Index Calc	Smears
	W.C. (m³/hr)	W.C. (m³/hr)	Frooket (ppm)	v.c. (m³/hr)	W.C. (m³/hr)	Frooket (ppm)	Agd Ferridge	Filter Paper			
A	53600	26800	> 100,000	5360	2680	> 100,000	> 236, m³/hr	AS READ	0.96E04	AS READ	

ON-SITE INSTRUMENT READINGS

TIME: 11:40 - 12:00



- A 0
- AB 11
- B 22.5
- BC 34
- C 41
- CD 56
- D 67.5
- DE 79
- E 90
- ER 101
- F 112
- FG 124
- G 135
- GH 146
- H 157.5
- I 169
- J 181
- JK 191
- K 202.5
- KL 214
- L 225
- LM 236
- M 247.5
- MN 259
- N 270
- NP 281
- P 292.5
- PD 304
- Q 315
- QR 326
- R 337.5
- RA 349



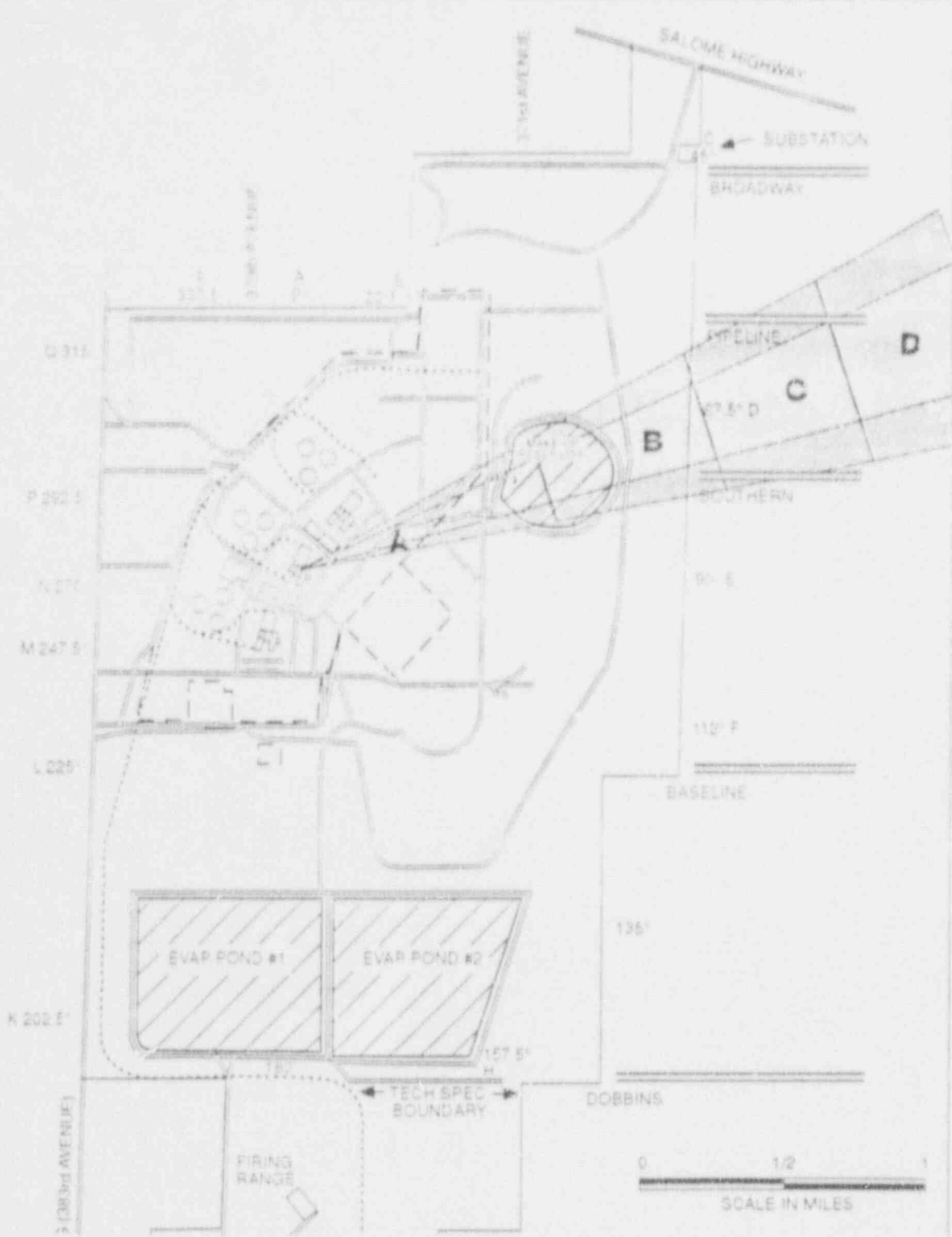
Flume Location	Centerline Data			Edge of Pile Data			Air Samples		Wind Dir	Speed
	W.C. (mR/hr)	W.C. (mR/hr)	Flux (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Flux (cpm)	Ag2 Cartridge	Filter Paper		
A	43760	21879	>100 DCC	4376	2188	>100 DCC	1625 m-Rm	AS READ	8.13E 04	AS READ
B	16380	8190	>100 DCC	1638	819	>100 DCC	985 m-Rm	AS READ	3.04E 04	AS READ
C	764	382	>100 DCC	764	382	>100 DCC	458 m-Rm	AS READ	1.42E 04	AS READ

ON SITE INSTRUMENT READINGS

TIME: 12:00 - 12:10



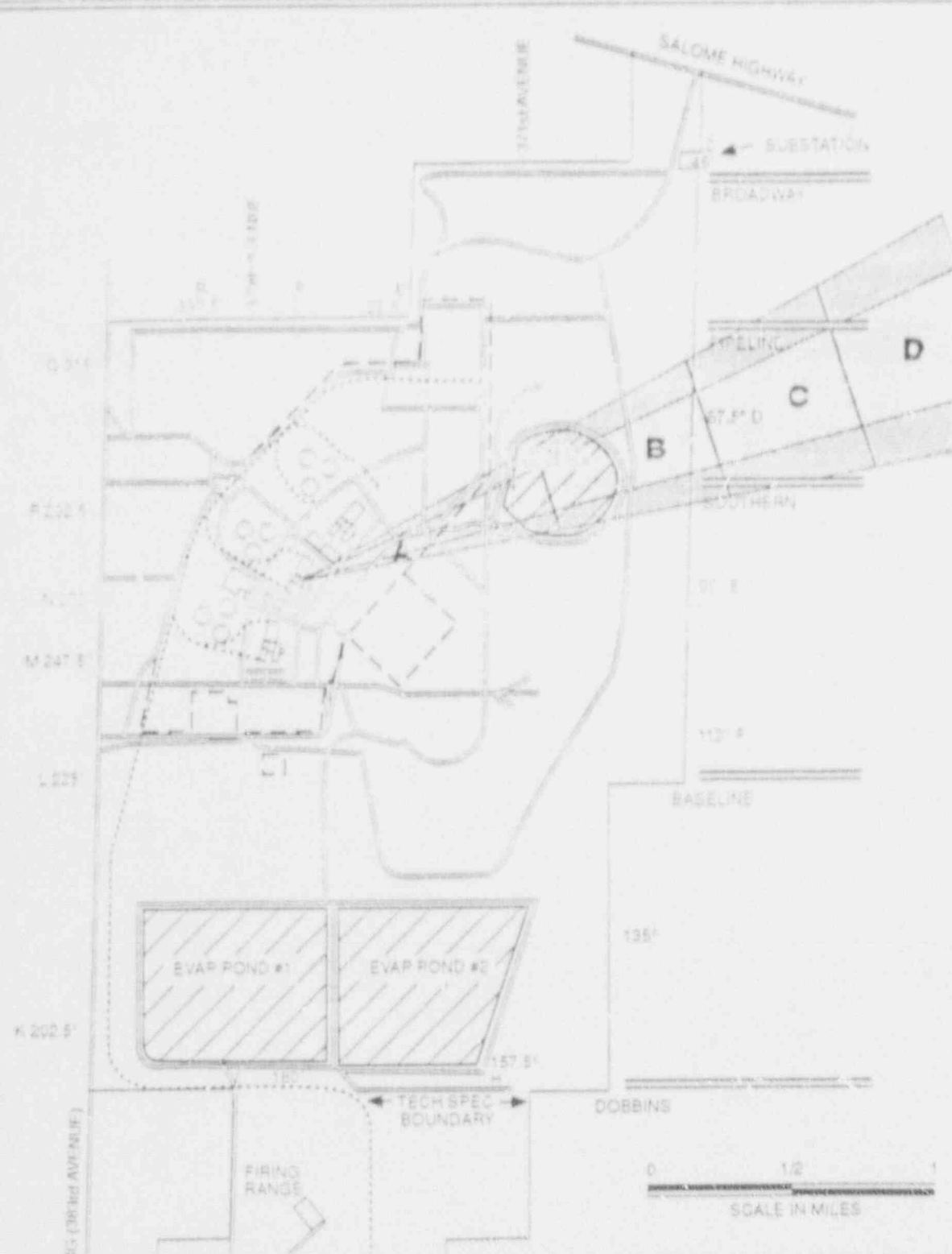
- A 0'
- AB 11'
- B 22 2'
- BC 34'
- C 45'
- CD 56'
- D 67 4'
- DE 78'
- E 89'
- F 100'
- G 111'
- H 122'
- I 133'
- J 144'
- K 155'
- L 166'
- M 177'
- N 188'
- O 199'
- Q 210'
- R 221'
- S 232'
- T 243'
- U 254'
- V 265'
- W 276'
- X 287'
- Y 298'
- Z 309'
- AA 320'
- AB 331'
- AC 342'



Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Sampler		Inland Cell	Screens
	W.C. (mR/hr)	W.C. (mR/hr)	Filter (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Filter (cpm)	Count per Minute	Filter		
							Ag2 Cartridge	Paper	(uCi/ml)	(cpm)
A	24091	12041	>100,000	2408	1204	>100,000	1445 mR/hr	AS READ	4.47E-04	AS READ
B	9480	4745	>100,000	948	474	>100,000	569 mR/hr	7.3 READ	1.78E-04	AS READ
C	545	272	>100,000	54	27	>100,000	327 mR/hr	AS READ	1.01E-04	AS READ
D	3727	1864	>100,000	373	186	>100,000	224 mR/hr	AS READ	6.92E-05	AS READ

ON-SITE INSTRUMENT READINGS
 TIME: 11:10 - 12:10

- A 0'
- AB 11'
- B 20.5'
- BC 34'
- C 45'
- CD 55'
- D 61.5'
- DE 75'
- E 80'
- F 101'
- G 112'
- H 124'
- I 135'
- J 148'
- K 157.5'
- L 160'
- M 190'
- N 191'
- O 202.5'
- P 214'
- Q 225'
- UM 238'
- V 247.5'
- W 259'
- X 270'
- Y 281'
- Z 292.5'
- AA 304'
- AB 315'
- BC 326'
- CD 337.5'
- DE 340'



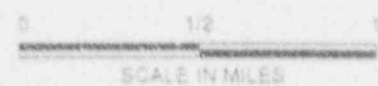
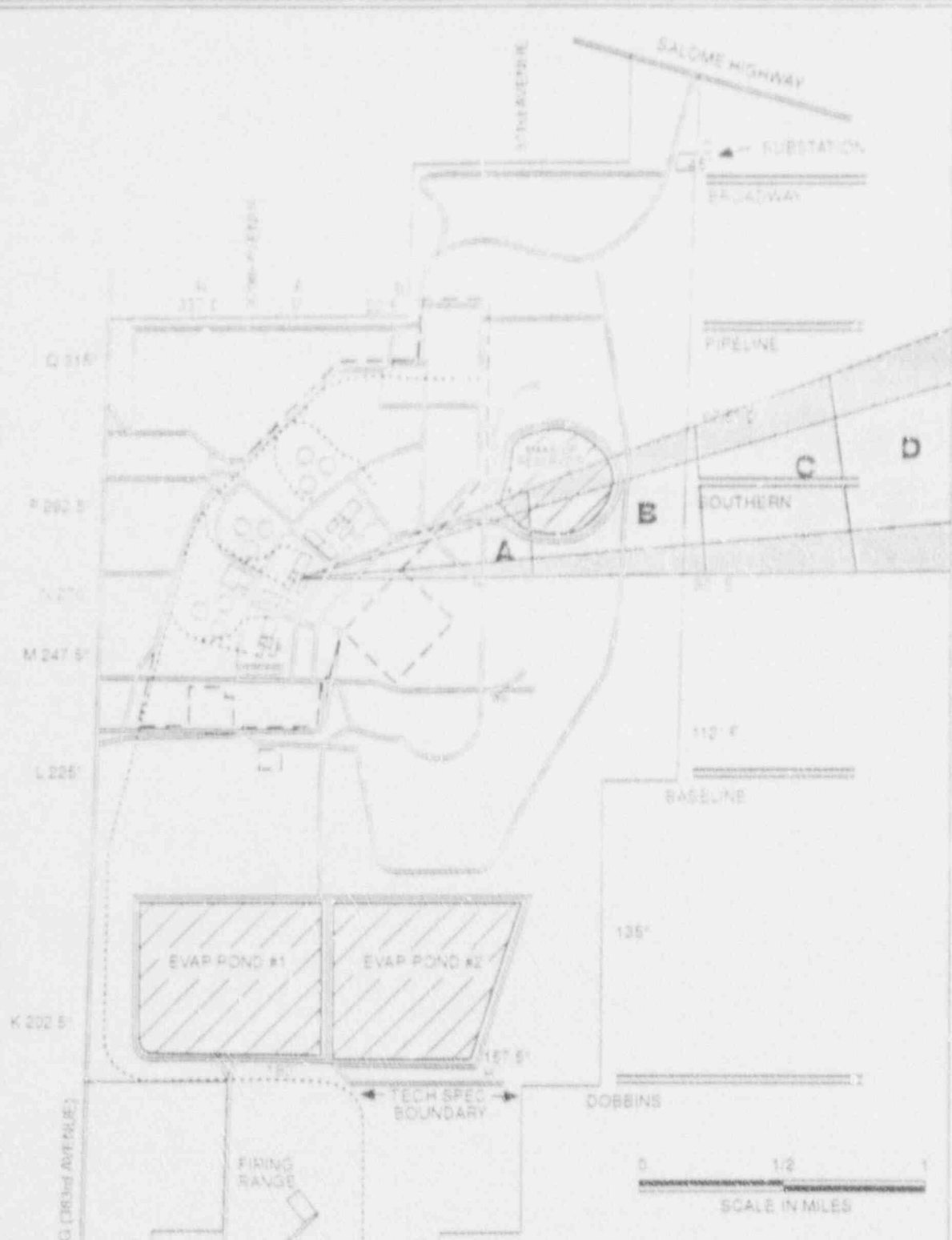
Plume Location	Centimeter Data Rate			Edge of Plume Data Rate			Air Samples Counts per Minute			Wind Calc	Remarks
	W.C. (mR/hr)	W.C. (mR/hr)	Fraser (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fraser (cpm)	Age	Filter	Filter		
A	2592	1326	> 100,000	2457	1327	> 100,000	1572	mR/hr	AS READ	4.83E-04	AS READ
B	1447	8274	> 100,000	1047	833	> 100,000	676	mR/hr	AS READ	347.04	AS READ
C	8018	2008	> 100,000	801	801	> 100,000	361	mR/hr	AS READ	121.04	AS READ
D	4117	1053	> 100,000	412	208	> 100,000	247	mR/hr	AS READ	7.83E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:20 - 12:30



- A 0'
- AB 11'
- B 22'
- EC 34'
- C 45'
- CD 56'
- D 67'
- DE 79'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157'
- KJ 168'
- K 179'
- KL 191'
- L 202'
- LM 213'
- M 224'
- MN 235'
- N 247'
- NP 258'
- P 269'
- PO 281'
- Q 292'
- OR 303'
- R 314'
- RA 325'
- RA 337'
- RA 349'

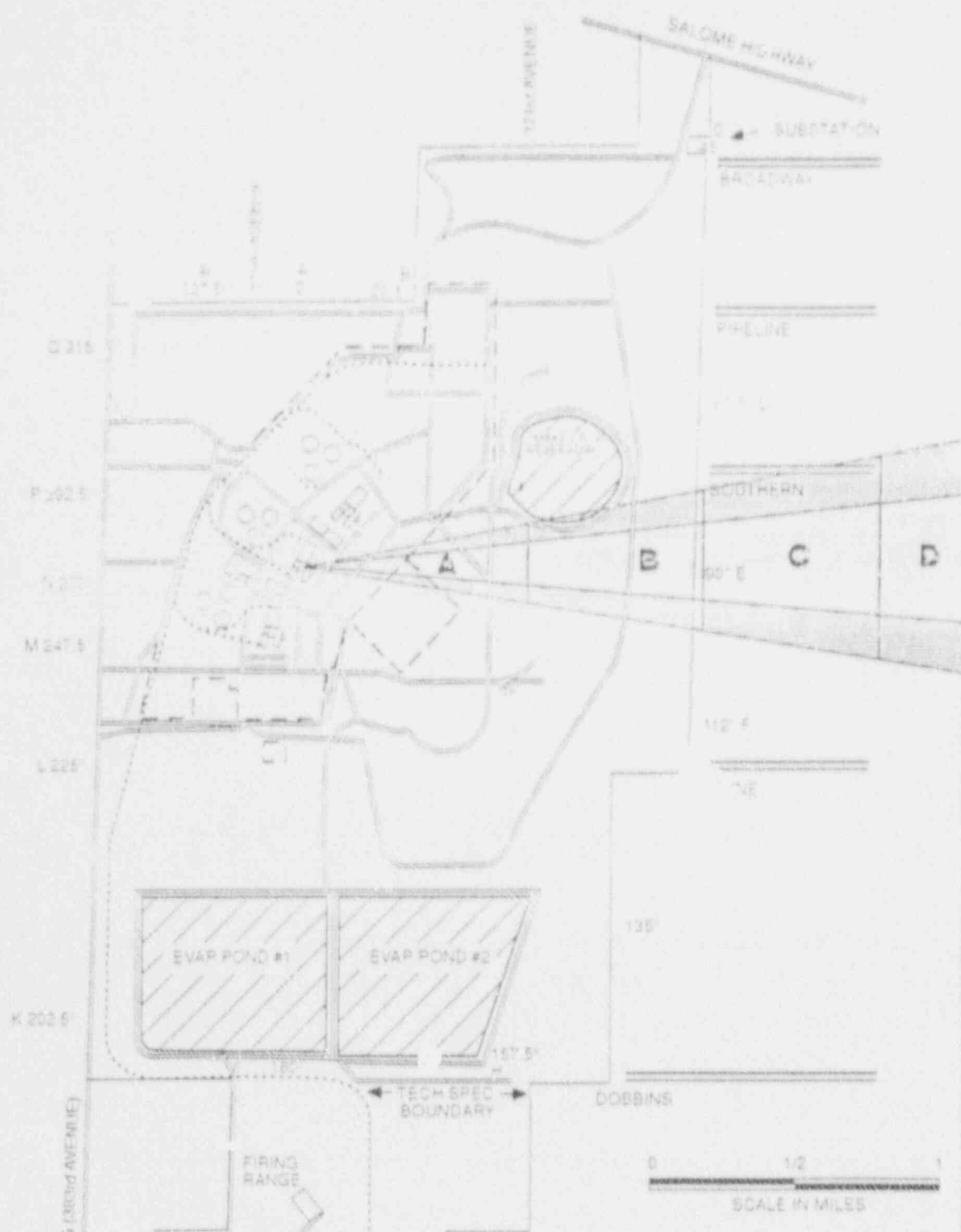


Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			All Samples Counts per Minute		Filter	Date	Time	Smear
	W.C. (mR/hr)	W.C. (mR/hr)	Froster (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Froster (cpm)	Ag2 Cartridge	Filter				
A	1845	873	> 100,000	1847	873	> 100,000	1168 mR/hr	AS READ		3 625 04	AS READ	
B	705	351	> 100,000	725	353	> 100,000	423 mR/hr	AS READ		3 115 04	AS READ	
C	411	205	> 100,000	411	205	> 100,000	247 mR/hr	AS READ		1 635 05	AS READ	
D	305	150	> 100,000	305	150	> 100,000	180 mR/hr	AS READ		5 585 05	AS READ	

ON SITE INSTRUMENT READINGS
 TIME: 12:20 - 12:40



- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- CD 56'
- D 67.5'
- DE 79'
- E 90'
- E' 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- HJ 169'
- J 180'
- K 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 259'
- N 270'
- NP 281'
- P 292.5'
- PO 304'
- O 315'
- OR 326'
- R 337.5'
- RA 349'



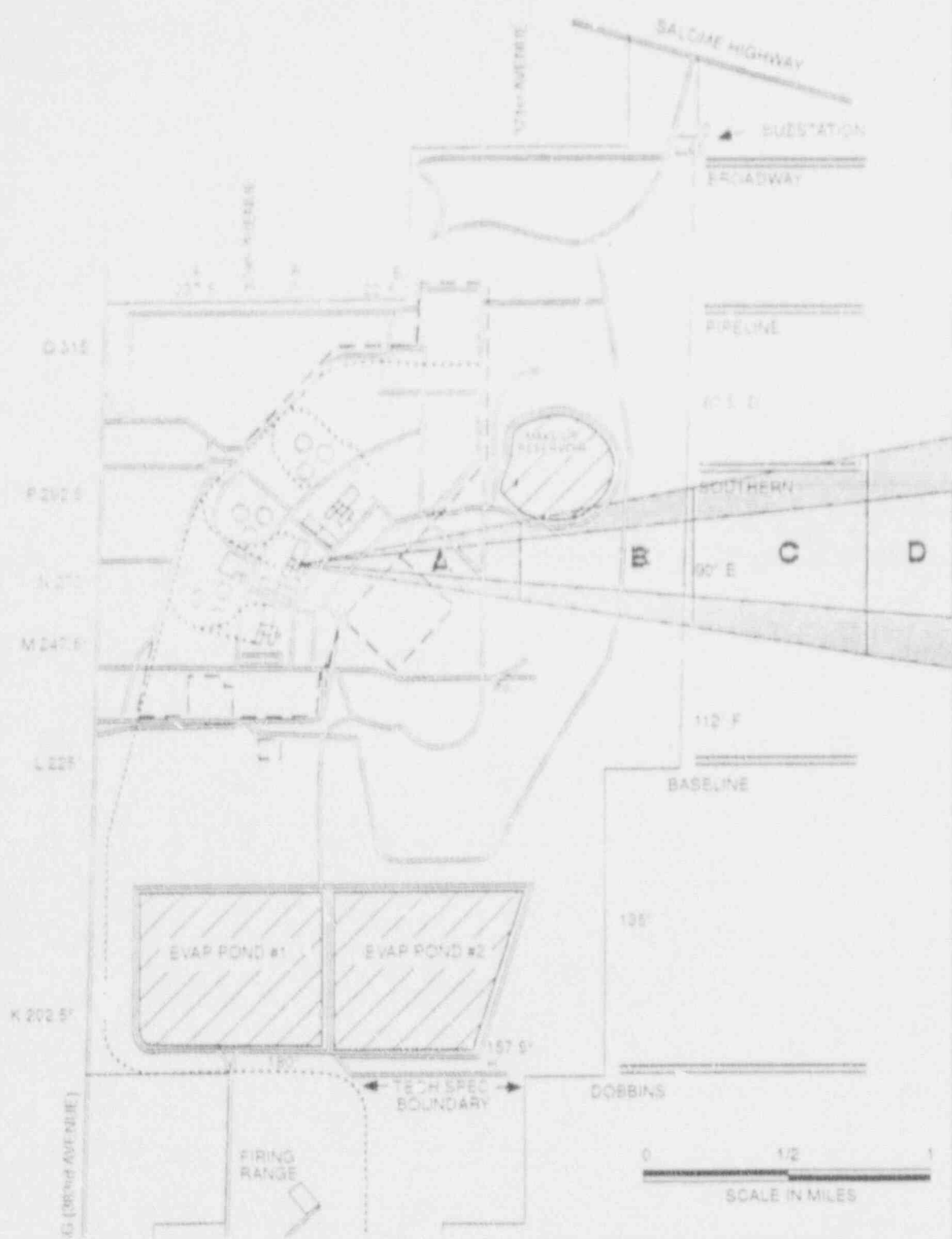
Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Smoke Cas.	Smears
	W.C. (mR/hr)	W.C. (μR/hr)	Fixed (cpm)	W.C. (mR/hr)	W.C. (μR/hr)	Fixed (cpm)	Ag2 Centridge	Total Paper		
A	16872	8435	> 100,000	1687	844	> 100,000	1012 mR/hr	AS READ	2.13E 04	AS READ
B	4012	2005	> 100,000	401	201	> 100,000	361 mR/hr	AS READ	1.12E 04	AS READ
C	3045	1523	> 100,000	305	152	> 100,000	182 mR/hr	AS READ	1.88E 04	AS READ
D	2408	1204	> 100,000	24	12	> 100,000	148 mR/hr	AS READ	4.47E 04	AS READ

ON-SITE INSTRUMENT READINGS

TIME: 11:40 - 11:50



- A 0
- AB 11
- B 22
- BC 34
- C 45
- CD 56
- D 67
- DE 79
- E 90
- EF 101
- F 111
- FG 124
- G 135
- GH 146
- H 157
- I 169
- J 180
- K 191
- KL 202
- L 214
- M 225
- N 236
- OP 247
- P 259
- Q 270
- R 281
- S 292
- T 303
- U 314
- OR 325
- R 337
- SA 349



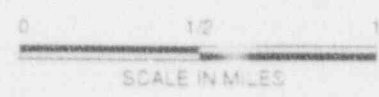
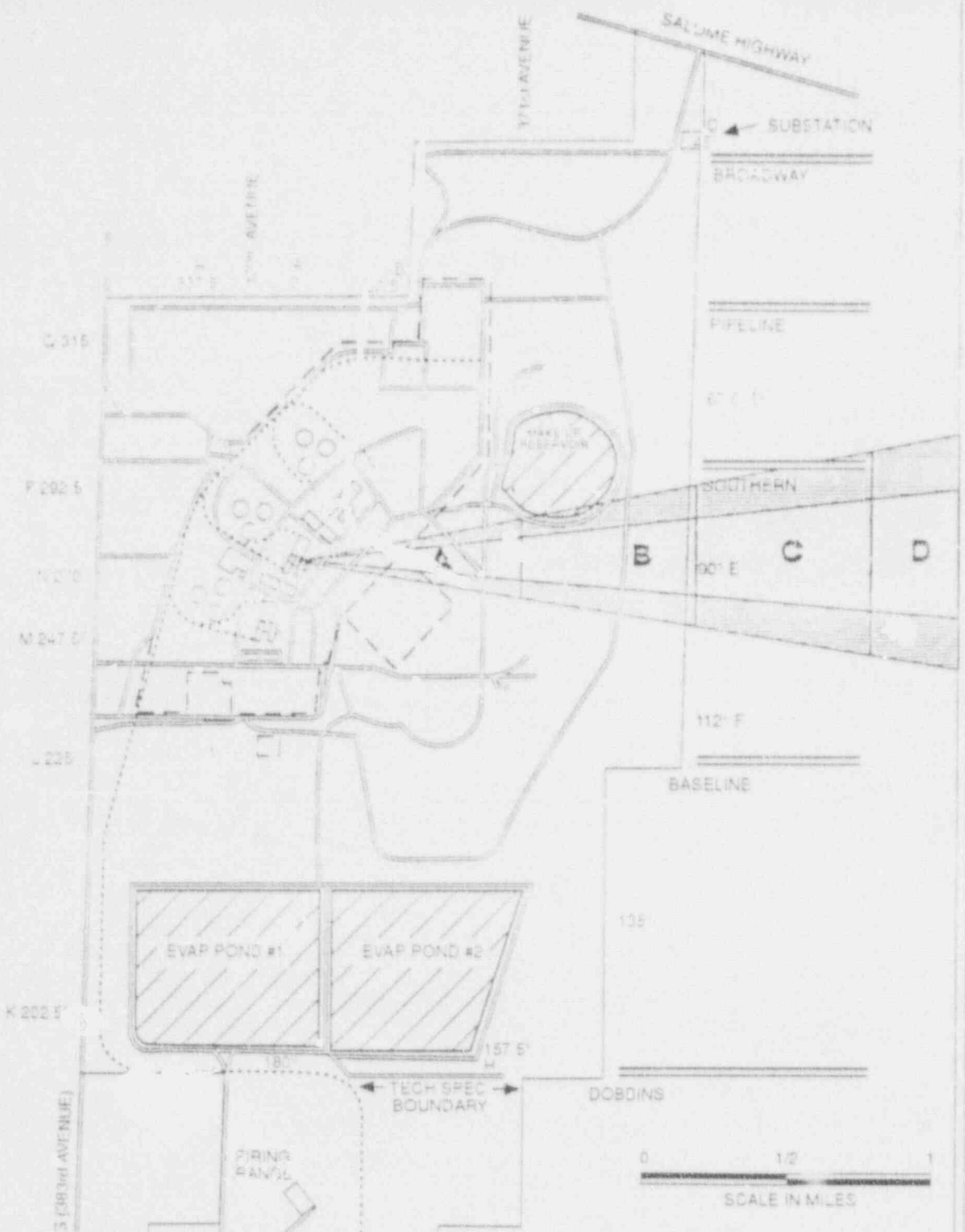
Plume Location	Leak Rate				Edge of Plume			Air Sample Counts per Minute		Wind Calc	Shaded
	Down Axis		Easier	Down Axis		Easier	ApZ Cartridge	Filter Paper			
	W/D (mR/hr)	W/C (mR/hr)		W/D (mR/hr)	W/C (mR/hr)						
A	1784	877	> 100,000	1784	877	> 100,000	1062 mR/hr	AS READ	6.52' 24	AS READ	
B	6247	3124	> 100,000	625	312	> 100,000	375 mR/hr	AS READ	1.166 04	AS READ	
C	2103	1052	> 100,000	216	108	> 100,000	180 mR/hr	AS READ	4.888 05	AS READ	
D	2501	1251	> 100,000	250	125	> 100,000	150 mR/hr	AS READ	4.888 05	AS READ	

ON-SITE INSTRUMENT READINGS

TIME 11:50 - 12:00



- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- D 56'
- E 67.5'
- F 79'
- G 90'
- H 101'
- I 112'
- J 124'
- K 135'
- L 146'
- M 157.5'
- N 169'
- O 180'
- P 191'
- Q 202.5'
- R 214'
- S 225'
- T 236'
- U 247.5'
- V 259'
- W 270'
- X 281'
- Y 292.5'
- Z 304'
- AA 315'
- AB 327'
- BA 338'
- CA 349'



Pump Location	Centerline Data Rate			Edge of Plume Data Rate			Air Samples		Iodine Conc.	Smears
	W.C. (mR/hr)	W.C. (mR/hr)	Filter (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Filter (cpm)	Counts per Minute			
							Ag2 Cartridge	Filter Paper		
A	17803	8802	> 100,000	1780	880	> 100,000	1056 mR/hr	AS READ	5.27E-04	AS READ
B	8280	3140	> 100,000	628	314	> 100,000	377 mR/hr	AS READ	1.12E-04	AS READ
C	3184	1592	> 100,000	318	159	> 100,000	181 mR/hr	AS READ	4.91E-05	AS READ
D	2519	1260	> 100,000	252	126	> 100,000	151 mR/hr	AS READ	4.68E-05	AS READ

ON SITE INSTRUMENT READINGS
TIME: 13:00 - 14:00



10 MILE ENVIRONMENTAL DATA: 08:00 - 11:50

ENVIRONMENTAL DATA

TIME: 2:00-11:50

Plume Location	Concentration		Edge of Plume		Air Samplers		Indices	
	W.C. (initial) AS READ	W.C. (initial) AS READ	W.C. (initial) AS READ	W.C. (initial) AS READ	AgZ (initial) AS READ	AgZ (initial) AS READ	Index	Scale
ALL								



- Postal Road
- Improved Road
- Other Road
- Footroad
- Transportation Line
- School
- Substation
- House
- Well



Palto Verde School

10 MILE
ENVIRONMENTAL DATA

Table 11-5D 12-00

Pump Location	Concentration		Edge of Plume		At Substation		Inflow	
	W.C. (mg/l)	Fractal (mg/l)	W.C. (mg/l)	Fractal (mg/l)	Capacitance (mg/l)	Flow (mg/l)	Capacitance (mg/l)	Flow (mg/l)
1	5.27/4	3.197-050	5.277	> 100 (0.00)	3165	AS HEAD	5.808/24	8.5/20/25
	2638		2639					



10 MILE
ENVIRONMENTAL DATA

1000 12 00 12 10

Pollution Location	Concentration		Waste Rate		Waste Point		Waste Point		A. Status		Air Status	
	W.C. (ppm)	W.C. (ppm)	W.C. (ppm)	W.C. (ppm)	W.C. (ppm)	W.C. (ppm)	W.C. (ppm)	W.C. (ppm)	Consist. per E. code	Ap. 2	Consist. per E. code	Station
1	15,000	8150	>100,000	1630	815	>100,000	978	978	978	978	978	978
2	2828	3914	>100,000	283	391	>100,000	431	431	431	431	431	431



10 MILE
ENVIRONMENTAL DATA

1968 12-10-12-20

Phase Location	Constituent		Edge of Inverse		Air Emission		Inflow Calc.	Stream
	W.C. (mcf/ft)	W.C. (mcf/ft)	W.C. (mcf/ft)	W.C. (mcf/ft)	Agg. Contingent	Filter Project		
1	18000	9445	21000000	1888	1333	AS HEAD	3.51E 04	AS HEAD
2	5352	2676	21000000	208	321	AS HEAD	2.94E 05	AS HEAD
3	3666	1783	21000000	128	314	AS HEAD	6.67E 05	AS HEAD

Paved Road
 Depressed Road
 Other Road
 Transmission Line
 School
 Substation
 Tower
 Stream



10 MILE
ENVIRONMENTAL DATA

TIME 12:20 12:30

Pump Location	Centrations		Edges of Plume		Air Samples		Water	
	W.O. Inch/ft	W.C. Inch/ft	W.O. Inch/ft	W.C. Inch/ft	Aug Containers per Minute	Filter Paper	Water Gals	Notes
1	2581.7	1047.0	208.2	104.1	129.9	A-1000	5,871.04	A-1000
2	590.9	295.5	59.1	29.5	30.5	A-1000	1,102.04	A-1000
3	282.8	141.4	28.3	14.1	17.7	A-1000	1,254.00	A-1000
4	135.4	67.7	13.5	6.8	8.1	A-1000	2,524.04	A-1000



10 MILE
ENVIRONMENTAL DATA

1048E 12.30.12.40

Phases Locations	Construction Dose Rate		Edge of Plume Dose Rate		Air Sampling Concentration		Air Sampling Filter		Index	
	W.C. (mR/hr)	Fission Integral	W.D. (mR/hr)	W.C. (mR/hr)	Concentration µCi/m ³	Filter Pages	Cal	InControl	µCi/m ³	µCi/m ³
1	12778	6340	1278	639	26.7	AS RE 6	2.37E-04	AS	2.5	2.5
2	3659	1829	366	183	220	AS RE 6	8.80E-05	AS	8.2	8.2
3	1760	880	176	88	198	AS RE 6	3.23E-05	AS	3.0	3.0
4	1047	524	105	52	63	AS RE 6	1.98E-05	AS	1.8	1.8
5	580	295	59	29	35	AS RE 6	1.37E-05	AS	1.3	1.3



10 MILE
ENVIRONMENTAL DATA

TIME: 12:40 12:50

Phone Location	Composition Data Base		Edges of Plume Data Base		Air Sam. Data Counts per Minute		Index Code	Notes
	W.C. (ppb/ft³)	Proton Spectra (cpm)	W.C. (ppb/ft³)	Proton Spectra (cpm)	SO₂	CO		
1	10000	> 1000000	1000	> 1000000	100	100	AS 04	AS 04
2	2883	> 1000000	298	> 1000000	173	100	AS 05	AS 05
3	1388	> 1000000	694	> 1000000	83	100	AS 06	AS 06
4	877	> 1000000	83	> 1000000	50	100	AS 07	AS 07
5	553	> 1000000	45	> 1000000	33	100	AS 08	AS 08
6	454	> 1000000	43	> 1000000	28	100	AS 09	AS 09



Power Lines
Highway Road
Other Road
Temperature Line

School
Substation
Truck

WHITE RD

HOPVILLE
LUMA ROAD

(PALO VERDE ROAD)
BROADWAY ROAD
BASELINE ROAD
LOWER RIVER RD

BUCKEYE ROAD
BROADWAY ROAD
DOBBINS ROAD
383rd AVE
363rd AVE
343rd AVE
323rd AVE
303rd AVE
283rd AVE
263rd AVE
243rd AVE
223rd AVE
203rd AVE
183rd AVE
163rd AVE
143rd AVE
123rd AVE
103rd AVE
83rd AVE
63rd AVE
43rd AVE
23rd AVE

10 MILE
ENVIRONMENTAL DATA

TIME 12:50 P.M. 00

Plume Location	Concentration		Dose Rate		Exposure		Air Sampling		Inhalation Units	Symptoms
	W.C. (ppb)	W.D. (ppb)	W.C. (ppb)	W.D. (ppb)	Exposure (hr)	Exposure (hr)	Concentration (ppm)	Volume (cu ft)		
1	1044.4	52.22	1044.4	52.22	2-1000-0000	2-1000-0000	4.73	1000	1.04E-02	AS 01-01
2	299.5	14.97	299.5	14.97	2-1000-0000	2-1000-0000	1.80	1000	5.56E-05	AS 01-01
3	1440	72.0	1440	72.0	2-1000-0000	2-1000-0000	4.73	1000	2.07E-05	AS 01-01
4	86.8	4.34	86.8	4.34	2-1000-0000	2-1000-0000	5.1	1000	1.59E-05	AS 01-01
5	57.4	2.87	57.4	2.87	2-1000-0000	2-1000-0000	3.6	1000	1.97E-05	AS 01-01
6	41.1	2.07	41.1	2.07	2-1000-0000	2-1000-0000	2.5	1000	7.67E-06	AS 01-01
7	31.3	1.57	31.3	1.57	2-1000-0000	2-1000-0000	3.8	1000	5.81E-06	AS 01-01

Paved Road
Unpaved Road
Utility Road
Transmission Line

School

Substations
Power
Stress

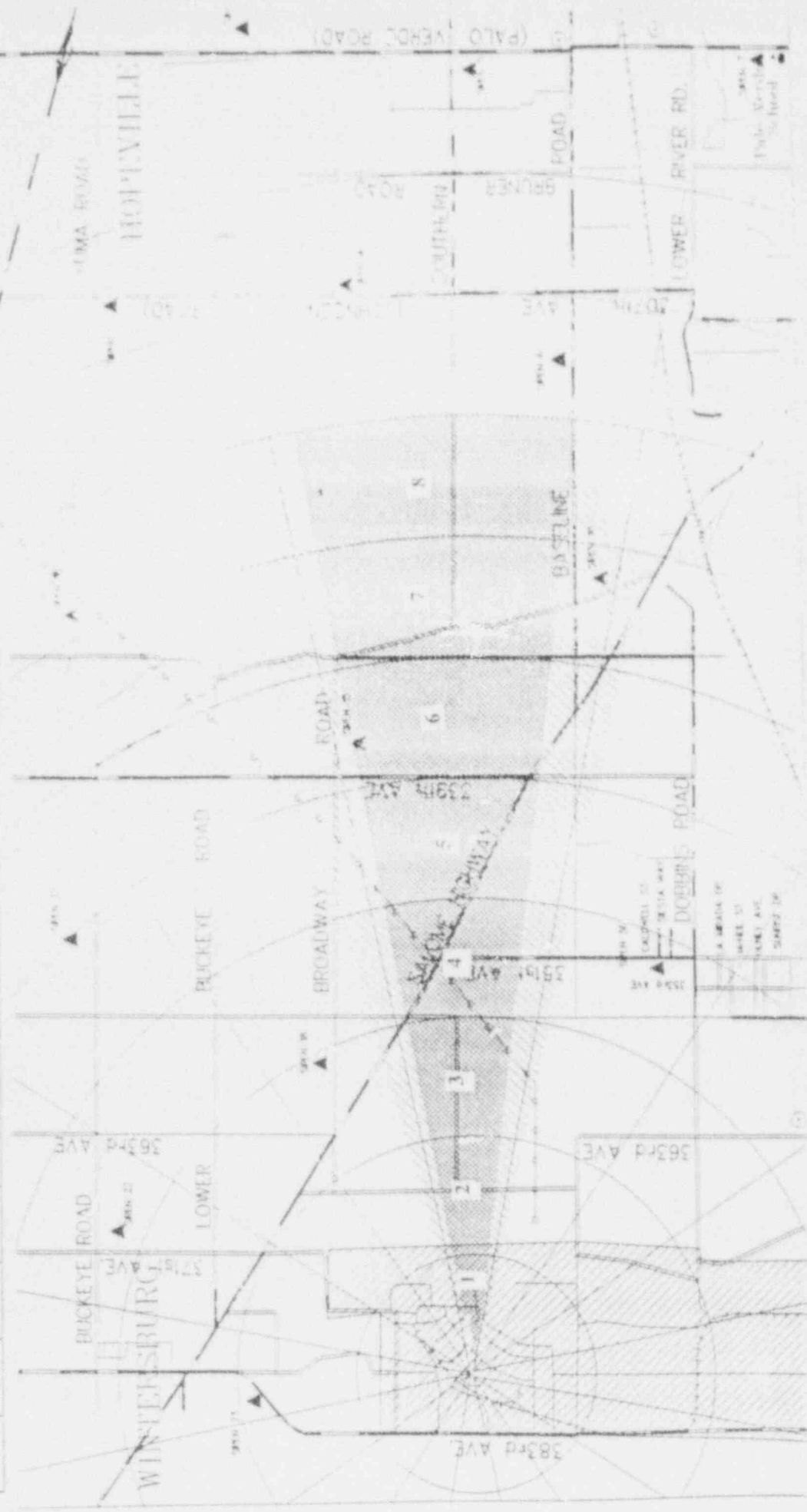


10 MILE
ENVIRONMENTAL DATA

TIME 13.00 13.10

Phone Location	Centration Dist. Rate		Edges of Frame Dist. Rate		For Sampling Capacity and Volume		Index Card		Sector
	W.C. Ind./hr	Feet/hr Ind./hr	W.C. Ind./hr	Feet/hr Ind./hr	Cap. Ind./hr	Vol. Ind./hr	Index Card	Index Card	
1	10500	5250	10500	5250	400	2000000	1854 04	1854 04	A5 18 05
2	2010	1005	2010	1005	15	2000000	1854 05	1854 05	A5 18 05
3	1400	700	1400	700	15	2000000	1854 05	1854 05	A5 18 05
4	800	400	800	400	15	2000000	1854 05	1854 05	A5 18 05
5	540	270	540	270	15	2000000	1854 05	1854 05	A5 18 05
6	418	209	418	209	15	2000000	1854 05	1854 05	A5 18 05
7	316	158	316	158	15	2000000	1854 05	1854 05	A5 18 05
8	249	125	249	125	15	2000000	1854 05	1854 05	A5 18 05

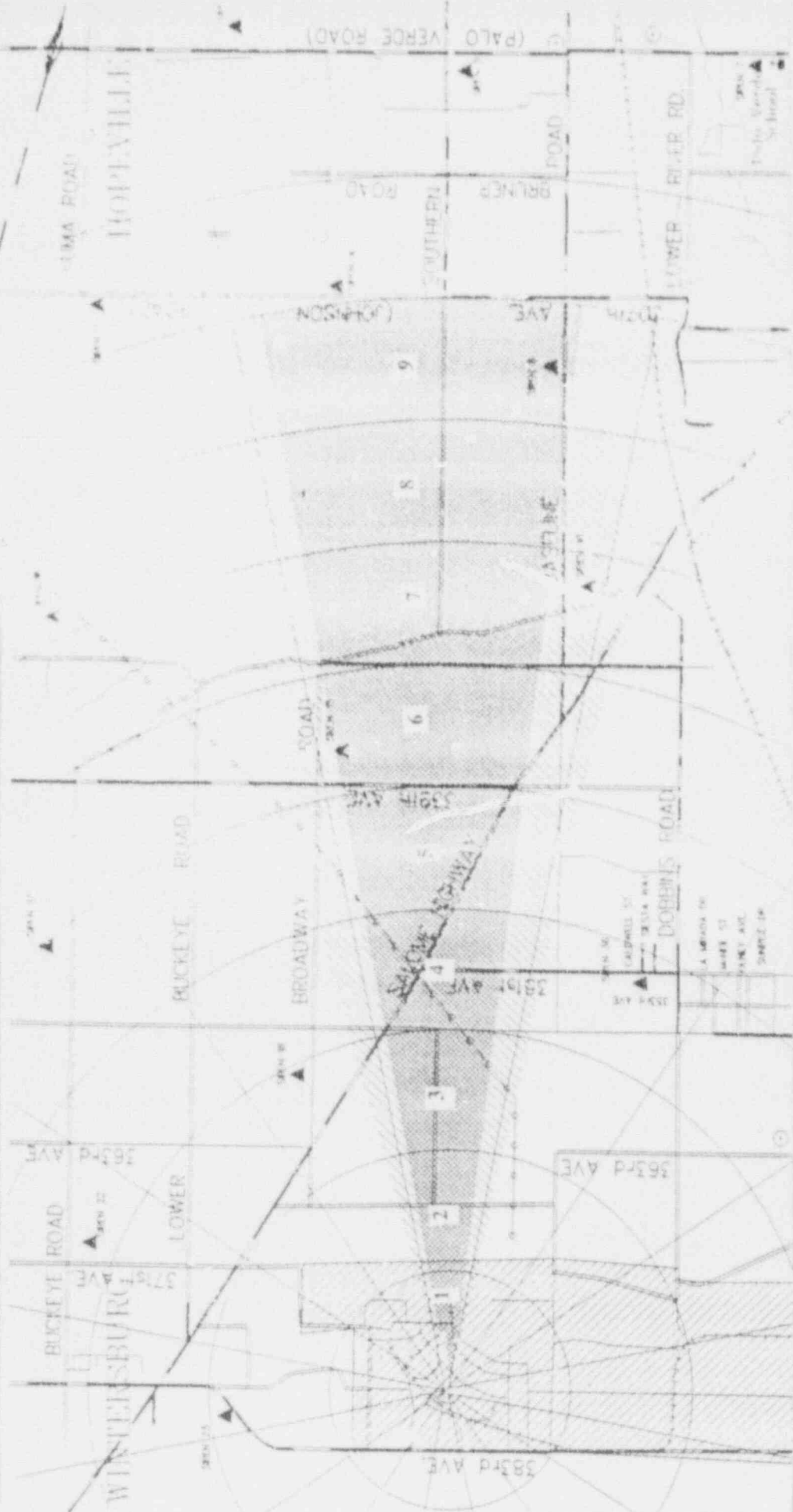
ROUTE 10



10 MILE
ENVIRONMENTAL DATA

DATE 12.10.13.23

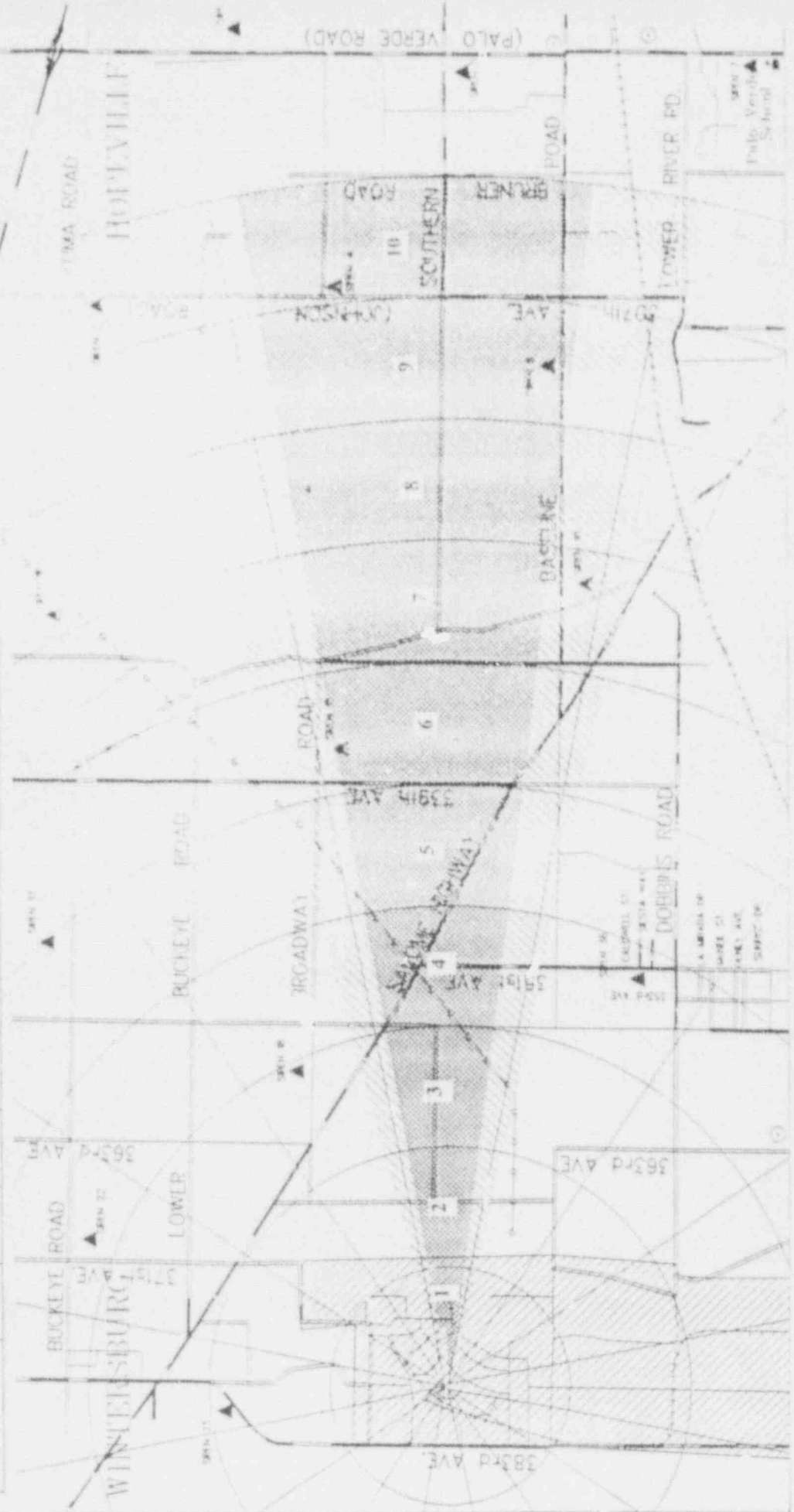
Phone Location	Centrations		Edges of Plume		Air Sampling		Inflow	Inflow	Source
	W O µg/m ³	W C µg/m ³	W O µg/m ³	W C µg/m ³	Flow m ³ /hr	Conc µg/m ³			
1	60.76	201.8	604	302	> 100,000	> 100,000	AS HEAD	1,124.04	AS BT A
2	17.36	86.8	174	87	> 100,000	> 100,000	AS HEAD	3,278.07	AS BT B
3	0.17	4.18	8.4	4.2	> 100,000	> 100,000	AS HEAD	1,543.47	AS BT C
4	30.3	280	40	25	> 100,000	> 100,000	AS HEAD	1,277.06	AS BT D
5	3.14	167	33	17	> 100,000	> 100,000	AS HEAD	6,208.06	AS BT E
6	2.41	121	2.4	1.7	> 100,000	> 100,000	AS HEAD	1,403.07	AS BT F
7	16.2	91	16	9	9,381.4	9,381.4	AS HEAD	3,302.76	AS BT G
8	1.44	7.2	1.4	1	7,422.7	7,422.7	AS HEAD	2,673.07	AS BT H
9	1.16	5.8	1.2	6	5,878.4	5,878.4	AS HEAD	2,751.06	AS BT I



10 MILE
ENVIRONMENTAL DATA

TIME: 13:20-14:00

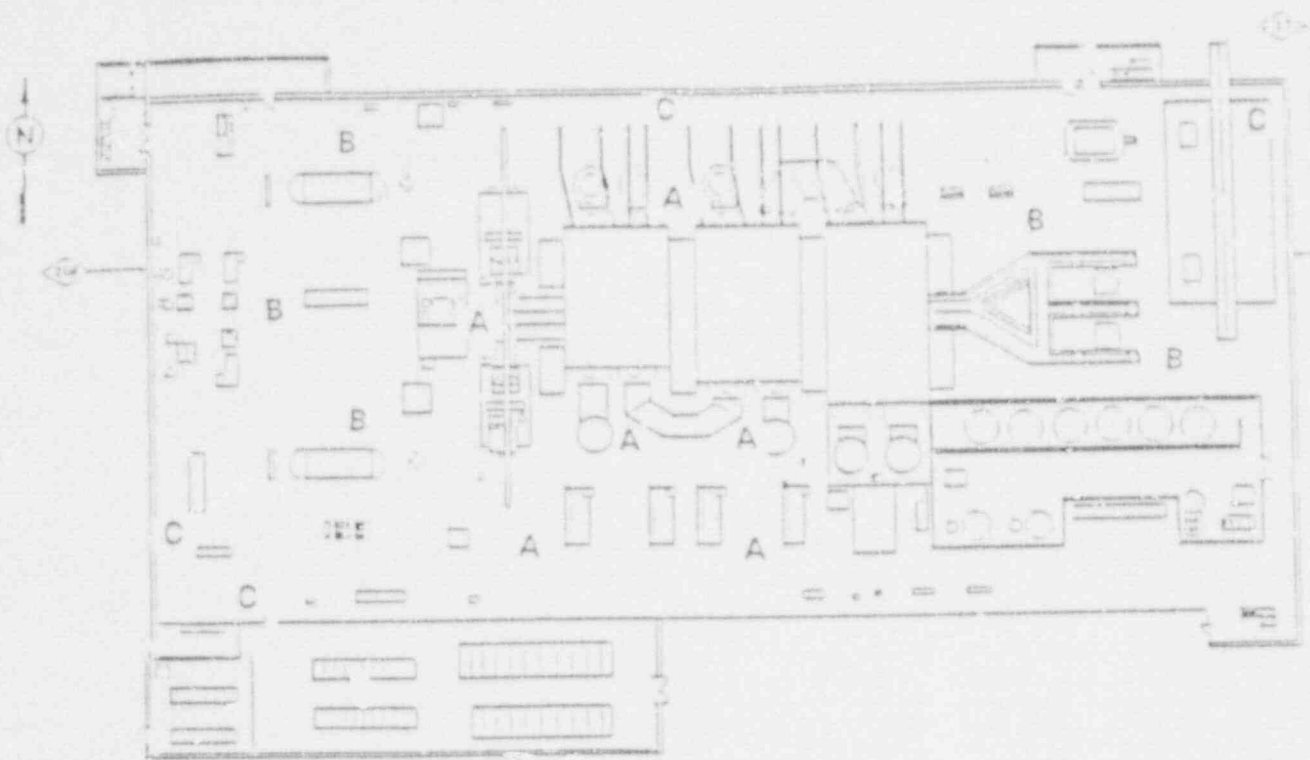
Pharm Location	Construction Data Base		F-1000 of House		Asph. Streets		Asphalt	Asphalt	Asphalt	Asphalt	Asphalt
	W.C. (inches)	W.C. (inches)	W.C. (inches)	W.C. (inches)	Asph. (sq ft)	Asph. (sq ft)					
1	67305	3295	2100-0000	3407	8100-0000	107	107	AS 107 AD	AS 107 AD	AS 107 AD	AS 107 AD
2	59520	975	8100-0000	98	8100-0000	133	133	AS 133 AD	AS 133 AD	AS 133 AD	AS 133 AD
3	5475	471	8100-0000	47	8100-0000	17	17	AS 17 AD	AS 17 AD	AS 17 AD	AS 17 AD
4	5662	281	8100-0000	28	8100-0000	24	24	AS 24 AD	AS 24 AD	AS 24 AD	AS 24 AD
5	316	188	8100-0000	18	8100-0000	16	16	AS 16 AD	AS 16 AD	AS 16 AD	AS 16 AD
6	771	136	8100-0000	27	8100-0000	16	16	AS 16 AD	AS 16 AD	AS 16 AD	AS 16 AD
7	705	123	8100-0000	10	8100-0000	12	12	AS 12 AD	AS 12 AD	AS 12 AD	AS 12 AD
8	187	81	8100-0000	8	8100-0000	8	8	AS 8 AD	AS 8 AD	AS 8 AD	AS 8 AD
9	133	66	8100-0000	7	8100-0000	6	6	AS 6 AD	AS 6 AD	AS 6 AD	AS 6 AD
10	108	54	8100-0000	5	8100-0000	5	5	AS 5 AD	AS 5 AD	AS 5 AD	AS 5 AD



PASS RADIOLOGICAL INFORMATION

	Drill Time		
	8:00-10:40 mR/hr	10:40-11:20 mR/hr	After 11:20 mR/hr
<u>RCS PASS</u>			
Unshielded sample dose rate: contact	3	9329	8339
Unshielded sample dose rate: 3 feet	As Read	9	8
Shielded sample dose rate: contact	As Read	767	687
Shielded sample dose rate: 3 feet	As Read	1	1

100 TURBINE BUILDING



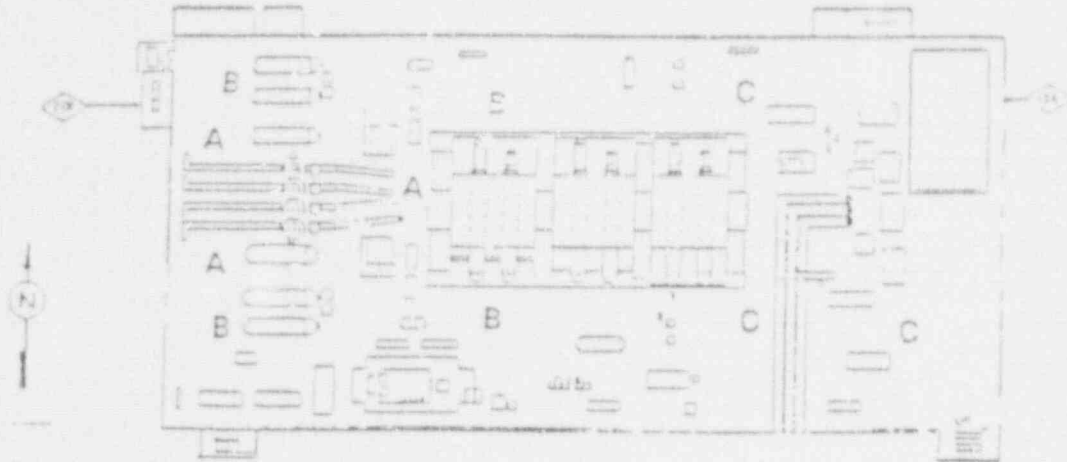
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0900 On	60	15	< 2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	UCI/cf	UCI/cf	UCI/cf	LEVELS IN DPM	NOTES
0900 On	AS READ	AS READ	AS READ	AS READ	

140 TURBINE BUILDING
MEZZANINE DECK



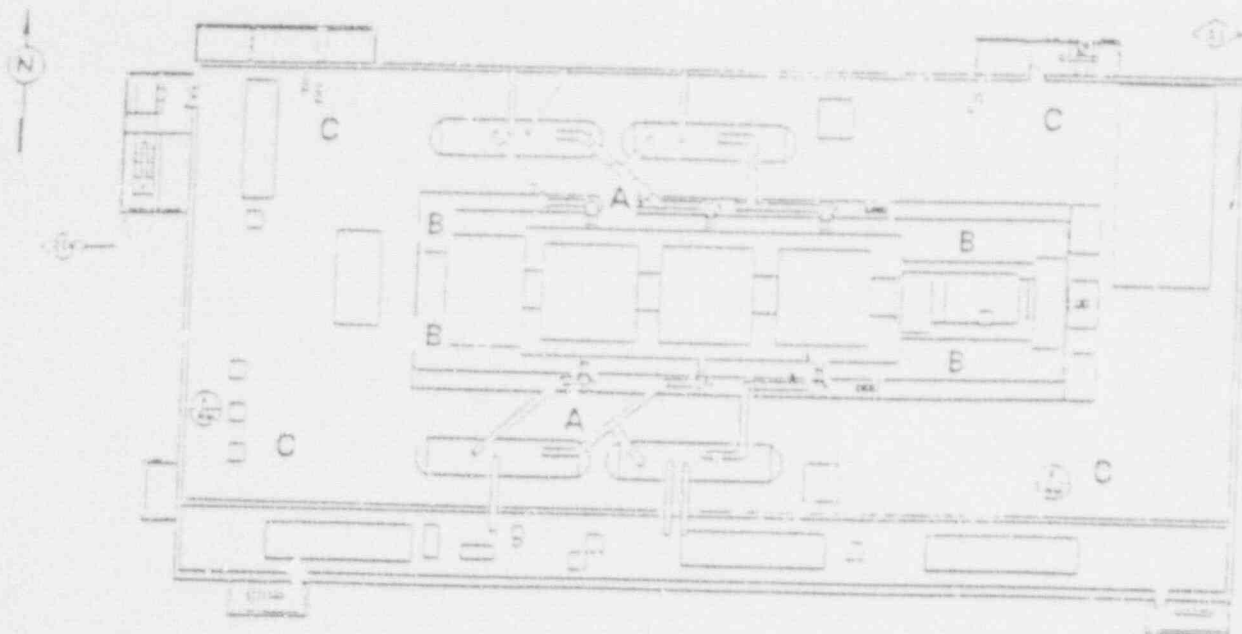
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	E	C	D	E	F	NOTES
0800 On	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0800 On	20	10	< 2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	$\mu\text{Ci}/\text{cc}$	$\mu\text{Ci}/\text{cc}$	$\mu\text{Ci}/\text{cc}$	LEVELS IN CPM	NOTES
0800 On	AS READ	AS READ	AS READ	AS READ	

176 TURBINE BUILDING
OPERATING DECK



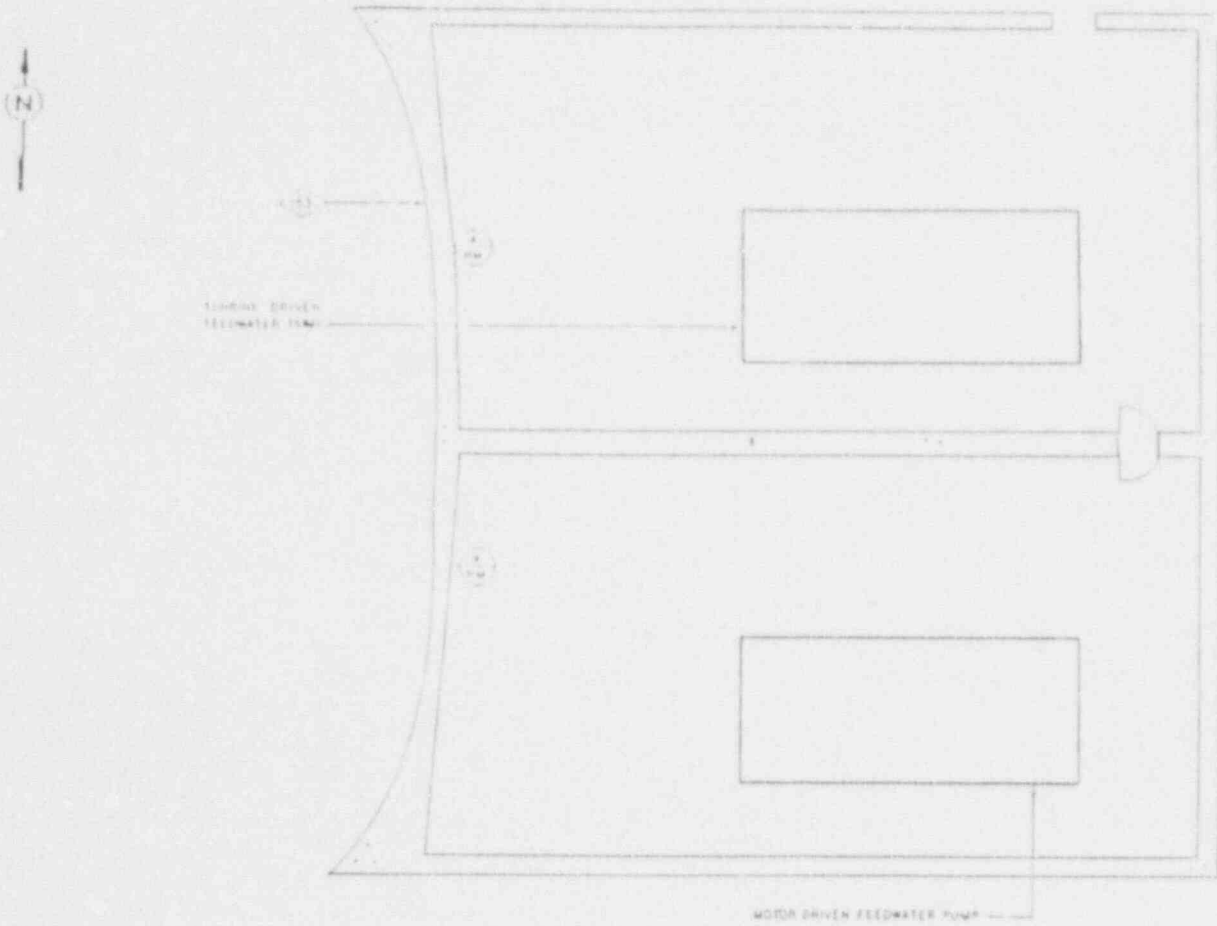
1 DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
0800-09	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0900-09	12	5	<2	N/A	N/A	N/A	

2 AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
0900-09	AS READ	AS READ	AS READ	AS READ	

81' - 89' M.S.S.S. - AUXILIARY FEEDWATER
PUMP ROOMS "A" AND "B"



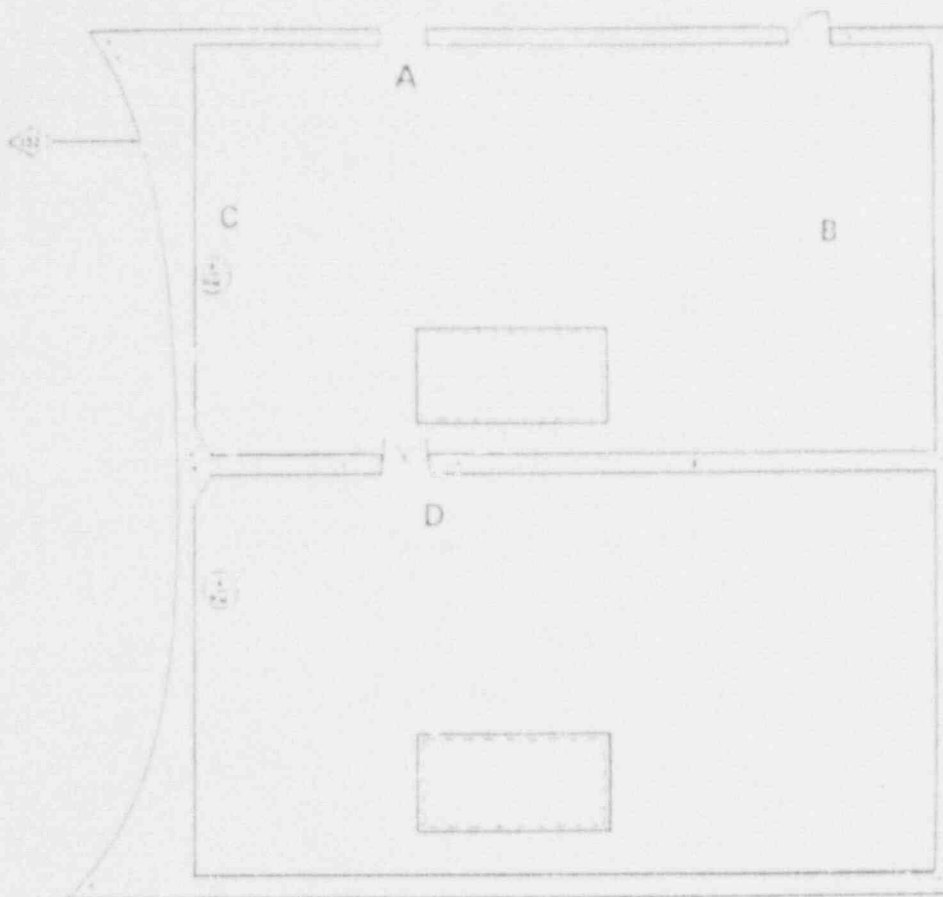
1 DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	

2 AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC.	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	

100' - 110' M.S.S.S.
VALVE & PIPEWAY AREAS



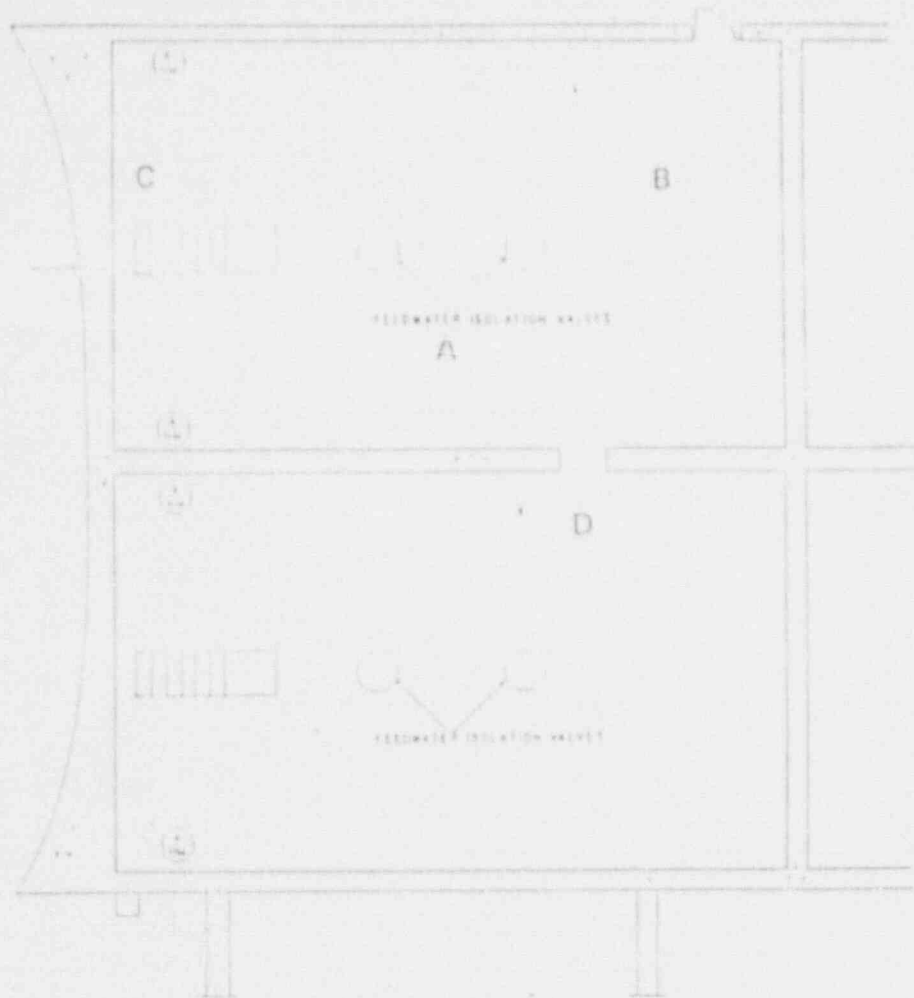
1. DOSE RATE INFORMATION

TIME HRS	mR/hr UNLESS NOTED						GENERAL NOTES
	A	B	C	D	E	F	
800	AS READ	AS READ	AS READ	AS READ	N/A	N/A	
900	2	1	1	AS READ	N/A	N/A	
1030	79	59	59	AS READ	N/A	N/A	
1040	14 R/hr	10 F/hr	10 R/hr	137	N/A	N/A	
1200	13 R/hr	10 R/hr	10 R/hr	128	N/A	N/A	
1300 On	11 R/hr	8 R/hr	8 R/hr	114	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME HRS	GAS uCi/cc	IODINE uCi/cc	PARTIC. uCi/cc	CONTAMINATION LEVELS IN CPM*	GENERAL NOTES
900	3.26E-21	2.88E-21	2.87E-21	AS READ	
1030	1.41E-20	1.55E-20	1.70E-20	AS READ	
1040	2.71E-17	3.05E-17	3.27E-17	AS READ	
1200	2.68E-17	3.05E-17	3.23E-17	AS READ	
1300 On	2.65E-17	3.05E-17	3.18E-17	AS READ	

120' - 132' M.S.S. - MAIN STEAM
RELIEF VALVE ROOMS "A" & "B"



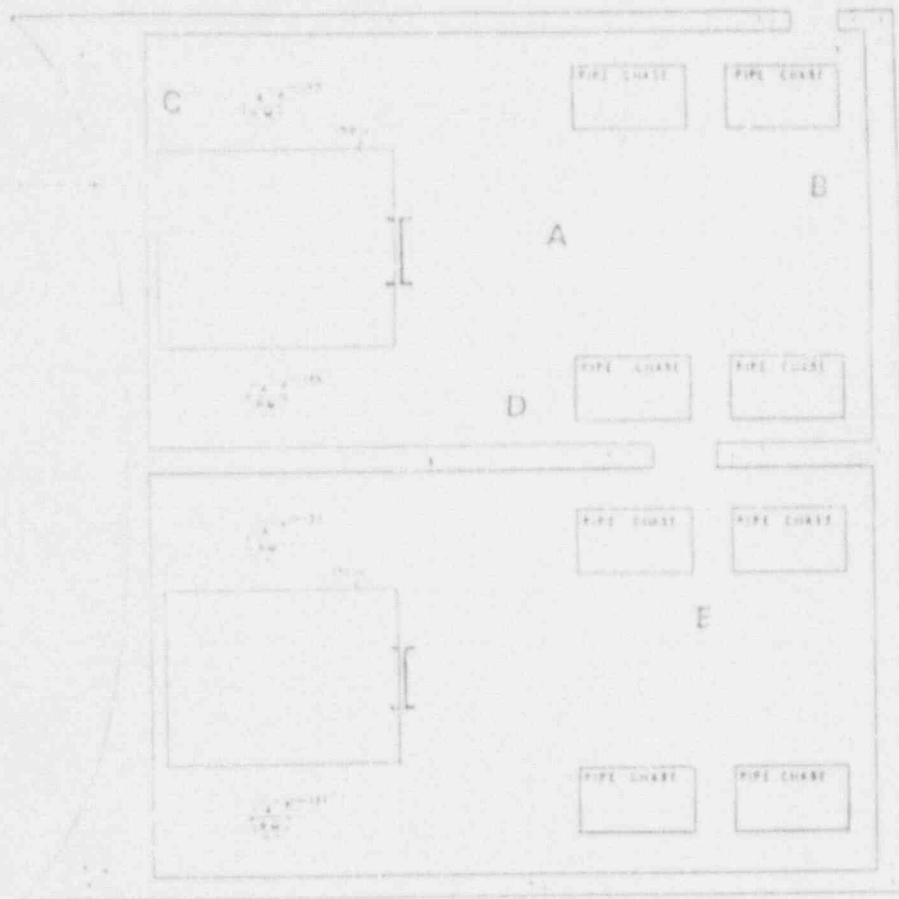
1. DOSE RATE INFORMATION

TIME HRS	mR/hr UNLESS NOTED						GENERAL NOTES
	A	B	C	D	E	F	
800	AS READ	AS READ	AS READ	AS READ	N/A	N/A	
900	4	2	2	AS READ	N/A	N/A	
1030	160	55	55	AS READ	N/A	N/A	
1040	28 R/hr	15 R/hr	15 R/hr	282	N/A	N/A	
1200	25 R/hr	14 R/hr	14 R/hr	264	N/A	N/A	
1300 On	23 R/hr	12 R/hr	12 R/hr	235	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME HRS	GAS uCi/cc	IODINE uCi/cc	PARTIC uCi/cc	CONTAMINATION LEVELS IN CPM	GENERAL NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	9.74E-11	8.62E-11	8.59E-11	AS READ	
1030	4.21E-10	4.64E-10	5.07E-10	AS READ	
1040	8.11E-07	9.16E-07	9.79E-07	AS READ	
1200	8.02E-07	9.13E-07	9.66E-07	AS READ	
1300 On	7.92E-07	8.11E-07	9.50E-07	AS READ	

140' - 148' M.S.S. - UPPER MAIN
STEAM LINE ROOMS "A" & "B"



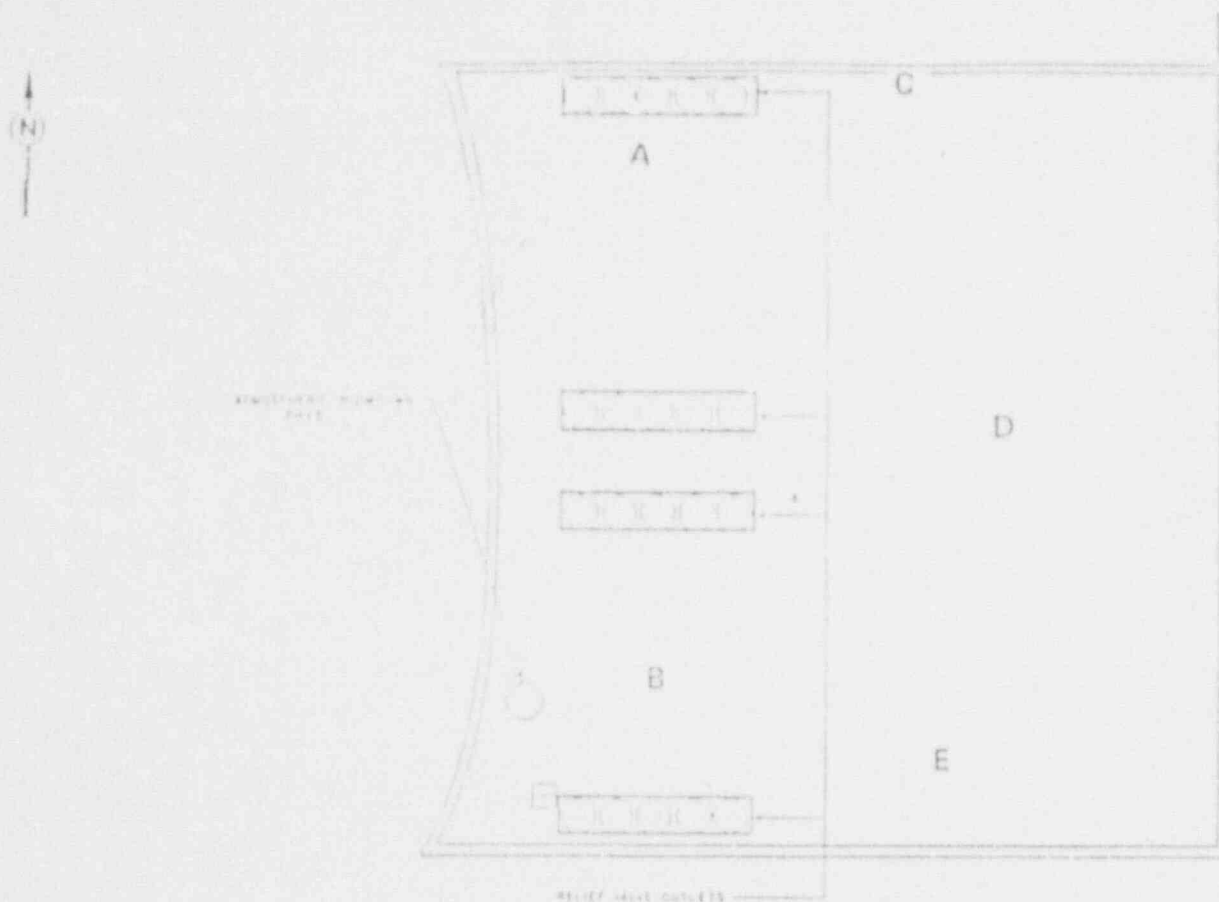
1. DOSE RATE INFORMATION

TIME	nR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	AS READ	AS READ	N/A	
900	2	1	1	2	AS READ	N/A	
1030	72	59	59	71	AS READ	N/A	
1040	14 R/hr	10 R/hr	14 R/hr	10 R/hr	123	N/A	
1200	13 R/hr	10 R/hr	13 R/hr	10 R/hr	115	N/A	
1300 On	14 R/hr	8 R/hr	14 R/hr	8 R/hr	84	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC.	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	9.74E-11	9.07E-11	9.04E-11	AS READ	
1030	4.21E-10	4.88E-10	5.34E-10	AS READ	
1040	8.11E-07	9.64E-07	1.03E-06	AS READ	
1200	8.02E-07	9.61E-07	1.02E-06	AS READ	
1300 On	7.92E-07	9.59E-07	1.00E-06	AS READ	

167 M.S.S.S.
ROOF



1. DOSE RATE INFORMATION

TIME	Rm UNLESS NOTED						GENERAL NOTES
	A	B	C	D	E	F	
800-1140	AS READ	AS READ	AS READ	AS READ	AS READ	N/A	
1145	1734	138	1387	69	55	N/A	
1300 On	1340	107	1072	54	43	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC.	CONTAMINATION		GENERAL NOTES
				LEVELS IN CPM		
800-1140	AS READ	AS READ	AS READ	AS READ		
1145	3.19E+02	9.40E+00	1.47E-02	7.28E+07		
1300 On	3.14E+02	8.69E+00	1.44E-02	7.15E+07		

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 09.00 - 10.40

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	4.06E-02
Xe-131	12.00 D	1.86E-03
Xe-133	5.25 D	<u>3.40E-01</u>
Total Activity:		3.82E-01

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>7.99E-04</u>
Total Activity:		7.99E-04

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>8.52E-05</u>
Total Activity:		8.52E-05

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	1.14E-01
I-132	2.29 H	1.13E-01
I-133	20.8 H	2.19E-01
I-135	6.59 H	<u>1.93E-01</u>
Total Activity:		6.40E-01

Grand Total Activity: 1.02E+00

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 10:40 - 11:20

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	3.29E+01
Xe-131	12.00 D	3.39E+00
Xe-133	5.25 D	<u>6.21E+02</u>
Total Activity:		6.57E+02

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.45E+00</u>
Total Activity:		1.45E+00

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>0.061856</u>
Total Activity:		0.061856

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	2.08E+02
I-132	2.29 H	1.33E+02
I-133	20.8 H	3.84E+02
I-135	6.59 H	<u>3.04E+02</u>
Total Activity:		1.03E+03

Grand Total Activity: 1.69E+03

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: After 11:20

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	2.09E+01
Xe-131	12.00 D	3.38E+00
Xe-133	5.25 D	<u>6.19E+02</u>
Total Activity:		6.44E+02

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.45E+00</u>
Total Activity:		1.45E+00

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>2.79E-02</u>
Total Activity:		3.69E-02

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	2.08E+02
I-132	2.29 H	1.03E+02
I-133	20.8 H	3.75E+02
I-135	6.59 H	<u>2.79E+02</u>
Total Activity:		9.65E+02

Grand Total Activity: 1.61E+03

CHEMISTRY DATA

Type of Sample: Condenser Exhaust
Sample Time: 09:00 - 10:40

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	2.77E-04
Xe-131	12.00 D	1.26E-05
Xe-133	5.25 D	<u>2.32E-03</u>
Total Activity:		2.61E-03

CHEMISTRY DATA

Type of Sample: Condenser Exhaust
Sample Time: 10:40 - 11:10

Nuclide Type: fission gas

Nuclide	Half-life	Decay Corr uCi/ML
Kr-87	1.27 H	1.09E-00
Xe-131	12.00 D	1.19E-01
Xe-133	5.25 D	<u>2.17E+01</u>
Total Activity:		2.29E-01

CHEMISTRY DATA

Type of Sample:
Sample Time:

Condenser Exhaust
After 11:10

Nuclide Type fission gas

Nuclide	Half	Decay Corr uCi/ML
Kr-87	1.27 H	8.74E-05
Xe-131	12.00 D	1.18E-05
Xe-133	5.25 D	<u>2.16E-03</u>
Total Activity:		2.26E-03

CHEMISTRY DATA

Type / Sample: Steam Blowdown
 Sample Time: 10:40 - 11:20

Nuclide Type: halogen

Nuclide	Half-life	Decay Corr μCi/ML
I-131	8.04 D	5.44E-01
I-132	2.29 H	3.09E+01
I-133	20.80 H	9.93E+01
I-135	6.58 H	<u>7.04E-01</u>
Total Activity:		2.61E+02

Nuclide Type: fission

Nuclide	Half-life	Decay Corr μCi/ML
Te-132	3.25 D	<u>1.93E-01</u>
Total Activity:		1.93E-01

Nuclide Type: FP

Nuclide	Half-life	Decay Corr μCi/ML
Te-129	1.12 H	<u>0.006587</u>
Total Activity:		0.006587

Grand Total Activity: 2.61E+02

PVNGS Annual Exercise

3.1 Initial Conditions

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1S111 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-DG3 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG A Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

PVNGS Annual Exercise
3.2 Narrative Summary

This scenario is based on a leak developing in a U-Tube in Steam Generator #1. The operators assess the leak and determine that a shutdown is required per 41AO-1ZZ08. Before the reactor can be tripped, at approximately 30 % Reactor Power, the leaking tube fails catastrophically, and leak rate increases to approximately 400 gpm. Operators manually trip the reactor and initiate Safety Injection. Operators re-diagnose the accident and transition to 41OP-1ZZ06 "Tube Rupture" based on the initiation of Safety Injection. When operators attempt to rapidly reduce the flow through the rupture by depressurizing the RCS, the spray valve controller fails, necessitating the use of slower auxiliary spray to reduce pressure. Operators use Safety Injection to maintain RCS inventory, auxiliary spray to reduce pressure and steam the un-affected steam generator to cool the RCS.

A sudden failure of RCP-1A impeller sends debris from the failed impeller through the core. Fuel damage occurs. Fission products enter the coolant and flow into the failed Steam Generator. When a spring on the #1 Steam Generator Safety Valve fails, the safety valve lifts, and a release of RCS activity begins to the environment from the failed relief valve.

The scenario will be mitigated by:

- Normal Primary to Secondary leak response actions.
- Restoration of the Spray Valve controller to expedite plant depressurization.
- Cooldown and stabilization of the plant.
- Performance of off-site radiological monitoring and evaluation.

PVNGS Annual Exercise
3.3 Major Sequence of Events

0700 -0030 Initial Conditions, Simulator Board walkdown.

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1S111 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG B Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

3.3 Major Sequence of Events (Continued)

- 0800 0000 Medical Emergency:
Spent resin spill occurs during transfer when a flexible coupling blows out. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-21. RU-21 indicates off-scale high locally and in the Control Room. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg. Radwaste Operators notify Security, Fire Protection and the Control Room.
- 0810 0010 While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred. Operators check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset. They inform Unit 2 Control Room and continue troubleshooting.
- 0815 0015 EMTs and Radiological Protection Technicians arrive in the Radwaste Building, assess the situation medically and radiologically, and prepare the victim for transport to a medical facility.
- 0835 0035 Control Room declares an ALERT based on EPIP-02 Appendix B, Tab 1 "Direct Radiation Readings within the Unit Increase by a Factor of 1000." The Control Room should realize that "Transportation of internally or externally contaminated injured person to offsite hospital" (when this event occurs) constitutes a Notification of Unusual Event" per EPIP-02 Appendix B, Tab 1. This emergency classification level is superseded by the ALERT.
- 0900 0100 RCS tube leak starts in "A" Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, and RU-139 channel-2 High alarm, and by a mismatch between charging and letdown flow. Operators enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02.
- 0902 0102 Initial determination of the leak rate exceeds 1 gpm (approximately 12 gpm). Preliminary indications by blowdown radiation monitors indicate S/G 1 is faulted. Operators continue leak rate determinations.

3.3 Major Sequence of Events (Continued)

- 0913 0113 15 minute leak rate determination indicates approximately 58 gpm primary to secondary leak rate. Operators continue 41AO-1ZZ08, Step 4 (Plant Shutdown) after stabilizing plant conditions and measuring leak rate [approximately 15 minutes]. Operators should realize that a leak rate greater than 44 gpm meets the criteria for an ALERT per EPIP-02 Appendix B Tab 2 "RCS Leak Rate >44 gpm." It may result in a minor release of noble gases to the environment. Operators have completed step 2 of 41AO-1ZZ08 to minimize releases to the environment. Follow-up notifications to offsite agencies should indicate the changed plant conditions but the event is not reclassified because the plant emergency classification is still at the ALERT level.
- 0914 0114 [NOTE: Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.] Controllers must pay attention to plant decision-making process on what sort of shutdown to use. Controllers may need to increase the magnitude of the leak to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage due to a rapid power reduction or trip. [use 12% break for the 15 minute leak rate check].
- 0915 0115 Operators should brief and commence a plant shutdown per 41OP-1ZZ08 and/or 41OP-1ZZ07. Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Pres: Hi-Lo" alarms upon isolating letdown.
- 0916 0116 Operators commence shutdown by boration at 60 gpm, 1700 gal dialed in. If operators have not isolated letdown and lined up to blend the boron, they will get a pressurizer trouble alarm and VCT may isolate on low level as soon as power starts to decrease. They will then have to secure boration and isolate letdown. [Note: Operators will need to track Axial Shape Index (ASI) as power is reduced. If power shifts too far to top of the core, operators must drive in groups 4 and 5 rods to restore power distribution as necessary].
- 0940 0140 The injured worker is transported offsite by ambulance. SS/EC/EOD should realize that this is a redundant indication for NUE.

3.3 Major Sequence of Events (Continued)

- 1006 0206 Shutdown continues. Operators trip the "B" Main Feed Pump
- 1010 0210 Shutdown continues. Operators trip the "B" Condensate Pump
- 1015 0215 RCP-1A high vibration alarms and eccentricity alarms actuate. Operators analyze the vibration, but magnitude of eccentricity is below the 10 mills mandatory shutdown point per 79AC-OSV'01. Since immediate shutdown of the RCP is not required, operators continue monitoring.
- 1030 0230 With reactor power at approximately 30%, operators are briefing for manual Reactor Trip at 20% power. The leaking Steam Generator tube ruptures [Simulator Operator will key leak rate to 30%]. RCS leak rate increases to approximately 400 gpm. The RCS rapidly depressurizes [PZR trouble alarm on lowering level, PZR pressure low alarm, PZR level low alarm, #1 S/G level increasing confirms faulted S/G].
- 1035 0235 Operators manually trip the reactor and initiate SI. Radiation levels in the secondary plant increase due to the higher leak rate. Operators re-diagnose the tube leak and transition to 41RO-1ZZ06 "Tube Rupture" based on SIAS. The large tube rupture meets the criteria of EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity." Two check marks in Appendix A merit declaration of a SITE AREA EMERGENCY.
- 1040 0240 Immediately prior to operators' attempt to shut down RCP-1A and -2A per 41RO-1ZZ06, RCP-1A impeller fails. Debris from the impeller are flushed into the core. The loose parts monitor alarms. Hot leg ARMs and area ARMs increase indicating possible fuel damage. PCP-2A is tripped manually, RCP-1B and -2B are running normally. SS should direct a RCS sample if the normal post-trip sample has not already been ordered. RU-16 and -17 indicate greater than 10 times their high alarm setpoints, which operators may view as an additional indication for a SITE AREA EMERGENCY per EPIP-02 Appendix B, Tab 2 "Major Damage to spent fuel with a release of radioactivity to the Containment or Fuel Handling Building resulting in valid radiation readings > 10 times the high radiation alarms on any of the following: RU-16, -17, -31, -33, -143, or -145", despite the fact that the only radioactive release is to the isolated faulted Steam Generator.
- 1050 0250 S/G #1 level increases rapidly due to the tube rupture. Operators line up and conduct a high rate blowdown of #1 S/G to maintain level below 80%.

3.3 Major Sequence of Events (Continued)

- 1055 0255 When operators attempt to rapidly depressurize the plant with spray to reduce the Primary to Steam Generator differential pressure, they find that the spray valves will not open in the Control Room. The Spray Valve controller has failed. Operators use slower Aux. Spray to lower pressure, and commence troubleshooting the failed Spray Valves.
- 1100 0300 TSC Emergency Coordinator declares a SITE AREA EMERGENCY based on EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity.", if not already done, and makes appropriate notifications. Operators are expected to use safety injection systems to makeup inventory losses and continue steaming using auxiliary feed to cool the RCS and remove heat from the core.
- 1145 0345 Main Steam safety relief valve trouble alarm. Indications of #1 S/G relief lifted. Un-Monitored release to the environment begins via the lifting relief in the MSSS.
- 1200 0400 With the primary to secondary leak in combination with the lifting relief, the EC should recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and "> 10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.
- 1210 0410 While investigating low volume on the plant paging speaker in the OSC, electrician strikes a sprinkler system spray head with a ladder. One OSC sprinkler system spray head is damaged. The damaged sprinkler head sprays down the room. Before the fire main in that area can be isolated, the room is thoroughly wet. Emergency supplies and paperwork are rendered unserviceable. Telephones in the OSC are OOS. Emergency Response personnel should be evacuated to the alternate OSC, or to another suitable location. OSC supervisory personnel and RP personnel should take plume exposure during the evacuation into account.
- 1230 0430 Operators continue to cool down the RCS and depressurize to control the release rate from the ruptured S/G. Attempts to shut the leaking relief valve will be ineffective due to temperature and radiation levels in the vicinity of the valve.
- 1300 0500 When plant is ready to be placed on shutdown cooling, and all objectives have been demonstrated, secure from the Exercise.

Appendix A
Scenario Controller Guide

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0730	1	C-1 All	SS All	<p><u>INITIAL CONDITIONS</u></p> <p>Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1SHH (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. No Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today.</p> <p><u>Annunciators in Control Room</u></p> <p>1C DG B Trip 1C DG B Emergency Manual Trip 1C DG B High Priority Trouble</p>	<p><u>Unit 2 Control Room (CR) [Simulator]:</u> Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards.</p>		<p>0730 - All controllers distribute the initial conditions to all Facility managers and key players as they are manned during the exercise.</p> <p><u>NOTE:</u> Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.</p> <p>All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.</p> <p>All troubleshooting information for LPSI "B" troubleshooting and repair will be found in the OSC Mini-Scenarios, <u>Appendix N</u></p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0800	2	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-20 indicates 1000 mR/hr. RU-21 indicates 500 mR/hr. RU-22 indicates 7000 mR/hr.</p>	<p>Be aware of plant conditions. Attempt to validate the high radiation alarms in the Rad Waste Building. SS should realize that valid high radiation alarms in the area constitute an ALERT per EPIP-02 App B Tab 1. "Direct Radiation Readings within the Unit increase by a factor of 1000"</p>		<p>Flex coupling has blown out during resin transfer. Approximately 5 - 6 Ci of normal hot resin have spilled on the floor of the Rad Waste Building. Elevated radiation levels due to the spill.</p>
0800	3	C-4b	RWO	<p>Spent resin spill: Flexible coupling blows out during transfer. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-20 and -21. RU-22 indicates 7000 mR/hr locally. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg.</p>	<p><u>Resin Transfer Scene:</u> Radwaste Operator notify Security, Fire Protection and the Control Room. <u>Security</u> Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification. <u>Fire Protection (FP)</u> Shift Captain, dispatch EMTs to the scene. Notify medical. <u>Unit 2 CR [Sim]:</u> SS: Notify Radiation Protection (RP). Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.</p>		<p>Scene controller, posing as a RWO standing by at the scene, phones in the notification of the resin spill to extension 4444</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0810	4	C-4	RT Ldr at DG "B"	While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.	<p>Check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset.</p> <p>Inform Unit 2 Control Room.</p> <p>Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG train transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.</p>		<p>NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenario, Appendix N.</p>
0815	5	C-4b	EMT / RPT	EMTs and RPTs arrive at the scene of the Resin Spill.	<p><u>Fire Protection</u> EMTs: evaluate medical situation and begin immediate treatment. Report status of the victim to Unit 2 CR (Sim).</p> <p><u>Security</u> Officer on scene: Establish and maintain communications at the scene. Assist in transport of victims to the Site Medical Facility. Security Shift Captain (SSC): Prepare for security support of handling and transport of the victim. Notify the vehicular access (sally) port.</p> <p><u>RPT</u> Perform initial radiological assessment of the victim and the immediate area. Report the status to medical and the Unit 2 CR (Sim).</p>		<p>EMTs and RPTs begin to arrive at the scene. Controller interact with EMTs and RPTs to provide information required to assess condition of the contaminated injured worker. EMTs and RPTs should determine that the worker is contaminated and requires transportation to a medical facility.</p> <p>NOTE: The remainder of the medical and radiological data relating to the contaminated</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0815 Cont	5 Cont				<p><u>Unit 2 Control Room (Sim)</u> SS: Evaluate the RPT reports and continue to monitor the on-going events. Determine injury and contamination status of the victim. Pass information to the CR.</p>	MB	<p>injured worker will be provided from the Medical Emergency Scenario, <u>App. M</u></p> <p>0840 - (C-4b) Prompt on-site medical to arrange for ground evacuation of injured worker. (See App. M)</p>
0820				<p>With notification of the resin spill in the Rad Waste building, SS has validated ARM alarms, and has sufficient information to declare an ALERT per EPIP-02, App B Tab 1, "Direct Radiation Readings within the plant increase by a factor of 1000"</p>		A	<p>0835 (C-1) To ensure ALERT is declared</p>
0830				<p>Radiological and Medical assessment of the victim is complete. Initial contamination control measures are in place.</p>	<p><u>Fire Protection</u> EMTs prepared for transport on litter to Site Medical Facility and ambulance. <u>RPTs</u> Contamination control boundaries and methodologies are in place for movement of the victim.</p>		<p>NOTE: Detailed medical and radiological data relating to the contaminated injured worker will be provided from the Medical Emergency Scenario, <u>Appendix M</u>. Initial move of injured worker to the Radwaste Building fence area for rapid transport to an <u>area</u> is <u>only</u> required for life-threatening injury, and is not required in this case.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0835	A	C-1	SS	Declare an ALERT per EPIP-02, Appendix B, Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"	<p><u>Unit 2 Control Room (Sim)</u> SS/On-shift Emergency Coordinator declare the ALERT. Direct notifications in accordance with (IAW) EPIP-04.</p> <p><u>Satellite Technical Support Center (STSC)</u> STSC Communicator make appropriate notifications per EPIP-04.</p> <p><u>Operations Support Center (OSC)</u> Begin Activation.</p> <p><u>Technical Support Center (TSC)</u> Begin Activation.</p> <p><u>Emergency Operations Facility (EOF)</u> Begin Activation.</p>		Deliver this message only if SS has not declared the ALERT by this time.
0902	6	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-141 Alert alarm RU-4 High alarm RU-139 Channel 1 and 2 high alarm</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor initiates the Emergency Plan per EPIP-02. Inform TSC/OSC.</p>		RCS tube leak (12%) starts in #1 Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, RU-139 ch-1 & 2 High alarm, and mismatch between charging and letdown flow.

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TIM ⁹	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0902	B	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> PZR Level Channel X deviation low PZR Level Channel Y deviation low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> Pressurizer level indicates 50% and lowering slowly Pressurizer backup heaters cycling in auto</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indication. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor informs TSC/OSC.</p>		<p>Deliver this message only if the simulator is not operational. Lowering Pressurizer level gives additional indications of RCS leak.</p>
0902	C	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 66 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination.</p>		<p>Deliver to AO if Simulator is not operational, when performing leak rate determination. Initial determination of leak rate is 12 gpm. Rate may be increasing.</p>
0905	D	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 53 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination. SS report to TSC/OSC</p>		<p>Deliver to AO if Simulator is not operational, when performing second leak rate determination: 35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0913	E	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 30 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report leak rate to SS/Shift EC. SS report leak rate to TSC/OSC <u>Technical Support Center</u> EC recognizes that >44 gpm leak rate is a redundant indication for ALERT per EPIP-02, App B, Tab 2.</p>		<p>[use 12% break for the 15 minute leak rate check]. Deliver to AO if Simulator is not operational, when performing second leak rate determination: 58 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.</p> <p>41AO-1ZZ08 Step 2 should be complete by this time to minimize release to the environment. NOTE: Per 41AO-1ZZ08 4.0 "...a controlled shutdown is much preferred over tripping the unit." Controllers <u>must</u> pay attention to player decision-making process on mode of shutdown. Controllers may need to increase the leak rate to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage from a rapid power reduction or trip.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0914	F	C-1	SS/ Shift EC	DO NOT TRIP THE UNIT. Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.	<u>UNIT 2 CONTROL ROOM (Sim)</u> Commence normal shutdown by beration at the one hour rate (approximately 5% power per minute). Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.		Deliver to SS / Shift EC if the decision is made to shut the unit down using a Reactor Trip, vice a controlled shutdown at a 5% per minute rate.
0920				Shutdown in progress. Reactor Power 94%			Be aware of plant conditions.
0930	7	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm <u>INDICATIONS IN CONTROL ROOM</u> RU-5 ALEF alarm	<u>UNIT 2 CONTROL ROOM (Sim)</u> SS Direct chemistry perform 74CH-97Z66.		RU-5 alarm due to cross-contamination of "A" Steam Generator from the feed and condensate system.
0940				Contaminated injured worker is ready for offsite transportation by ambulance.	SS/EC/EOD should all realize that this is a redundant indication for NUE.		

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0945				Reactor shutdown continues. Reactor Power 74%.			
0950				Reactor shutdown continues. Reactor Power 69%.			
1000				Reactor shutdown continues. Reactor Power 62%.			
1006	G	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> FW Pump 7B Disch Vlv Pos Nt Open FWPT B Hyd Cont Press Trip FWPT B HP SV Pos Closed FWPT B LP SV Pos Closed <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Feed Pump is tripped			Deliver this message only if simulator is inoperative, when operators trip "B" Main Feed Pump.
1010	H	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> CNDS Pump B Disch Vlv Pos Nt-Open CNDS Pump B Recirc Flow Low <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Condensate Pump is tripped			Deliver this message only if the simulator is inoperative, when operators trip "B" Main Condensate Pump. Reactor Shutdown continues, Reactor power at 51%.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1015	J	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates 4 mils.</p>	<p>Unit 2 Control Room (Sim) AO perform 79AC-OSV01 to analyze vibration problem.</p>		<p>Deliver this message only if the simulator is not operating. Initial indication of worsening RCP fault, which will lead to rotor failure. 79AC-OSV01 requires pump shutdown for displacement of 10 mils.</p>
1020				<p>Reactor Shutdown continues Reactor power 45%</p>			
1030				<p>Reactor Shutdown continues Reactor power 31%</p>			<p>Operators should brief the anticipated reactor trip</p>
1032	K	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> VCT Level Low PZR Nar Rnge Press Ch A,B,C Low PZR Wide Rnge Press Ch A,B,C,D Low PZR Level Ch X Deviation Low PZR Level Ch Y Deviation Low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> VCT Level indicates 31.9% Pzr Press indicates 2218 psia</p>	<p>Operators see increased leak rate, and isolate letdown to attempt to control low ring pressurizer level.</p>		<p>Simulator operator key leak rate to 30%. Steam Generator Tube Rupture begins. Leak rate increases to 200 gpm.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1035	L	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> Master Turb Trip Gen/Reac Initiated Trip 125V Trip Bus Energized Remote Man RPS Ch A Ch A Trip Ckt Bkr Pos Remote Man RPS Ch B Ch B Trip Ckt Bkr Pos Remote Man RPS Ch C Ch C Trip Ckt Bkr Pos Remote Man RPS Ch D Ch D Trip Ckt Bkr Pos CEDM Pwr Bus UNDV 1, 2, 3, 4 CEA 01 through 89 at Btm Steam Bypass Valve 1 - 6 Open Permissive SIAS A Man Act CIAS A Man Act DG Start Signal A Actuated DC Start Signal B Actuated</p> <p><u>INDICATORS IN CONTROL ROOM</u> Reactor Trip Turbine Trip Generator Trip All CEAs indicate fully initiated</p>	<p>Take all immediate actions for Tube Rupture, rediagnose leak and transition to 41AO-1ZZ06 "S/G Tube Rupture" based on SIAS.</p>		<p>Deliver this message only if the simulator is not operational, following manual reactor trip and SI after Steam Generator Tube Rupture.</p> <p>NOTE: CIAS will isolate RU. Operators will have to manually line up the monitor from the Control Room to place it back in service. Radiological data assumes that the monitor is returned to service. If monitor is not deliberately placed back in service, indicate "offline" on RMS data sheets prior to passing out to players.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1040	M	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm Loose Parts Monitor Alarm RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates > 10 mils. RCP-1A Indicates Tripped Loose Parts Monitor indicates alarms on lower vessel head and S/G #1 lower head. RU-16, -17, -148 High Alarm</p>	Be aware of plant conditions.		Deliver this message only if the simulator is not operating. RCP-1A rotor fails, RCP trips. Remaining operating pumps -2A, -1B and -2B will flush rotor debris through the core. RCS Rad levels increase.
1045					<p><u>Unit 2 CR/STSC (Sim)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator.</p> <p><u>TSC</u> EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct implant team activities.</p> <p><u>OSC</u> OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.</p> <p><u>EOF</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>	Q	Sufficient information is available for declaration of a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity". (1100) C-2 To ensure SAE is declared.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1050				Wide range level in #1 S/G is approaching 80%. Operators line up and conduct high rate blowdown on S/G #1 to keep level below 80%.		N	(1050) C-1 to ensure operators conduct high rate blowdown to control #1 S/G level.
1050	N	C-1	SS	Implement high rate blowdown on S/G #1 to keep level below 80%.			Deliver this message only if operators fail to conduct high rate blowdown on #1 S/G with level exceeding 80%.
1055	P	C-1	CO	<u>INDICATIONS IN CONTROL ROOM</u> Spray valves indicate shut	Unit 2 Control Room (Sim) CO: Inform SS, attempt to open other Spray valve (fails). SS: Direct CO to use aux. spray to reduce plant pressure. <u>TSC</u> Direct OSC to troubleshoot fault. <u>OSC</u> Brief and dispatch team to investigate.		Deliver this message only if the simulator is not operating, when operator attempts to use spray to depressurize the plant and reduce primary to secondary dip. Spray valve controller has failed, both spray valves are shut. Repair time will be 2 hours. All additional troubleshooting and repair information for the Spray Valve Controller will be found in the OSC Mini-Scenarios, Appendix N

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1100	Q	C-2	TSC/ EC	Declare a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity".	<p><u>Unit 2 CR/STSC (Sim)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator.</p> <p><u>TSC</u> EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct inplant team activities.</p> <p><u>OSC</u> OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.</p> <p><u>EOF</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>		Deliver this message only if a SAE has not yet been declared.
1100	R	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> SESS Alarm.</p> <p><u>INDICATIONS IN CONTROL ROOM</u> SC-221 (Downcomer Sample Line) is shut.</p>	<p>Be aware of plant conditions.</p> <p>SC-221 is a normally open valve. The valve has failed shut due to a burned up solenoid operator.</p> <p>SS will either direct Chem Tech to sample via hot leg, or troubleshoot the failed valve.</p>		<p>Deliver this message only if the simulator is not operating.</p> <p>Additional troubleshooting data is found in <u>Appendix N, OSC Mini-Scenarios</u>.</p> <p>SESS alarms due to in-ramp for sampling Steam Generators.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1110					#1 Steam Generator is isolated, beginning cooldown at initial rate of 30°F/hr, to 75°F/hr when under control.		Be aware of plant conditions.
1130	T	C-1	SS, CO	Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.			Deliver this message only if SS has not yet ordered a PASS sample.
1145	U	C-1	SS, CO	ANNUNCIATORS IN CONTROL ROOM MSRV Trouble Alarm. INDICATIONS IN CONTROL ROOM #1 S/G Safety valve indicates open.			Deliver this message if the simulator is not operating.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1145	8	C-4a	On Site RMT	<p>Call in the following message to be passed to the Unit 2 Control Room (Simulator):</p> <p>"I just heard a loud noise from the direction of the Unit 2 MSSS, kind of a bang or crack, and now there is steam visible flowing out near the top."</p>	<p><u>Unit 2 Control Room/STSC (Sim)</u> SS: Recognize that a release of steam has started, evaluate source. When #1 S/g is determined to be leaking, begin dose projection efforts. Inform OSC/TSC. TSC EC: Evaluate plant conditions. Assist in mitigation effort. Consider protective measures. TSC EC: Recognize that the conditions of EPP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. EOF - SAC: Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.</p>	W	<p>Call in message to Unit 2 Control Room (Sim) or start of release. #1 S/G Safety Valve spring has failed, the safety is open and a release of activity to the environment has started. (1200) C-2 Ensure a GE is declared.</p>
1155	9	C-4a	OSC Coord.	<p>You are having trouble hearing announcements over the plant page speaker in the OSC.</p>	<p>OSC Repair Coordinator direct electrician to investigate.</p>		

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1200	W	C-2	T S C, EC	"Declare a GENERAL EMERGENCY per EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere"			Deliver this message only if EC has not yet declared a GENERAL EMERGENCY.
1210	10	C-4	OSC Coord.	Electrician troubleshooting low volume on plant page speaker in OSC returned with stepladder. While setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the speaker, and breaks it off. The entire OSC is immediately and continuously sprayed with water (approximately 40 gpm). As fire main pressure drops, the fire pump starts. Increased header pressure increases spray flow rate to 75gpm.	<p><u>OSC</u> Attempt to save documentation, equipment, and procedures. Move temporarily to the RP island area. Isolate the fire main in the OSC. Evaluate damage. Based on lack of communications and ruined procedures, evacuate to the backup OSC.</p> <p><u>TSC</u> Continue to monitor and evaluate plant conditions. Coordinate OSC evacuation.</p> <p><u>EOF</u> RAC: Monitor radiological conditions and make appropriate recommendations for minimizing exposure during OSC relocation.</p>	X	<p>(1220) C-4 Ensure OSC is evacuated to the backup OSC.</p> <p>Controllers begin randomly hanging up phones in use to simulate loss of phone lines. Direct players to ignore ringing phones.</p> <p>Controller communications will continue unaffected on the PBX line.</p> <p>Remaining troubleshooting and repair scenario will be found in the OSC Miss-Scenarios, Appendix N</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1220	X	C-4	OSC Dir.	Relocate OSC functions to the backup OSC.	OSC Prepare and evacuate the OSC.		Deliver this message as directed by the Master Controller, only if OSC relocation has not yet been ordered.
1215							Cooldown continues. Release to the environment continues.
1230				Adjust Coolant Charging Pump Vibration Dampers due to continued cooldown and depressurization of the RCS.	Team will adjust CCP Pulsation dampers per procedure. No additional information or equipment indications beyond those in the applicable procedures are required.		Deliver to team leader assigned to adjust CCP pulsation dampers per 41A0-1ZZ07.
1235					SS should elect to continue cooldown by steaming, but make preparations for shutdown cooling.		Conditions are met for entering S/D cooling per 41A0-1ZZ06, App A, Para 15 of 17, Step 26. RCS temp 289°F. Pre to S/D, dip 67 psid, safety removal open.
1300	11	AC	ALL	Secure from the Exercise.	Secure from the exercise. Clean and re-stow emergency equipment. Prepare for facility critiques.		Deliver this message as directed by the master controller when the plant is ready to enter S/D cooling.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1 / All

TO: SS / A

MESSAGE NO. 1

TIME: 0730

LOCATION: Unit 2 Control Room (Simulator)

INSTRUCTION:

Pass the following message to the Shift Supervisor at this time.

Note:

Pass the following message to facility managers and key players in all facilities as they are manned in the course of the Exercise.

NOTE: Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS All

TIME: 0730

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Simulator)

MESSAGE:

INITIAL CONDITIONS

Unit 2 is operating at 100% power; middle of core life.

DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start.

A spent resin transfer from the storage tank to a shipping cask is in progress.

Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam.

LPSI "B" is OOS. While conducting 41ST-1SI11 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time.

Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

1C DG B Trip
1C DG B Emergency Manual Trip
1C DG B High Priority Trouble

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-2

TO: SS, CO

MESSAGE NO. 2

TIME: 0800

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS and CO at this time.

Note:

Flex coupling has blown out during resin transfer. Approximately 5 - 6 kCi of normal hot resin have spilled on the floor of the Rad Waste Building. Elevated radiation levels due to the spill of resin.

Be aware of plant conditions. Attempt to validate the high radiation alarms in the Rad Waste Building. SS should realize that valid high radiation alarms in the area constitute an ALERT per EPIP-02 App B Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, CO

TIME: 0800

MESSAGE NO. 2

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS alarm

INDICATIONS IN CONTROL ROOM

RU-20 indicates 1000 mR/hr.

RU-21 indicates 500 mR/hr.

RU-22 indicates 7000 mR/hr.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RWO

MESSAGE NO. 3

TIME: 0800

LOCATION: Radwaste Building, Scene of resin transfer.

INSTRUCTION:

Pass the following message to RWO at this time.

Note:

Scene controller, posing as a RWO standing by at the scene, phones in the notification of the resin spill to extension 4444

Resin Transfer Scene:

Radwaste Operator notify Security, Fire Protection and the Control Room.

Security

Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification.

Fire Protection (FP)

Shift Captain, dispatch EMTs to the scene. Notify medical.

Unit 2 CR [Sim]:

SS: Notify Radiation Protection (RP), Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: RWO

TIME: 0800

MESSAGE NO. 3

LOCATION: Radwaste Building, Scene of resin transfer

MESSAGE:

Spent resin spill:

Flexible coupling blows out during transfer. Resin spills out onto the floor.

Local area radiation levels increase. RU-22 alarms, followed by RU-20 and -21.

Local area radiation levels indicate up to 7000 mR/hr.

One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, and is suffering from a compound fracture of the lower left leg.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RT Leader at DG-B

MESSAGE NO. 4

TIME: 0810

LOCATION: Diesel Generator B

INSTRUCTION:

Pass the following message to RT Leader at this time.

Note:

DG-B fuel oil transfer pump failed after pumping 100 gallons

RT informs Unit-2 Control Room (Sim.) and checks breaker for pump. Breaker PHB-M3212 is tripped and will not reset.

Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG train transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.

NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: RT Leader DG-B

TIME: 0810

MESSAGE NO. 4

LOCATION: Diesel Generator "B"

MESSAGE:

While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: EMT / RPT

MESSAGE NO. 5

TIME: 0815

LOCATION: Radwaste Building, Scene of resin spill.

INSTRUCTION:

Pass the following message to EMT / RPT at this time.

Note:

EMTs and RPTs begin to arrive at the scene. Controller interact with EMTs and RPTs to provide information required to assess condition of the contaminated injured worker. EMTs and RPTs should determine that the worker is contaminated and requires transportation to an off-site medical facility.

NOTE: The remainder of the medical and radiological data relating to the contaminated injured worker will be provided from the Medical Emergency Scenario, Appendix M.

Fire Protection

EMTs: evaluate medical situation and begin immediate treatment. Report status of the victim to Unit 2 CR (Sim).

Security

Officer on-scene: Establish and maintain communications at the scene. Assist in transport of victims to the Site Medical Facility.

Security Shift Captain (SSC): Prepare for security support of handling and transport of the victim. Notify the vehicular access (sally) port.

RPT

Perform initial radiological assessment of the victim and the immediate area. Report the status to medical and the Unit 2 CR (Sim).

Unit 2 Control Room (Sim)

SS: Evaluate the RPT reports and continue to monitor the on-going events.

Determine injury and contamination status of the victim. Pass information to the CR.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: EMT / RPT

TIME 0815

MESSAGE NO. 5

LOCATION: Radwaste Building, Scene of resin spill.

MESSAGE:

EMTs and RPTs arrive at the scene of the Resin Spill.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS

MESSAGE NO. A

TIME: 0835

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS at this time.

Note:

Deliver this message only if SS has not declared the ALERT by this time.

Unit 2 Control Room

SS/On-shift Emergency Coordinator declare the ALERT. Direct notifications in accordance with (IAW) EPIP-04.

Satellite Technical Support Center (STSC)

STSC Communicator make appropriate notifications per EPIP-04.

Operations Support Center (OSC)

Begin Activation.

Technical Support Center (TSC)

Begin Activation.

Emergency Operations Facility (EOF)

Begin Activation.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS

TIME: 0835

MESSAGE NO. A

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Declare an ALERT per EPIP-02, Appendix B, Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, CO

TIME: 1101Z

MESSAGE NO. 6

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS Alarm

INDICATIONS IN CONTROL ROOM

RU-141 Alert alarm

RU-4 High alarm

RU-139 Channel 1 high alarm

RU-139 Channel 2 high alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 0902

MESSAGE NO. B

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

PZR Level Channel X deviation low

PZR Level Channel Y deviation low

INDICATIONS IN CONTROL ROOM

Pressurizer level indicates 50% and lowering slowly

Pressurizer backup heaters cycling in auto

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, AO

TIME: 0902

MESSAGE NO. C

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination:
Charging Flow: 88 gpm
Letdown Flow: 66 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, AO

MESSAGE NO. D

TIME 0905

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, AO at this time.

Note:

Deliver to AO if Simulator is not operational, when performing second leak rate determination:

35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.

Unit 2 Control Room (Sim.)

AO report to SS/Shift EC. Continue leak rate determination.

SS report to TSC/OSC

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, AO

TIME: 0905

MESSAGE NO. D

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination:

Charging Flow: 88 gpm

Loaddown Flow: 53 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, AO

TIME: 0913

MESSAGE NO. E

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Team Generator Primary to Secondary Leak Rate Determination:
Charging Flow: 88 gpm
Letdown Flow: 30 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS / Shift EC

MESSAGE NO. E

TIME: 1714

LOCATION: Unit 2 Control Room (Sim)

INSTRUCTION:

Pass the following message to SS / Shift EC at this time.

Note

Deliver to SS / Shift EC if the decision is made to shut the unit down using a Reactor Trip, vice a controlled shutdown at a 5% per minute rate.

UNIT 2 CONTROL ROOM (Sim)

Commence normal shutdown by boration at the one hour rate (approximately 5% power per minute). Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS / Shift EC

TIME: 0914

MESSAGE NO. F

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

DO NOT TRIP THE UNIT.

Per 41AO-1ZZ08 4.0 With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS / CO

MESSAGE NO. 7

TIME: 0930

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS / CO at this time.

Note:

RU-5 alarm due to cross-contamination of "A" Steam Generator from the feed and condensate system.

UNIT 2 CONTROL ROOM (Sim)

SS Direct chemistry perform 74CH-9ZZ66.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS / CO

TIME: 0930

MESSAGE NO. 7

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM
RMS Alarm

INDICATIONS IN CONTROL ROOM
RU-5 ALERT alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7263, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO. G

TIME: 1000

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Deliver this message only if simulator is inoperative, when operators trip "B" Main Feed Pump.

D. ALL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1000

MESSAGE NO: G

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

FW Pump 7B Disch Vlv Pos Nt Open
FWPT B Hyd Cont Press Trip
FWPT B HP SV Pos Closed
FWPT B LP SV Pos Closed

INDICATIONS IN CONTROL ROOM

"B" Main Feed Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO. H

TIME: 1010

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Deliver this message only if the simulator is inoperative, when operators trip "B" Main Condensate Pump.

Reactor Shutdown continues. Reactor power at 51%.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS/CO

TIME: 1010

MESSAGE NO. H

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

CNDS Pump B Disch Vlv Pos-Nt-Open
CNDS Pump B Rechr Flow Low

INDICATIONS IN CONTROL ROOM

"B" Main Condensate Pump ^{1A} tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO: 1

TIME: 1015

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Deliver this message only if the simulator is not operating.

Initial indication of worsening RCP fault, which will lead to rotor failure. 79AC-OSV01 requires pump shutdown for displacement of 10 mils.

Unit 2 Control Room (Sim)

AC perform 79AC-OSV01 to analyze vibration problem.

When decision is made to shut down 2 RCPs, operators should shut down 1A and 2A.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
OPERATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO.

TIME: 1015

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates 4 mils.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO. K

TIME: 1032

LOCATION: Unit 2 Control Room (Sim)

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Simulator operator key leak rate to 30%.

Steam Generator Tube Rupture begins. Leak rate increases to 400 gpm.

Operators see increased leak rate, and isolate shutdown to attempt to control lowering pressurizer level

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1982

MESSAGE NO. K

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

VCT Level Low
PZR Nar Rnge Press Ch A Low
PZR Nar Rnge Press Ch B Low
PZR Nar Rnge Press Ch C Low
PZR Wide Rnge Press Ch A Low
PZR Wide Rnge Press Ch B Low
PZR Wide Rnge Press Ch C Low
PZR Wide Rnge Press Ch D Low
PZR Level Ch X Deviation Low
PZR Level Ch Y Deviation Low

INDICATIONS IN CONTROL ROOM

VCT Level indicates 31.9%
Pzr Press indicates 2218 psia

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO. 1

TIME: 1035

LOCATION: Unit 2 Control Room (Sim 2)

INSTRUCTION

Pass the following message to SS' CO at this time

Note:

Deliver this message only if the simulator is not operational, following manual reactor trip and SI after Steam Generator Tube Rupture.

Take all immediate actions for Tube Rupture, rediagnose leak and transition to 41AO-1ZZ06 "S/G Tube Rupture" based on SIAS.

NOTE: CIAS will isolate RU-1. Operators will have to manually line up the monitor from the Control Room to place it back in service. Radiological data assumes that the monitor is returned to service. If monitor is not deliberately placed back in service, indicate "offline" on RMS data sheets prior to passing out to players.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1035

MESSAGE NO: 1

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

INDICATIONS IN CONTROL ROOM

Master Turb Trip
Gen Rzac Initiated Trip
125V Trip Bus Energized
Remote Man RPS Ch A
Ch A Trip Ckt Bkr Pos
Remote Man RPS Ch B
Ch B Trip Ckt Bkr Pos
Remote Man RPS Ch C
Ch C Trip Ckt Bkr Pos
Remote Man RPS Ch D
Ch D Trip Ckt Bkr Pos
CEDM Fwr Bus UNDV 1, 2, 3, 4
CEA 01 through 89 at Bim
Steam Bypass Valve 1 - 6 Open Permissive
SIAS A Man Act
CIAS A Man Act
DG Start Signal A Actuated
DG Start Signal B Actuated

Reactor Trip
Turbine Trip
Generator Trip
All CEAs indicate fully inserted

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CC

MESSAGE NO. M

TIME: 1040

LOCATION: Unit 2 Control Room (Sim 1)

INSTRUCTION:

Pass the following message to SS/CC at this time.

Note:

Deliver this message only if the simulator is not operating.

Be aware of plant conditions.

RCP-1A rotor falls. BCP trips. Remaining operating pumps -2A, -1B and -2B will flush rotor debris through the core. RCS Rad levels increase.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME 1040

MESSAGE NO. M

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm
Loose Parts Monitor Alarm
RMS Alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates > 10 mils.
RCP-1A Indicates Tripped
Loose Parts Monitor indicates alarms on lower vessel head and S-G #1 lower head
RL-16, -17, -18 High Alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS

MESSAGE NO. N

TIME: 1050

LOCATION: Unit 2 Control Room (Sith-1)

INSTRUCTION:

Pass the following message to SS at this time.

Note:

Deliver this message only if operators fail to conduct high rate blowdown on #1 S/G with level exceeding 80%.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS

TIME: 1050

MESSAGE NO. N

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Implement high rate blowdown on S/G #1 to keep level below 80%.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: CO

TIME: 1055

MESSAGE NO. P

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

INDICATIONS IN CONTROL ROOM

Spray valves indicate shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-2

TO: EC

MESSAGE NO. Q

TIME: 1109

LOCATION: Technical Support Center

INSTRUCTION:

Pass the following message to the Emergency Coordinator at this time.

Note:

Deliver this message only if a SAE has not yet been declared.

Unit 2 CR/STSC (Sim)

SS: Continue to direct the evaluation and mitigation effort.

Ops Advisor: Continue to update the Ops Coordinator.

TSC

EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures.

RPC: Evaluate radiological conditions, direct inplant team activities.

OSC

OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.

EOF

EOD: Evaluate plant conditions, update EOC/TOC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: EC

TIME: 1100

MESSAGE NO. Q

LOCATION: Technical Support Center

MESSAGE:

Declare a SITE AREA EMERGENCY per EPIP-02, Appendix A, "BCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity"

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLED INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO. R

TIME: 1100

LOCATION: Unit 2 Control Room (Sim.)

INSTR. ON

Pass the following message to SS CO at this time.

Note:

Deliver this message only if the simulator is not operating.

SC-221 is a normally open valve. The valve has failed shut due to a burned up solenoid operator. SS will either direct Chem Tech to sample via hot leg, or troubleshoot the failed valve.

Additional troubleshooting data is found in Appendix N, OSC Mini-Scenarios.

SESS alarms due to lineup for sampling, Steam Generators.

Be aware of plant conditions.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS/CO

TIME: 1100

MESSAGE NO. B

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

SESS Alarm

INDICATIONS IN CONTROL ROOM

SC-221 (Downcomer Sample Line) is shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS: CO

TIME: 1130

MESSAGE NO. T

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO: U

TIME: 1145

LOCATION: Unit 2 Control Room (Sign.)

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Deliver this message if the simulator is not operating.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1145

MESSAGE NO: 1

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

MSRV Trouble Alarm

INDICATIONS IN CONTROL ROOM

#1 S/G Safety valve indicates open.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: SS, CO

MESSAGE NO: 8

TIME: 1142

LOCATION: Outside Unit 2 Near M555

INSTRUCTION:

Controller direct team leader call in the following message to be passed to the Unit 2 Control Room (Simulate) at this time

Note:

Call in message to alert Control Room (Sim) of start of release.

#1 S/G Safety Valve spring has failed, the safety is open and a release of activity to the environment has started.

Unit 2 Control Room STSC (Sim)

SS: Recognize that a release of steam has started, evaluate source. When #1 S/g is determined to be leaking, begin dose projection efforts. Inform OSC/TSC.

TSC

EC: Evaluate plant conditions. Assist in mitigation effort. Consider protective measures. Recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and "> 10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY.

EOF

RAC: Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1145

MESSAGE NO. 8

LOCATION: Outside of Unit 2 near the MSSS

MESSAGE:

Call in the following message to pass to the Unit 2 Control Room (Simulator):

"I just heard a loud noise from the direction of the Unit 2 MSSS. I had a feeling on my face and now there is steam visible flowing out near the top."

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: OSC Coordinator

TIME 1155

MESSAGE NO. 9

LOCATION: OSC

MESSAGE:

You are having trouble hearing announcements over the plant page speaker in the OSC.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-2

TO: TSC, EC

MESSAGE NO. W

TIME 1200

LOCATION Technical Support Center

INSTRUCTION:

Pass the following message to EC in TSC at this time.

Note:

Deliver this message only if EC has not yet declared a GENERAL EMERGENCY.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: Emergency Coordinator

TIME 1200

MESSAGE NO. W

LOCATION: Technical Support Center

MESSAGE:

"Declare a GENERAL EMERGENCY per EPIP-02 Appendix A "RCS Leakage > 43 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere."

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: OSC Coordinator

MESSAGE NO. 10

TIME: 1210

LOCATION: Original at in Center

INSTRUCTION:

Pass the following message to OSC Director at this time.

Note:

OSC

Attempt to save documentation, equipment, and procedures. Move temporarily to the RP island area. Isolate the fire main in the OSC. Evaluate damage. Based on lack of communications and ruined procedures, evacuate to the backup OSC.

TSC

Continue to monitor and evaluate plant conditions. Coordinate OSC evacuation.

EOF

RAC: Monitor radiological conditions and make appropriate recommendations for minimizing exposure during OSC relocation.

Controllers begin randomly hanging up phones in use to simulate loss of phone lines. Direct players to ignore ringing phones.

Controller communications will continue unaffected on the PBX line.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: OSC Coordinator

TIME: 1211

MESSAGE NO. 10

LOCATION: Operations Support Center

MESSAGE:

Electrician troubleshooting low volume on plant page speaker in OSC returned with step ladder. While setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the speaker, and breaks it off. The entire OSC is immediately and continuously sprayed with water (approximately 40 gpm). As fire main pressure drops, the fire pump starts. Increased header pressure increases spray flow rate to 75gpm.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLED INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: OSC Dir.

MESSAGE NO. X

TIME: 1220

LOCATION: Operations Support Center

ACTION:

Following message to OSC Director at this time.

Deliver this message as directed by the Master Controller, only if OSC relocation has not yet been ordered.

OSC

Prepare to and evacuate the OSC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: OSC Director

TIME: 1220

MESSAGE NO. X

LOCATION: Operations Support Center

MESSAGE:

Relocate OSC functions to the backup OSC.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: AC

TO: ALL

MESSAGE NO: 11

TIME: 1300

LOCATION: All Facilities

INSTRUCTION:

Pass the following message to All Facility Managers at this time.

Note:

Deliver this message as directed by the master controller when all objectives have been demonstrated, and the plant is ready to enter shutdown cooling.

All Players

Secure from the exercise.

Clean and re-stow emergency equipment.

Prepare for facility critiques.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: ALL

TIME: 1300

MESSAGE NO. 11

LOCATION: All Facilities

MESSAGE:

Secure from the Exercise.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: for

TIME: time

MESSAGE NO. number

LOCATION:

MESSAGE:

TEXT

UNIT 2 CR (SIMULATOR) PHONE: N7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	1.60E-11	1.60E-11	1.60E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	5.25E-07	5.25E-07	5.25E-07	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.12E-01	1.12E-01	1.12E-01	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	1.00E+00	1.00E+00	1.00E+00	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	3.16E-01	3.16E-01	3.16E-01	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	7.87E-01	7.87E-01	7.87E-01	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	3.28E-02	6.37E-02	9.19E-02
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	5.78E-06	1.12E-05	1.62E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	2.70E-03	2.61E-03	2.43E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.37E+04	2.33E+04	2.14E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.24E+04	2.21E+04	2.03E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	10:0	1020
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.20E-01	1.46E-01	1.72E-01	1.97E-01	2.21E-01	2.46E-01
RU-5	uCi/cc	2.11E-05	2.58E-05	3.03E-05	3.46E-05	3.89E-05	4.31E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-139 Ch 2	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.44E-03	2.42E-03	2.34E-03	2.32E-03	2.36E-03	2.38E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.11E+04	2.08E+04	2.06E+04	2.03E+04	2.01E+04	1.98E+04
RU-151	mR/hr	2.00E+04	1.97E+04	1.95E+04	1.92E+04	1.90E+04	1.88E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	3.76E-01	1.34E+02	2.63E+02	3.89E+02	5.12E+02	6.33E+02
RU-5	uCi/cc	6.60E-05	4.60E-02	9.05E-02	1.34E-01	1.32E-01	1.30E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.54E+02	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-139 Ch 2	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.17E-03	2.27E-05	2.26E-05	2.25E-05	2.24E-05	2.23E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-148	R/hr	1.00E+00	2.28E+03	2.27E+03	2.26E+03	2.25E+03	2.25E+03
RU-149	R/hr	1.00E+00	1.09E+02	1.06E+02	1.06E+02	1.06E+02	1.05E+02
RU-150	mR/hr	1.06E+04	3.85E+07	3.81E+07	3.77E+07	3.74E+07	3.70E+07
RU-151	mR/hr	1.86E+04	3.64E+07	3.61E+07	3.57E+07	3.54E+07	3.51E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	7.90E+01	1.40E+07	1.39E+07	1.38E+07	1.36E+07	1.35E+07
RU-157 Ch 2	mR/hr	1.00E+01	1.37E+02	1.36E+02	1.35E+02	1.34E+02	1.33E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	6.60E-07	6.60E-07	6.60E-07	6.60E-07	6.60E-07	6.60E-07
RU-4	uCi/cc	7.50E+02	8.65E+02	9.77E+02	1.09E+03	1.19E+03	1.30E+03
RU-5	uCi/cc	1.29E-01	1.27E-01	1.25E-01	1.24E-01	1.22E-01	1.21E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-139 Ch 2	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.23E-05	2.22E-05	2.21E-05	2.20E-05	2.20E-05	2.19E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-148	R/hr	2.24E+03	2.23E+03	2.22E+03	2.22E+03	2.21E+03	2.20E+03
RU-149	R/hr	1.05E+02	1.05E+02	1.04E+02	1.04E+02	1.04E+02	1.03E+02
RU-150	mR/hr	3.67E+07	3.64E+07	3.61E+07	3.58E+07	3.55E+07	3.52E+07
RU-151	mR/hr	3.48E+07	3.45E+07	3.42E+07	3.39E+07	3.36E+07	3.34E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.34E+07	1.33E+07	1.31E+07	1.30E+07	1.27E+07	1.23E+07
RU-157 Ch 2	mR/hr	1.32E+02	1.31E+02	1.30E+02	1.28E+02	1.26E+02	1.23E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

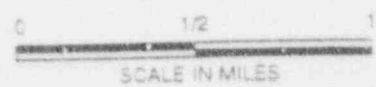
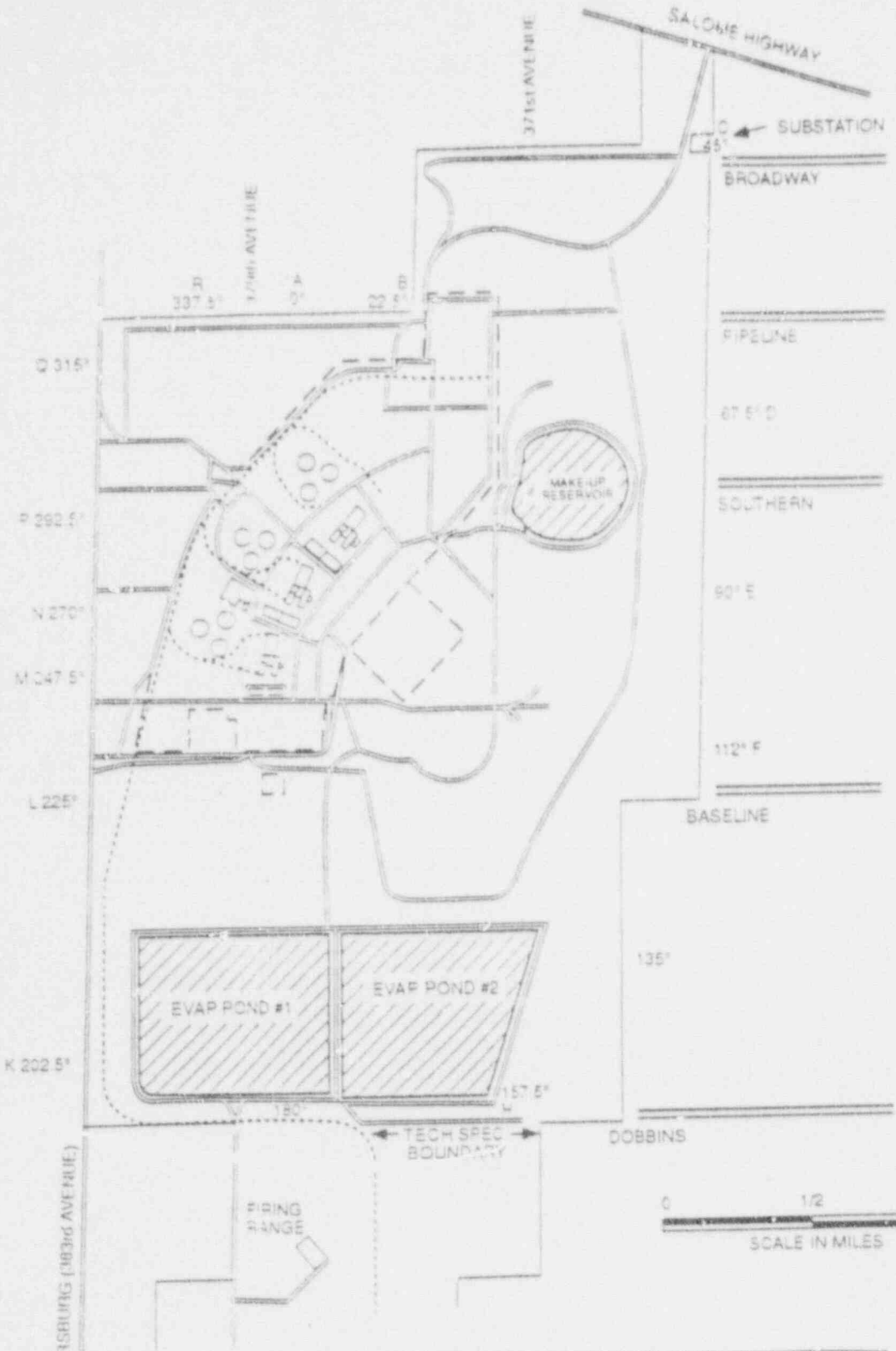
	DRILL+	300	310	320	330	340	350
Monitor	Units	1230	1240	1250	1300	1310	1320
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.40E+03	1.50E+03	1.60E+03	1.69E+03	1.79E+03	1.88E+03
RU-5	uCi/cc	1.20E-01	1.18E-01	1.17E-01	1.16E-01	1.14E-01	1.13E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-139 Ch 2	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.19E-05	2.18E-05	2.18E-05	2.17E-05	2.17E-05	2.16E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	300	310	320	330	340	350
Monitor	Units	1230	1240	1250	1300	1310	1320
RU-148	R/hr	2.20E+03	2.19E+03	2.18E+03	2.18E+03	2.17E+03	2.17E+03
RU-149	R/hr	1.01E+02	1.03E+02	1.02E+02	1.02E+02	1.01E+02	1.01E+02
RU-150	mR/hr	3.50E+07	3.47E+07	3.45E+07	3.42E+07	3.40E+07	3.37E+07
RU-151	mR/hr	3.31E+07	3.29E+07	3.26E+07	3.24E+07	3.21E+07	3.19E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.20E+07	1.17E+07	1.13E+07	1.10E+07	1.07E+07	1.03E+07
RU-157 Ch 2	mR/hr	1.21E+02	1.19E+02	1.16E+02	1.14E+02	1.12E+02	1.09E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	8.00E+06	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	360	370	380	390
Monitor	Units	1330	1340	1350	1400
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	6.60E-07	6.60E-07	6.60E-07	6.60E-07
RU-4	uCi/cc	1.98E+03	2.07E+03	2.17E+03	2.27E+03
RU-5	uCi/cc	1.12E-01	1.10E-01	1.08E-01	1.07E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-139 Ch 2	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.16E-05	2.15E-05	2.15E-05	2.14E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	360	370	380	390
Monitor	Units	1330	1340	1350	1400
RU-148	R/hr	2.16E+03	2.15E+03	2.15E+03	2.14E+03
RU-149	R/hr	1.00E+02	9.86E+01	9.81E+01	9.75E+01
RU-150	mR/hr	3.35E+07	3.32E+07	3.30E+07	3.27E+07
RU-151	mR/hr	3.16E+07	3.14E+07	3.11E+07	3.09E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+07	9.67E+06	9.33E+06	9.00E+06
RU-157 Ch 2	mR/hr	1.07E+02	1.05E+02	1.02E+02	1.00E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01

- A 0°
- AB 11°
- B 22.5°
- BC 34°
- C 45°
- CD 56°
- D 67.5°
- DE 79°
- E 90°
- EF 101°
- F 112°
- FG 124°
- G 135°
- H 146°
- I 157.5°
- J 169°
- K 180°
- L 202.5°
- M 214°
- N 225°
- UV 236°
- M 247.5°
- N 259°
- O 270°
- NP 281°
- P 292.5°
- PO 304°
- Q 315°
- QR 326°
- R 337.5°
- RA 349°



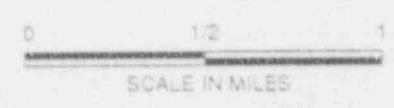
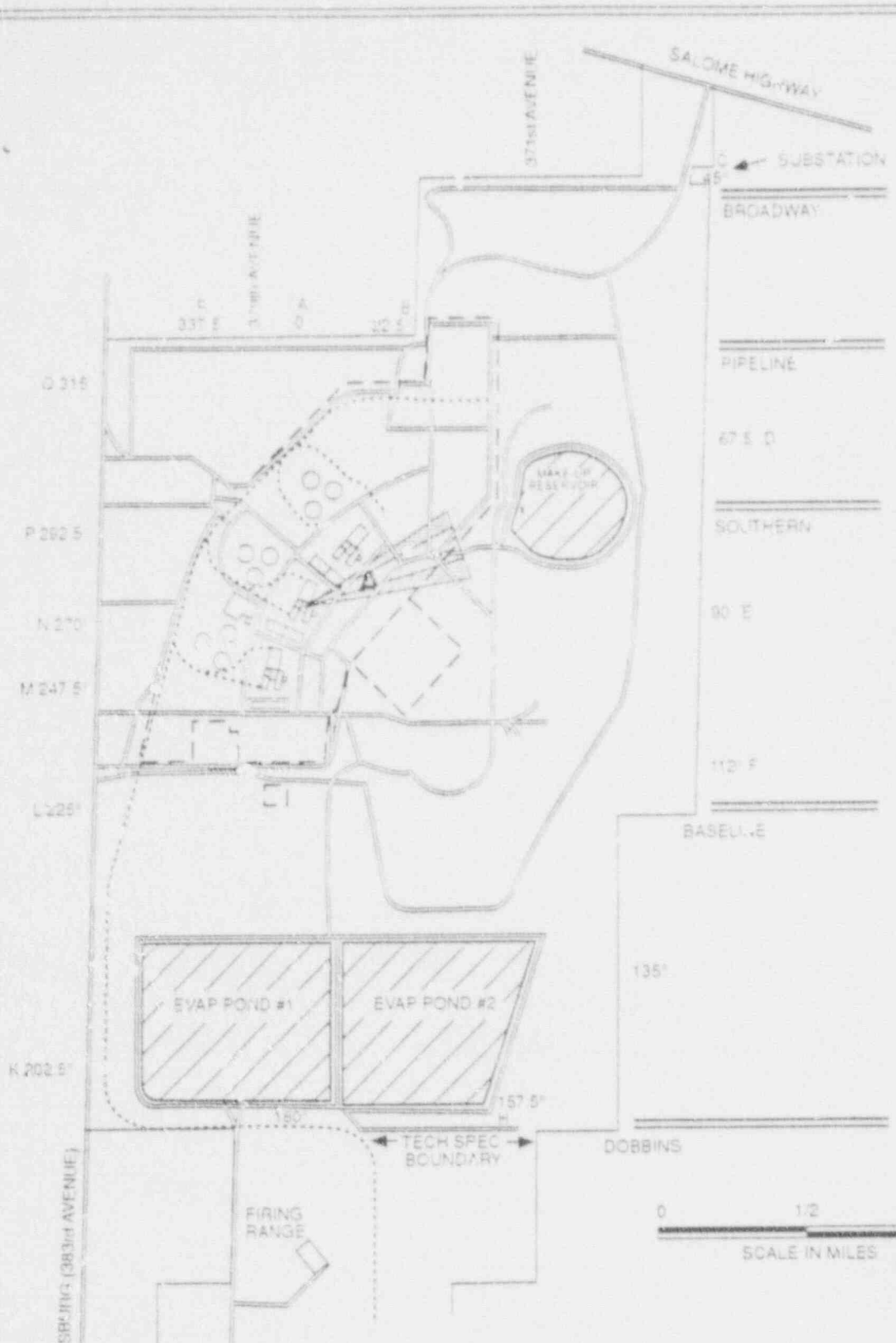
Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Indice	Smears
	W.C. (mR/hr)	W.C. (mR/hr)	Fissher (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fissher (cpm)	AgZ Cartridge	Fissher Paper	(uCi/cp)	
ALL	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ

ON-SITE INSTRUMENT READINGS

TIME 3:00-3:15 P



- A D'
- AB 11'
- B 22 S
- BC 34
- C 45
- CD 56'
- D 67 S'
- DE 79'
- E 90'
- EF 101'
- F 113'
- FG 124
- G 135
- GH 146'
- H 157 S'
- I 169
- J 180
- JK 191
- K 202 S'
- KL 214'
- L 225'
- LM 236'
- M 247 S'
- MN 259'
- N 270'
- NP 281'
- P 292 S'
- PO 304'
- Q 315'
- QR 326'
- R 337 S'
- RA 349'



Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Sensors Counts per Minute		Iodine Calc. (uCi/cc)	Smear (cpm)
	W.C. (mR/hr)	W.C. (mR/hr)	Fraker (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fraker (cpm)	Ag2 Cartridge	Filter Paper		
			(cpm)				(mR/hr)	AS READ	AS READ	
A	53600	26800	>100,000	5380	2680	>100,000	3215	AS READ	9.96E-04	AS READ

5830

ON-SITE INSTRUMENT READINGS

TIME 11:50 12:00



- A 0
- AB 11
- B 22.5
- BC 34
- C 45
- CD 56
- D 67.5
- DE 79
- EF 90
- FG 101
- G 112
- GH 124
- H 135
- HI 146
- I 157.5
- HJ 169
- J 180
- JK 191
- K 202.5
- KL 214
- L 225
- LM 236
- M 247.5
- MN 259
- N 270
- NP 281
- P 292.5
- PQ 304
- Q 315
- QR 326
- R 337.5
- RA 349



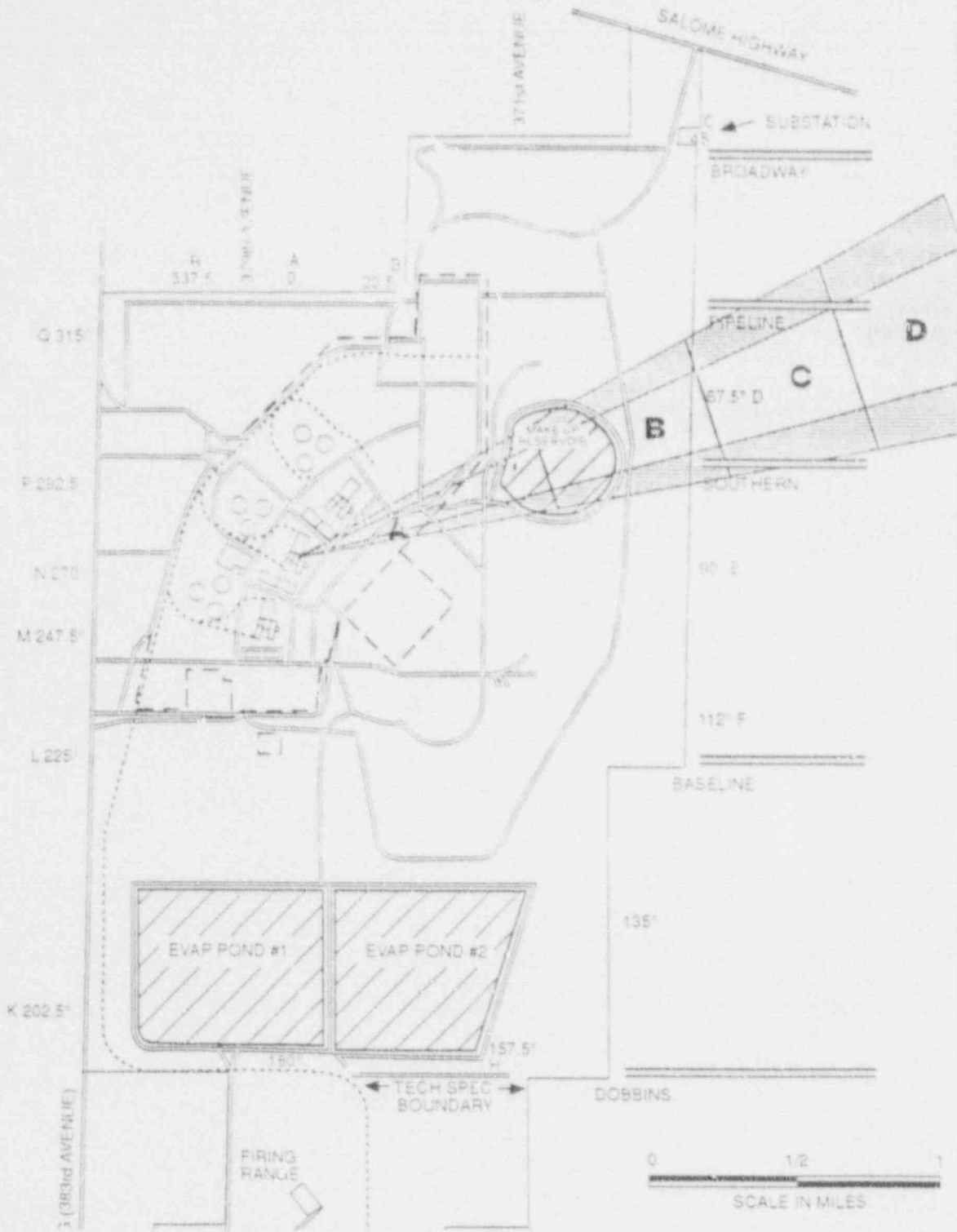
Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Filter Paper	Iodine Cells	Smears (cpm)
	W.C. (mR/hr)	W.C. (mR/hr)	Frisker (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Frisker (cpm)	Ag2 Cartridge	Filter Paper			
A	43750	21675	> 100,000	4375	2188	> 100,000	2625	mR/hr	AS READ	8.13E-04	AS READ
B	19380	9190	> 100,000	1738	819	> 100,000	883	mR/hr	AS READ	3.04E-04	AS READ
C	7641	3821	> 100,000	764	382	> 100,000	458	mR/hr	AS READ	1.42E-04	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:00:12:10



- A 0
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- CD 57.5'
- DE 78'
- EF 90'
- F 101'
- G 112'
- FG 124'
- G 135'
- GH 148'
- H 157.5'
- HJ 169'
- J 180'
- JK 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 259'
- N 270'
- NP 281'
- P 292.5'
- PD 304'
- O 315'
- OR 326'
- R 337.5'
- RA 348'



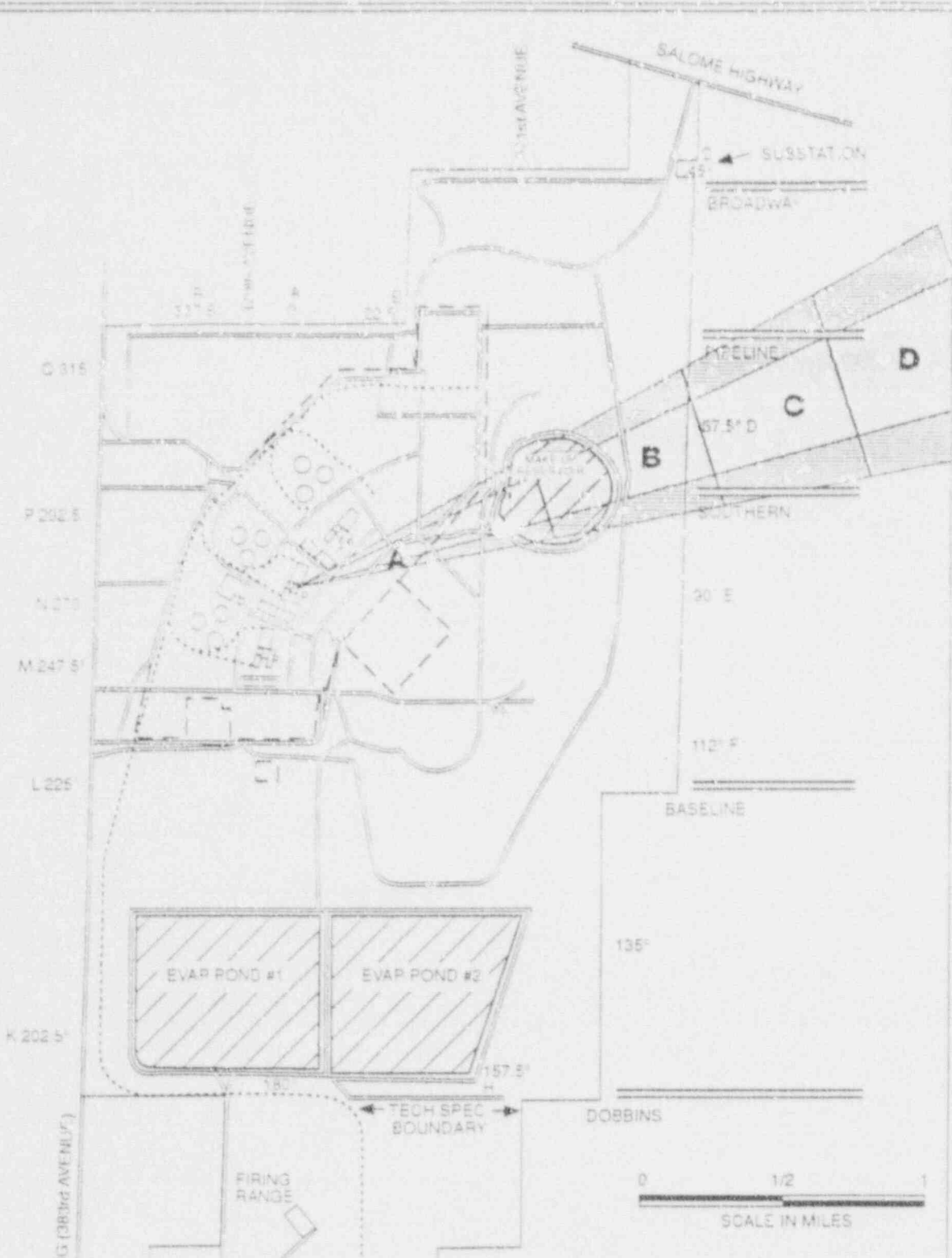
Point Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples		Iodine Conc	Smears
	W.D.	W.C.	Fussler	W.D.	W.C.	Fussler	Counts per Minute			
	(mR/hr)	(mR/hr)	(cpm)	(mR/hr)	(mR/hr)	(cpm)	Ag2 Cartridge	Filter Pinex	W/CoCo	(cpm)
A	2408	1204	> 100,000	2408	1204	> 100,000	1445 mR/hr	AS READ	4.47E-04	AS READ
B	9490	4745	> 100,000	949	475	> 100,000	569 mR/hr	AS READ	1.78E-04	AS READ
C	5451	2725	> 100,000	545	273	> 100,000	327 mR/hr	AS READ	1.01E-04	AS READ
D	3727	1864	> 100,000	373	186	> 100,000	224 mR/hr	AS READ	6.92E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:10 - 12:20



- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 47'
- CD 56'
- D 67.5'
- DE 79'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- I 169'
- J 180'
- JK 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- NO 259'
- N 270'
- OP 281'
- P 292.5'
- Q 304'
- R 315'
- OR 326'
- R 337.5'
- RA 348'



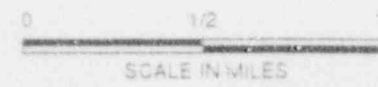
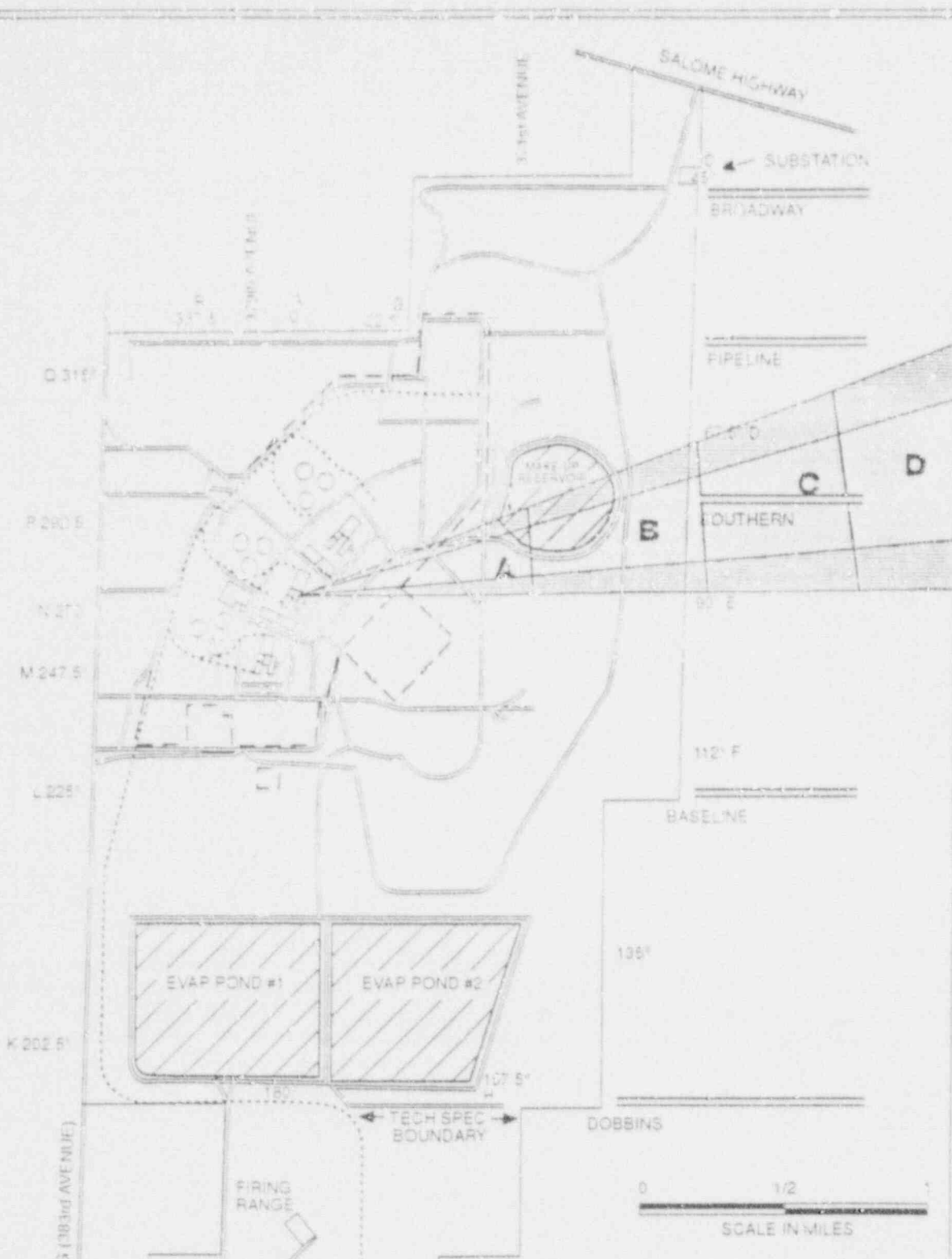
Plume Location	Centerline Data Rate			Edge of Plume Data Rate			Air Samples Counts per Minute			Iodine Calc. (cpm)	Smears (cpm)
	W.C. (mR/hr)	W.C. (mR/hr)	Fraker (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fraker (cpm)	Ag2 Cartridge	Filter Paper	by Circuit		
A	26533	13266	>100,000	2653	1327	>100,000	1592 mR/hr	AS READ	4.93E-04	AS READ	
B	10487	5234	>100,000	1047	527	>100,000	626 mR/hr	AS READ	1.94E-04	AS READ	
C	6015	3009	>100,000	602	301	>100,000	361 mR/hr	AS READ	1.12E-04	AS READ	
D	4117	2059	>100,000	412	205	>100,000	247 mR/hr	AS READ	7.69E-05	AS READ	

ON SITE INSTRUMENT READINGS

TIME 12:20 - 12:30



- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- CD 56'
- D 67.5'
- E 78'
- E 90'
- FA 101'
- F 112'
- FD 124'
- G 135'
- GH 146'
- H 157.5'
- HJ 169'
- I 180'
- JK 191'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 258'
- N 270'
- NP 281'
- P 292.5'
- PD 304'
- Q 315'
- QR 326'
- R 337.5'
- RA 349'



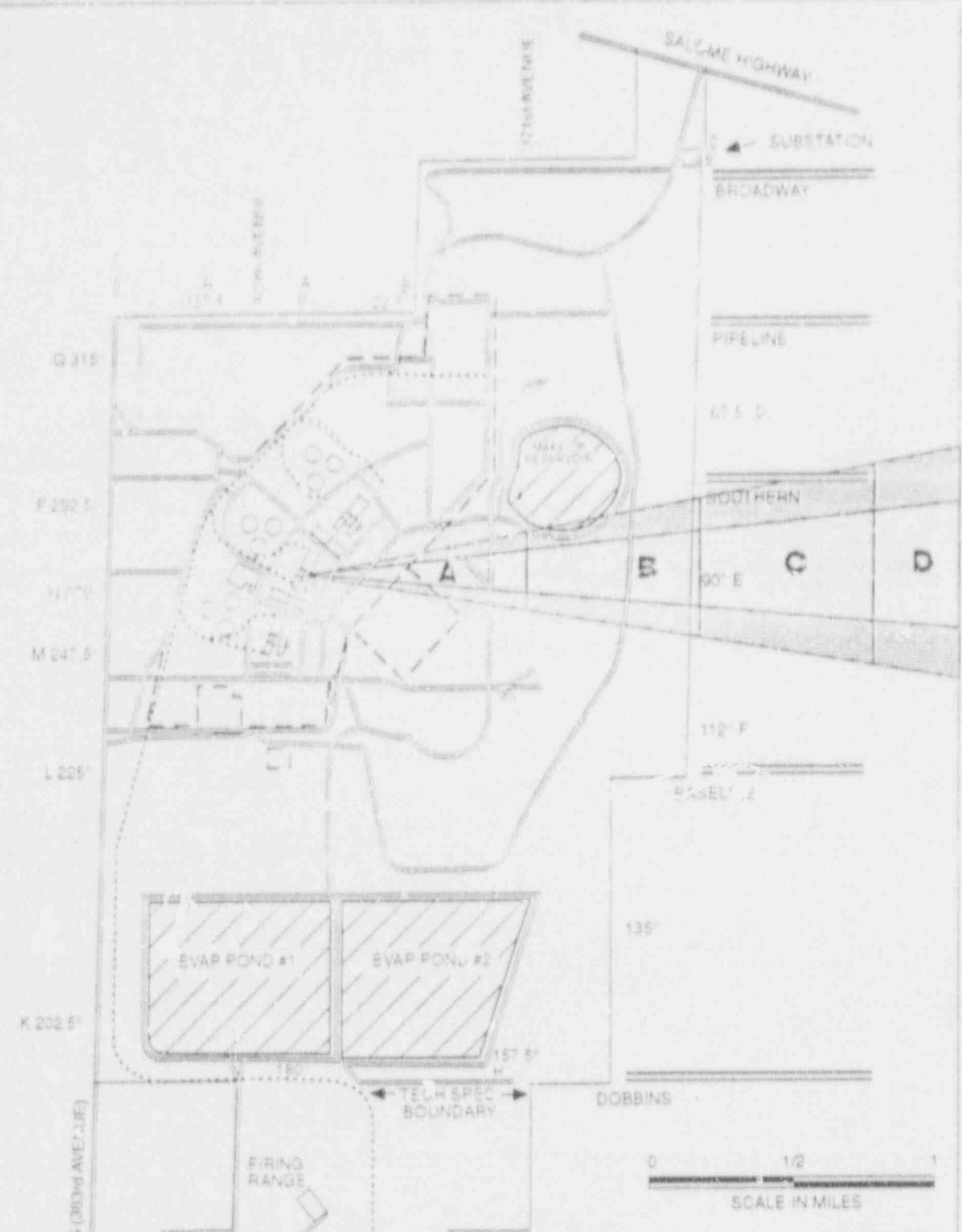
Plume Location	Centrline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Iodine Calc (uCi/g)	Smears (cpm)
	W.C (mR/hr)	W.C (mR/hr)	Fisker (cpm)	W.C (mR/hr)	W.C (mR/hr)	Fisker (cpm)	Ag2 Cartridge	Filter Paper		
A	18465	9733	> 100,000	1947	873	> 100,000	1155 mR/hr	AS READ	3.62E-04	AS READ
B	7054	3527	> 100,000	705	353	> 100,000	423 mR/hr	AS READ	1.31E-04	AS READ
C	4110	2055	> 100,000	411	205	> 100,000	247 mR/hr	AS READ	7.63E-05	AS READ
D	3006	1503	> 100,000	301	150	> 100,000	180 mR/hr	AS READ	5.56E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 11:30 11:40



- A 0'
- AF 1'
- B 4'
- BC 34'
- C 45'
- CD 50'
- D 67.5'
- DE 70'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- I 169'
- J 180'
- K 191'
- KL 214'
- L 225'
- LM 246'
- M 247.5'
- MN 259'
- N 270'
- NP 281'
- P 292.5'
- Q 304'
- QR 326'
- R 337.5'
- RA 349'



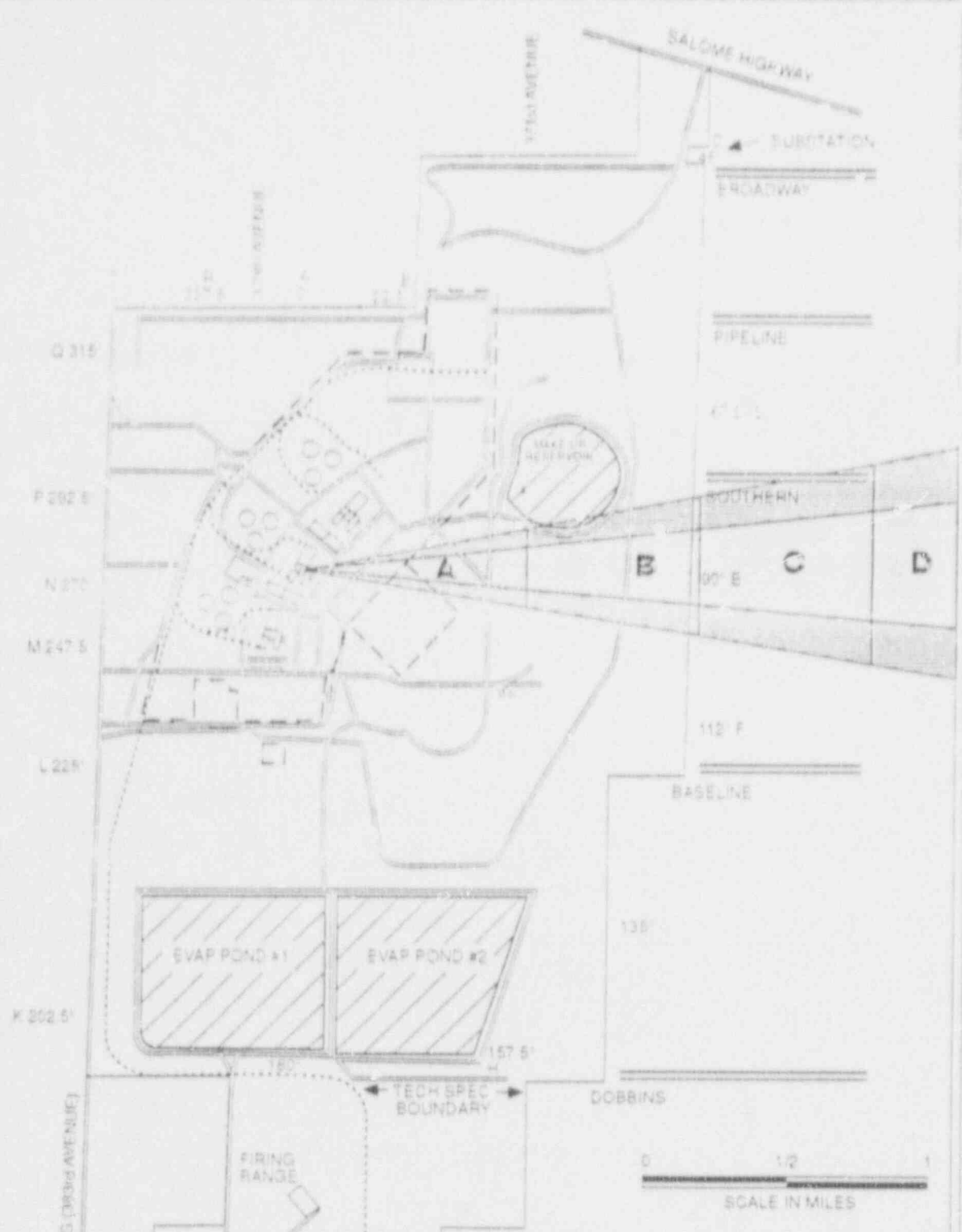
Point Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Filter Paper	Iodine Calr	Smears
	W/C (mR/hr)	W/C (mR/hr)	Fuscar (cpm)	W/C (mR/hr)	W/C (mR/hr)	Fuscar (cpm)	AgZ (cpm)	Filter Paper			
A	18870	8435	>100,000	1651	844	>100,000	101	mR/hr	AS READ	3.13E-04	AS READ
B	6512	3055	>100,000	621	321	>100,000	38	mR/hr	AS READ	1.12E-04	AS READ
C	3045	1523	>100,000	305	152	>100,000	183	mR/hr	AS READ	5.66E-05	AS READ
D	3408	1204	>100,000	241	122	>100,000	144	mR/hr	AS READ	4.47E-05	AS READ

C-N SITE INSTRUMENT READINGS

TIME 12:45 - 12:55



- A 0
- AB 11
- B 22.5
- BC 34
- C 47
- CD 56
- D 67.5
- DE 75
- E 90
- EF 101
- F 112
- FG 124
- G 125
- GH 146
- H 157.5
- HJ 169
- J 21
- JK 191
- K 300.5
- KL 214
- L 225
- LM 234
- M 247.5
- MN 259
- N 270
- NP 281
- P 292.5
- PQ 314
- Q 315
- QR 326
- R 337.5
- RA 346



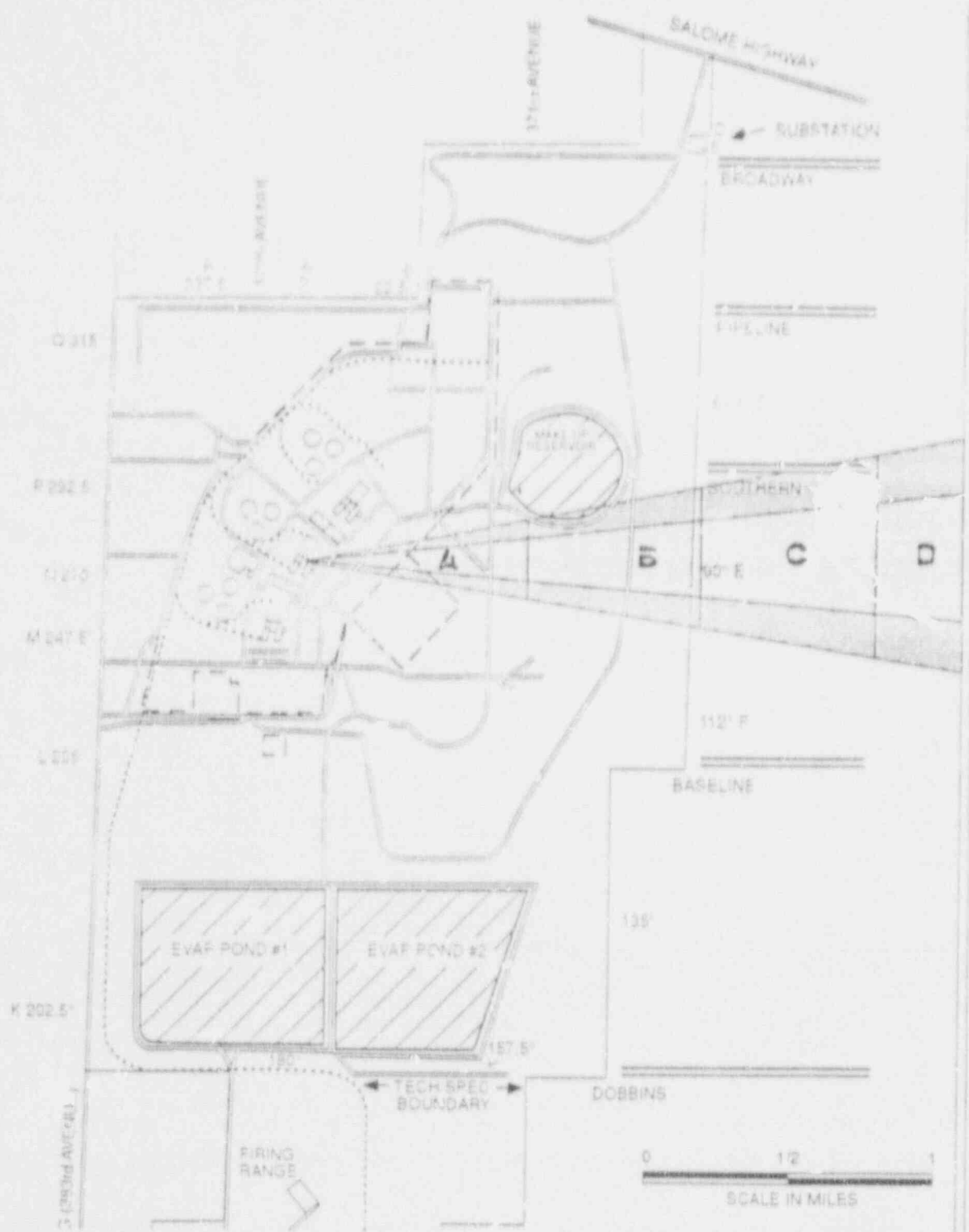
Puma Location	Centerline Dose Rate			Edge of Puma Dose Rate			Air Samples Counts per Minute		Iodine Calc	Shields
	W.C. (mR/hr)	W.C. (mR/hr)	Fixed (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fixed (cpm)	Ag ¹ (cpm)	Total (cpm)		
A	17541	8771	> 100 000	1754	877	> 100 000	1053 mR/hr	AS READ	8.52E-04	AS READ
B	8247	4124	> 100 000	825	413	> 100 000	375 mR/hr	AS READ	1.16E-04	AS READ
C	3163	1582	> 100 000	317	159	> 100 000	180 mR/hr	AS READ	5.89E-05	AS READ
D	2501	1251	> 100 000	251	125	> 100 000	150 mR/hr	AS READ	3.66E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:50 13:00



- A 0'
- AB 11'
- B 22.5'
- BC 34'
- C 45'
- CD 56'
- D 67.5'
- DE 79'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- HJ 169'
- J 180'
- K 191.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 259'
- N 270'
- NP 281'
- P 292.5'
- PO 304'
- O 315'
- OR 326'
- R 337.5'
- RA 349'



Point Location	Centerline Dose Rate			Edge of Fume Dose Rate			Air Samples		Cps	Sc. cps
	W.C.	W.C.	Filter	W.C.	W.C.	Filter	Avg	Filter		
	mR/hr	mR/hr	cpm	mR/hr	mR/hr	cpm	Cartridge	Passer		
A	17603	8802	> 100 000	1760	880	> 100 000	1056 mR/hr	AS READ	3 27E 04	AS READ
B	6280	3140	> 100 000	628	314	> 100 000	327 mR/hr	AS READ	1 7E 04	AS READ
C	2184	1092	> 100 000	218	109	> 100 000	191 mR/hr	AS READ	5 91E 05	AS READ
D	2518	1260	> 100 000	251	126	> 100 000	151 mR/hr	AS READ	4 63E 05	AS READ

OG SITE INSTRUMENT READINGS

TIME: 13:00 - 14:00



10 MILE ENVIRONMENTAL DATA: 08:00 - 11:50

10 MILE
ENVIRONMENTAL DATA

TIME 7:00-11:50

Phone Location	Construction		Edge of Plume		Air Samples		Inflow	Cable	Remarks
	W.O. (with/without) AS READ	W.C. (with/without) AS READ	W.O. (with/without) AS READ	W.C. (with/without) AS READ	Counters per Minute	Counters per Minute			
AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ



10 MILE
ENVIRONMENTAL DATA

31638 11-90 12:00

Phone Area	Centrations		Edge of Plume Dist. Rate		Air Sampling Concn. per Station		Index Code	Source
	W.C. Influent	W.C. Effluent	W.C. Influent	W.C. Effluent	Ag. Concn.	Other Factor		
1	52774	26387	5277	2639	3180	65 K140	AG2001	Agri.
						5.40E-14	5.40E-14	AS 01 01



10 MILE
ENVIRONMENTAL DATA

TIME: 12:00-12:10

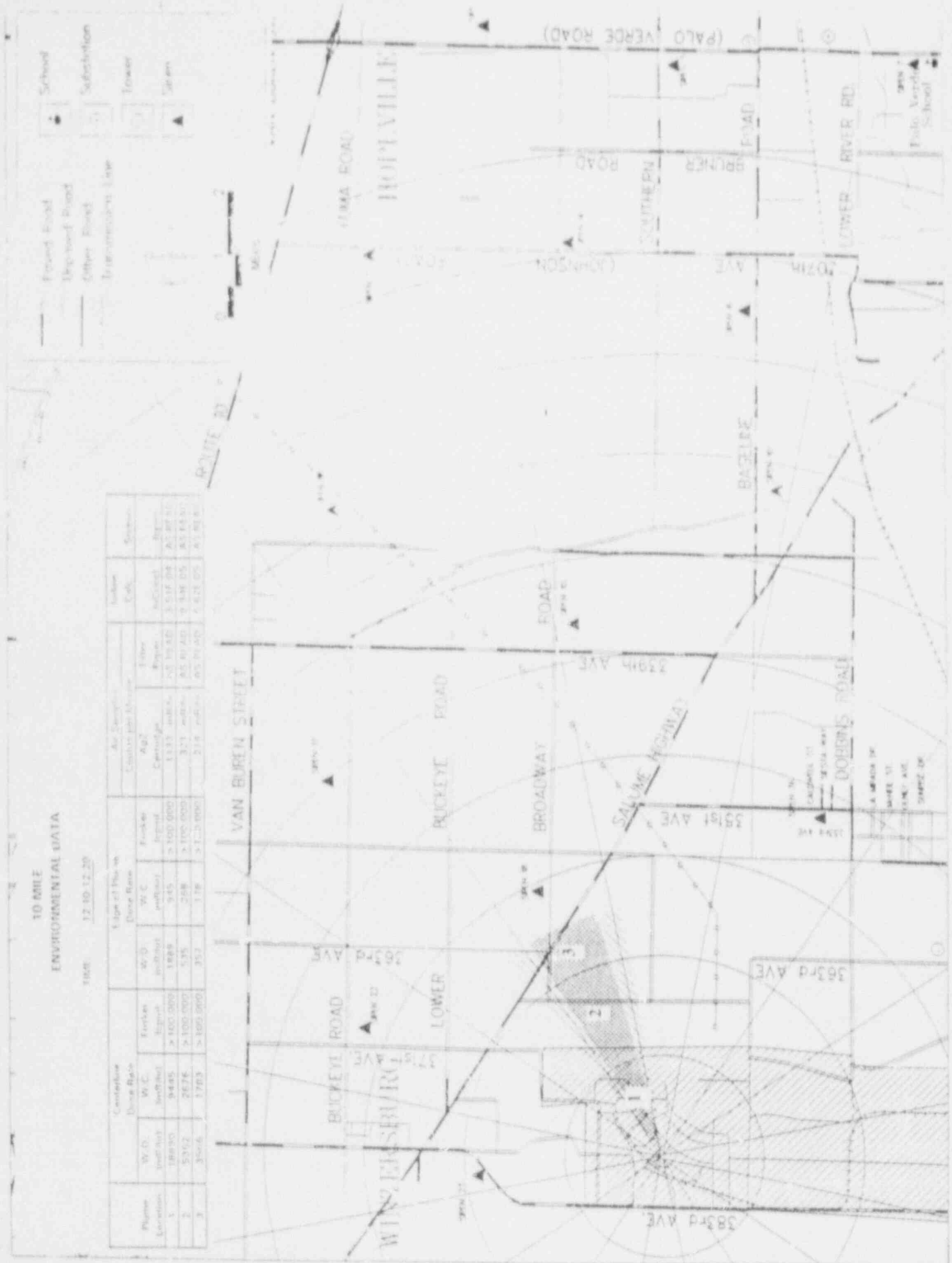
Phytoplankton Observation	Concentration Dose Rate		Edge of Plume Dose Rate		Air Sampling Concentration		Inshore CFC	Station
	W.C. Depth	W.C. Type	W.C. Depth	W.C. Type	W.C. Depth	W.C. Type		
1	16.700	B150	16.200	B15	0.10	AS 45 80	2.7-11.04	21
2	38.0	3814	28.3	391	0.10	AS 47 80	1.851.04	22



10 MILE
ENVIRONMENTAL DATA

1968 12-10-12-20

Phase Location	Contributor		Waste Rate		Waste Rate		Waste Rate		Air Sample		Inches	
	W.C. (mill/day)	W.C. (mill/day)	W.C. (mill/day)	W.C. (mill/day)	W.C. (mill/day)	W.C. (mill/day)	W.C. (mill/day)	W.C. (mill/day)	Concentration (ppm)	Agd	Concentration (ppm)	Feet
1	180,000	94,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
2	5312	2676	2,100,000	535	2,100,000	535	2,100,000	535	3.7	200.0	1,000,000	1,000,000
3	35006	1783	5,100,000	352	5,100,000	352	5,100,000	352	21.8	200.0	1,000,000	1,000,000



10 MILE
ENVIRONMENTAL DATA

DATE 12-20-12-20

Phonon Location	Concentrations		Date Base		Edge of House		Air Sampling		Y-base	
	W.C. (mcf/ft)	W.C. (mcf/ft)	W.C. (mcf/ft)	W.C. (mcf/ft)	Conc. per Minute	Conc. per Minute	Conc. per Minute	Conc. per Minute	Conc. per Minute	Conc. per Minute
1	2018.17	10400K	2082	10411	1749	10417	1749	10417	3.915	AS 21 415
2	5809	2945	581	295	305	305	305	305	3.102	AS 21 415
3	2878	1414	283	141	130	130	130	130	5.250	AS 21 415
4	1304	677	135	68	67	67	67	67	2.528	AS 21 415



10 MILE
ENVIRONMENTAL DATA

DATE: 12 30 12 40

Phone Location	Generation		Edge of Phase Duty Rate		For Analysis Counts and Minutes		Include Data	
	W.C. Auth(1)	Truck Eng(1)	W.C. Auth(1)	Truck Eng(1)	Count Rate	Count Minutes	Count Rate	Count Minutes
1	2,279	> 100,000	6.35	> 100,000	26	1.2	2,318	64
2	30,529	> 100,000	366	> 100,000	720	3.0	5,629	15
3	1,785	> 100,000	114	> 100,000	175	0.7	2,218	6
4	10,47	> 100,000	105	> 100,000	63	0.3	1,524	4
5	5,90	> 100,000	59	> 100,000	25	0.1	1,194	3



10 MILE
ENVIRONMENTAL DATA

1948 17:40 17:50

Phone Location	Commutative Drive Rate		Edge of Thicket Drive Rate		Av. S. Location		Lumber City		School	Substitution	Trees	Grass
	W.C. Profit	W.C. Profit	W.C. Profit	W.C. Profit	W.C. Profit	W.C. Profit	W.C. Profit	W.C. Profit				
1	1000000	50275	1000000	50275	1000000	50275	1000000	50275	1000000	50275	1000000	50275
2	1000000	1441	1000000	1441	1000000	1441	1000000	1441	1000000	1441	1000000	1441
3	1000000	514	1000000	514	1000000	514	1000000	514	1000000	514	1000000	514
4	1000000	413	1000000	413	1000000	413	1000000	413	1000000	413	1000000	413
5	1000000	271	1000000	271	1000000	271	1000000	271	1000000	271	1000000	271
6	1000000	213	1000000	213	1000000	213	1000000	213	1000000	213	1000000	213



10 MILE
ENVIRONMENTAL DATA

DATE: 12-30-13-20

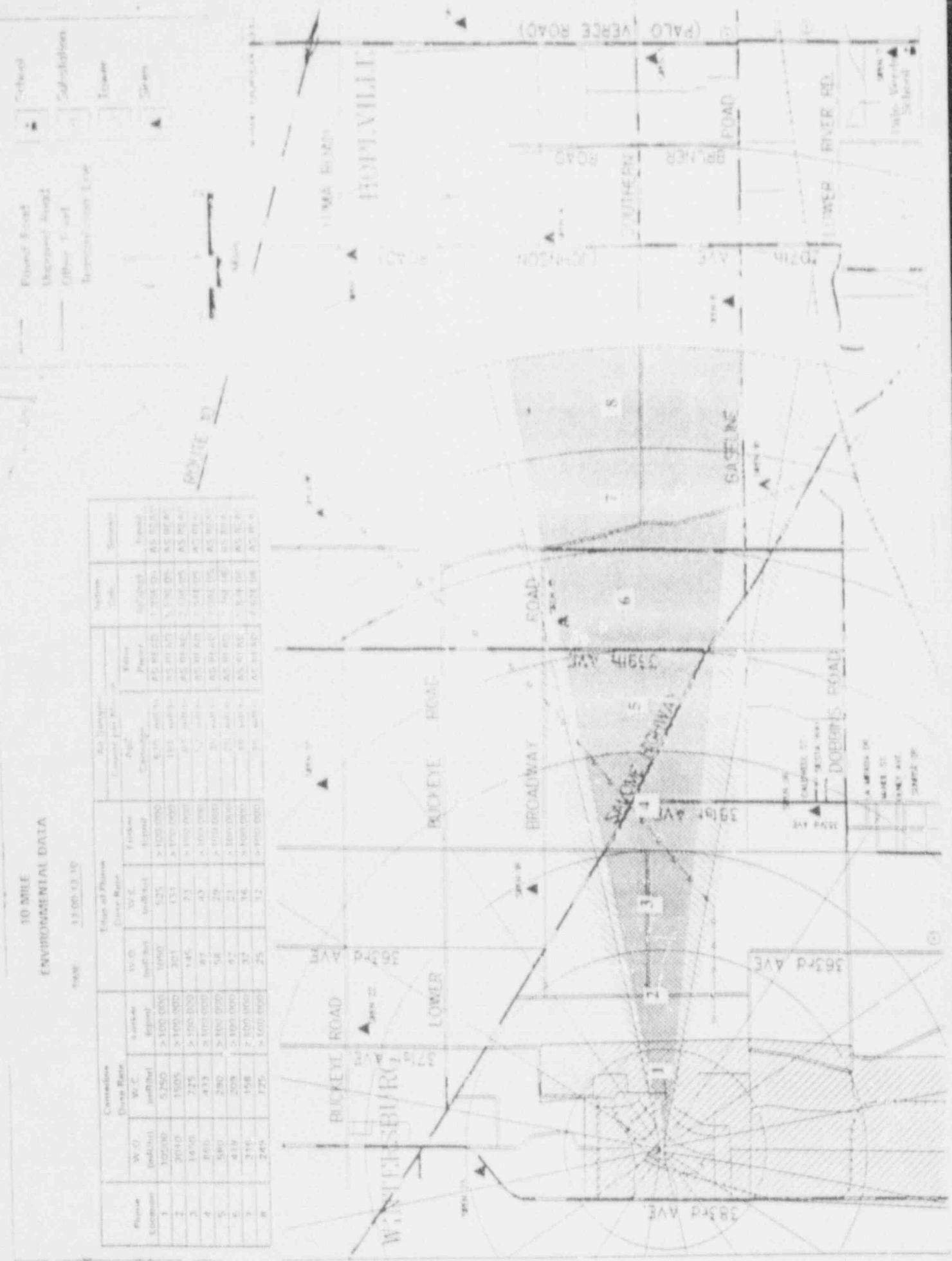
Phase Location	Generation		Edge of Phase		Air Sampling		Inlets	Sources
	W.C. (lb/hr)	Exhaust (lb/hr)	W.C. (lb/hr)	Exhaust (lb/hr)	PM ₁₀ (ppm)	CO ₂ (ppm)		
1	11,444	5,227	5,100 (000)	10,844	62.7	85.84	2,846 (04)	AS (04)
2	2,965	1,497	5,100 (000)	2,999	15.0	25.88	5,561 (05)	AS (14)
3	1,430	225	5,100 (000)	1,844	7.2	17.87	7,477 (06)	AS (15)
4	858	429	5,100 (000)	888	4.3	10.91	1,098 (05)	AS (16)
5	573	287	5,100 (000)	573	2.9	10.91	1,791 (06)	AS (17)
6	413	207	5,100 (000)	413	2.1	10.91	1,578 (06)	AS (18)
7	313	157	5,100 (000)	313	1.6	10.91	5,811 (06)	AS (19)



10 MILE
ENVIRONMENTAL DATA

DATE: 11-00-13 10

Phase Location	Construction		Discharge Rate		T-Value at Phase		Discharge Rate		T-Value at Phase		Discharge Rate		T-Value at Phase	
	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)	W.C. (gpd/ft)
1	102,000	5,250	> 100,000	10,000	5.25	> 100,000	10,000	5.25	> 100,000	10,000	5.25	> 100,000	10,000	5.25
2	20,000	1,500	> 100,000	20,000	1.5	> 100,000	20,000	1.5	> 100,000	20,000	1.5	> 100,000	20,000	1.5
3	10,000	725	> 100,000	10,000	0.725	> 100,000	10,000	0.725	> 100,000	10,000	0.725	> 100,000	10,000	0.725
4	8,000	600	> 100,000	8,000	0.6	> 100,000	8,000	0.6	> 100,000	8,000	0.6	> 100,000	8,000	0.6
5	5,800	430	> 100,000	5,800	0.43	> 100,000	5,800	0.43	> 100,000	5,800	0.43	> 100,000	5,800	0.43
6	4,100	300	> 100,000	4,100	0.3	> 100,000	4,100	0.3	> 100,000	4,100	0.3	> 100,000	4,100	0.3
7	2,100	150	> 100,000	2,100	0.15	> 100,000	2,100	0.15	> 100,000	2,100	0.15	> 100,000	2,100	0.15
8	245	175	> 100,000	245	0.175	> 100,000	245	0.175	> 100,000	245	0.175	> 100,000	245	0.175

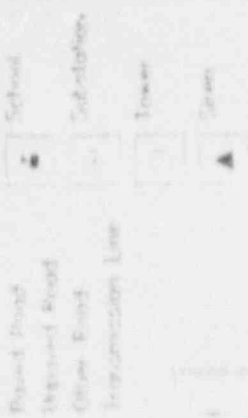


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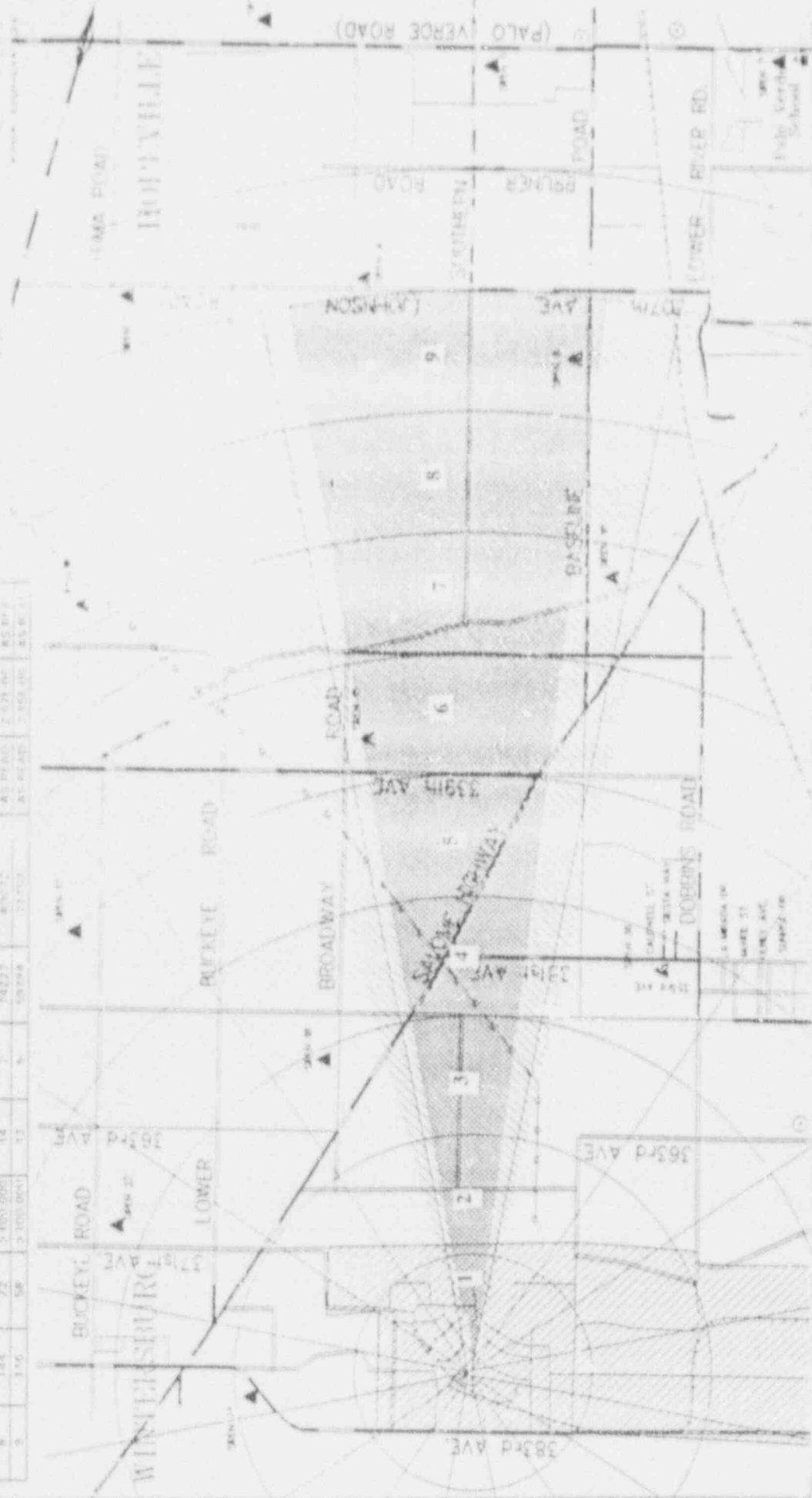
10 MILE
ENVIRONMENTAL DATA

DATE 03.10.13.20

Phase Location	Excavation		Edge of Pilecap		Air Sampling		Inflow		Sump
	W.C. (m³/hr)	Excav. (m³/hr)	W.C. (m³/hr)	Excav. (m³/hr)	Capacity (m³)	Flow (m³/hr)	Volume (m³)	Rate (m³/hr)	
1	2078	2,100,000	40	2,100,000	202	AS 01.80	1,221.94	AS 01.80	
2	1736	2,100,000	178	2,100,000	190	AS 01.80	1,221.95	AS 01.80	
3	817	2,100,000	84	2,100,000	10	AS 01.80	1,221.95	AS 01.80	
4	459	2,100,000	50	2,100,000	30	AS 01.80	1,221.96	AS 01.80	
5	338	2,100,000	33	2,100,000	30	AS 01.80	1,221.96	AS 01.80	
6	293	2,100,000	24	2,100,000	14	AS 01.80	1,221.96	AS 01.80	
7	187	2,100,000	16	2,100,000	11	AS 01.80	1,221.96	AS 01.80	
8	144	2,100,000	14	2,100,000	8	AS 01.80	1,221.96	AS 01.80	
9	135	2,100,000	13	2,100,000	7	AS 01.80	1,221.96	AS 01.80	



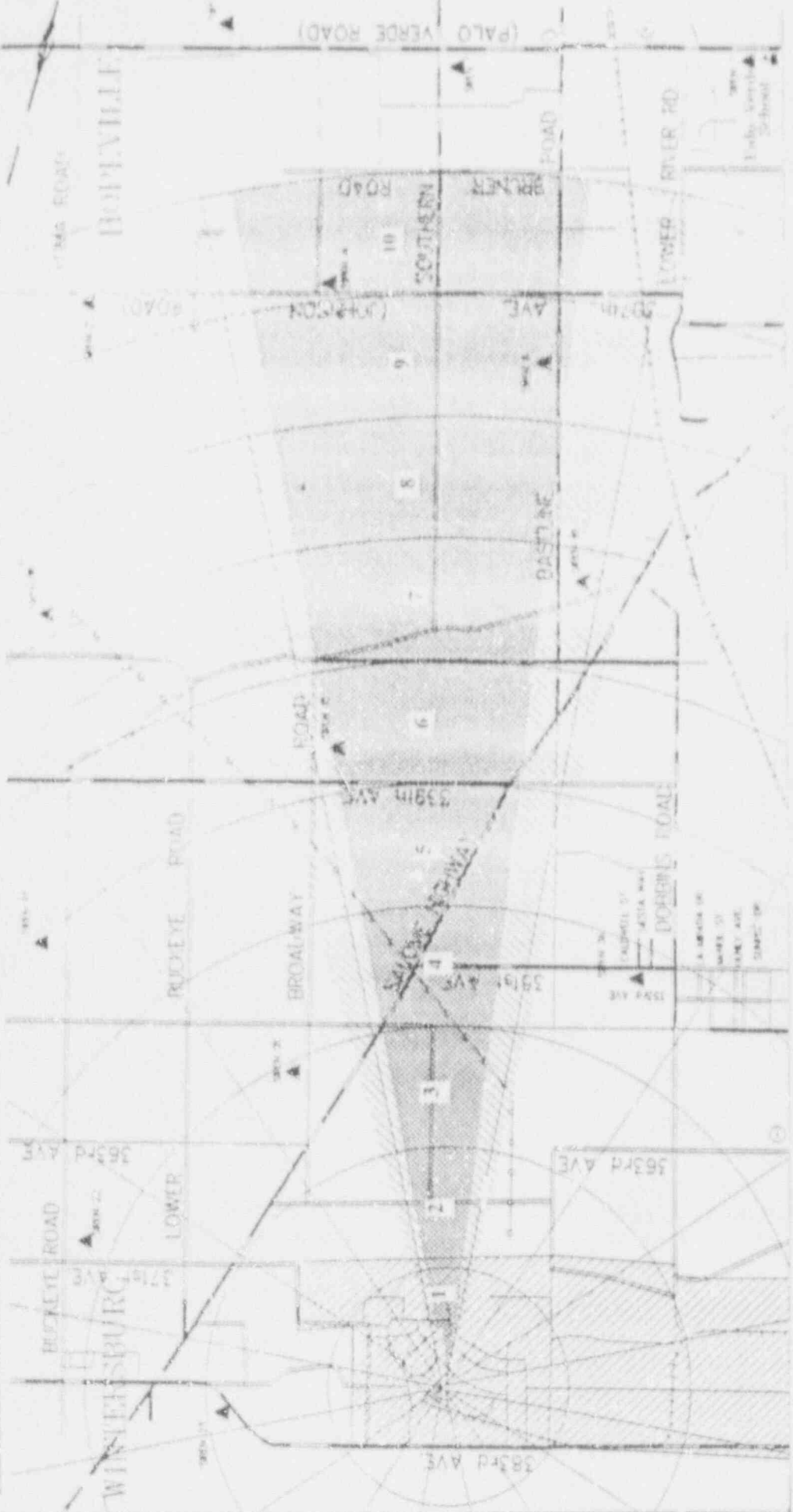
ROUTE 11



10 MILE
ENVIRONMENTAL DATA

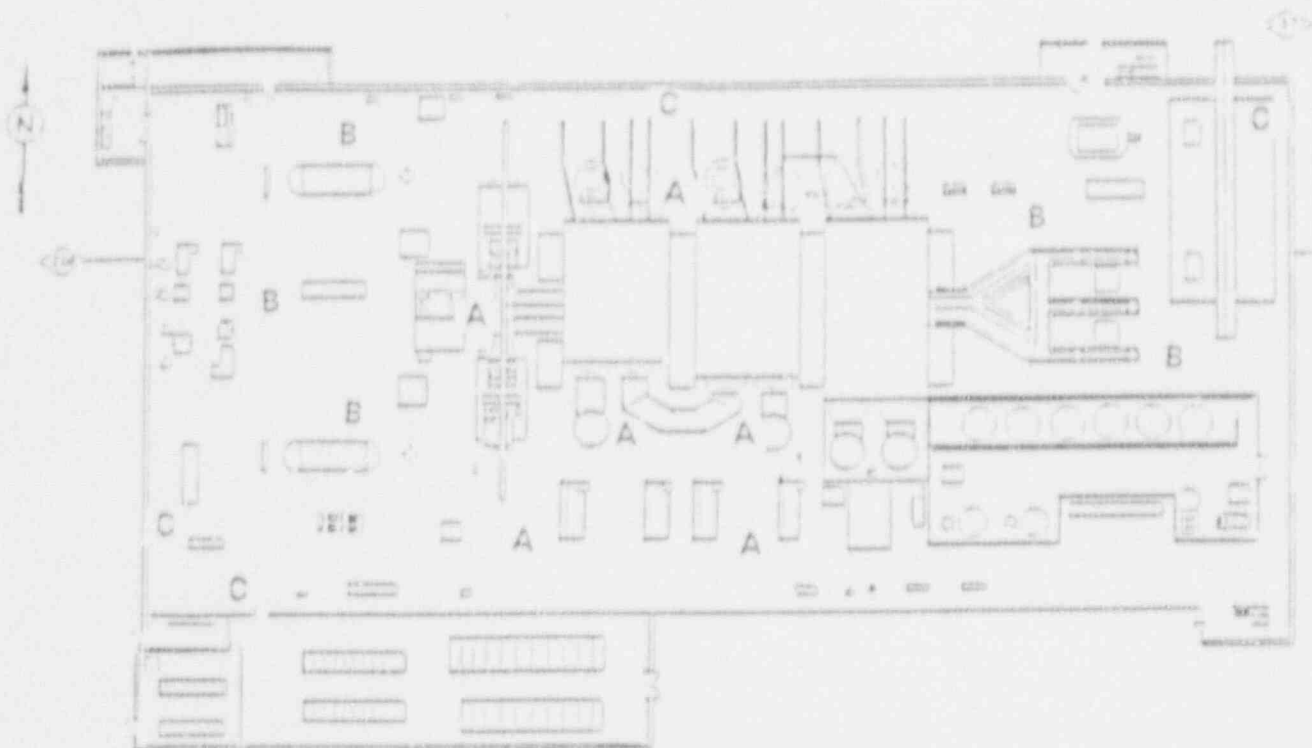
DATE: 12.20.14.00

Fluore Location	Contributions Coke Plant		Coke Plant		Edges of Process		Air Samples per Month		Inches Coke	Samples
	W.C. Inches	W.C. Inches	W.C. Inches	W.C. Inches	W.C. Inches	W.C. Inches	W.C. Inches	W.C. Inches		
1	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 101
2	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 102
3	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 103
4	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 104
5	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 105
6	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 106
7	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 107
8	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 108
9	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 109
10	6.250	3.335	2.100	2.100	2.100	2.100	2.100	2.100	2.100	AS 110



PASS RADIOLOGICAL INFORMATION

	Drill Time		
	8:00-10:40 mR/hr	10:40-11:20 mR/hr	After 11:20 mR/hr
<u>RCS PASS</u>			
Unshielded sample dose rate; contact	3	9329	8339
Unshielded sample dose rate; 3 feet	As Read	9	8
Shielded sample dose rate; contact	As Read	767	687
Shielded sample dose rate; 3 feet	As Read	1	1



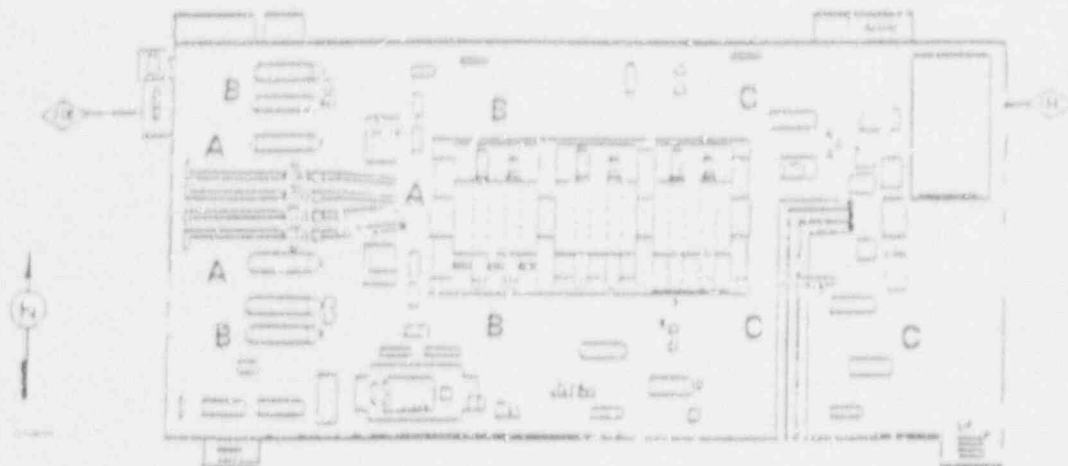
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
BDD	AS READ	AS READ	AS READ	N/A	N/A	N/A	
OBDD On	BC	1E	< 1	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/ft ³	uCi/ft ³	uCi/ft ³	LEVELS IN CPV	NOTES
OBDD On	AS READ	AS READ	AS READ	AS READ	

140 TURBINE BUILDING
MEZZANINE DECK



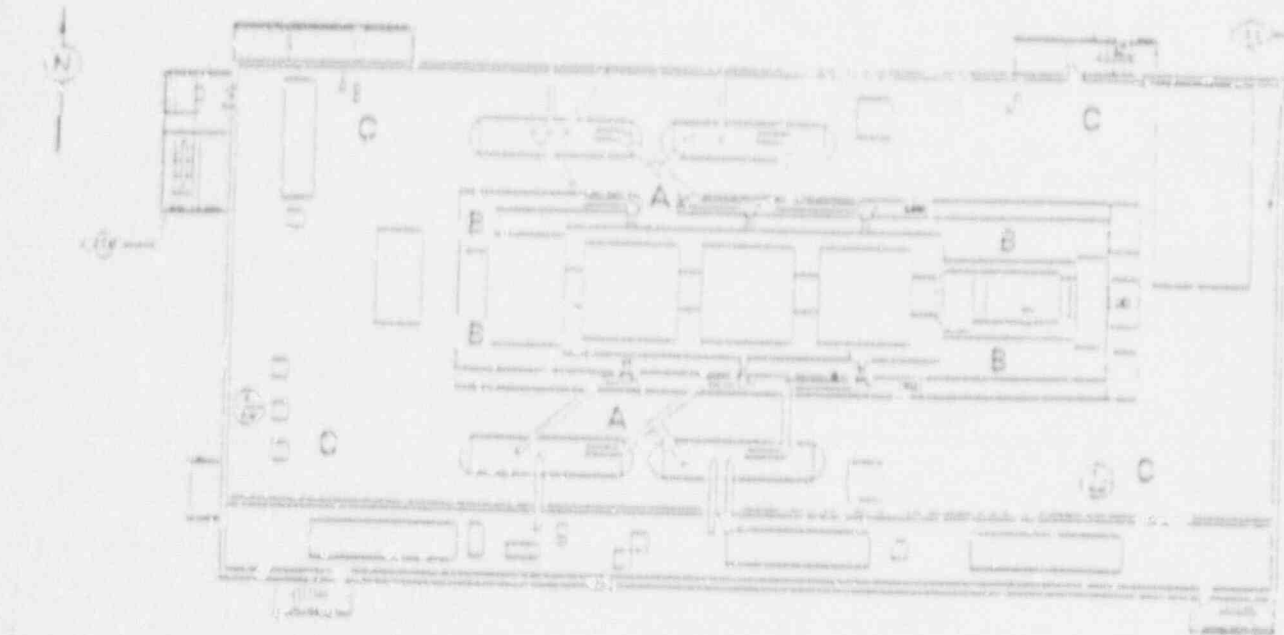
I. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
0800 C+	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0800 C-	20	10	1	N/A	N/A	N/A	

II. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
0800 C+	AS READ	AS READ	AS READ	AS READ	

17E TURBINE BUILDING
OPERATING DECK



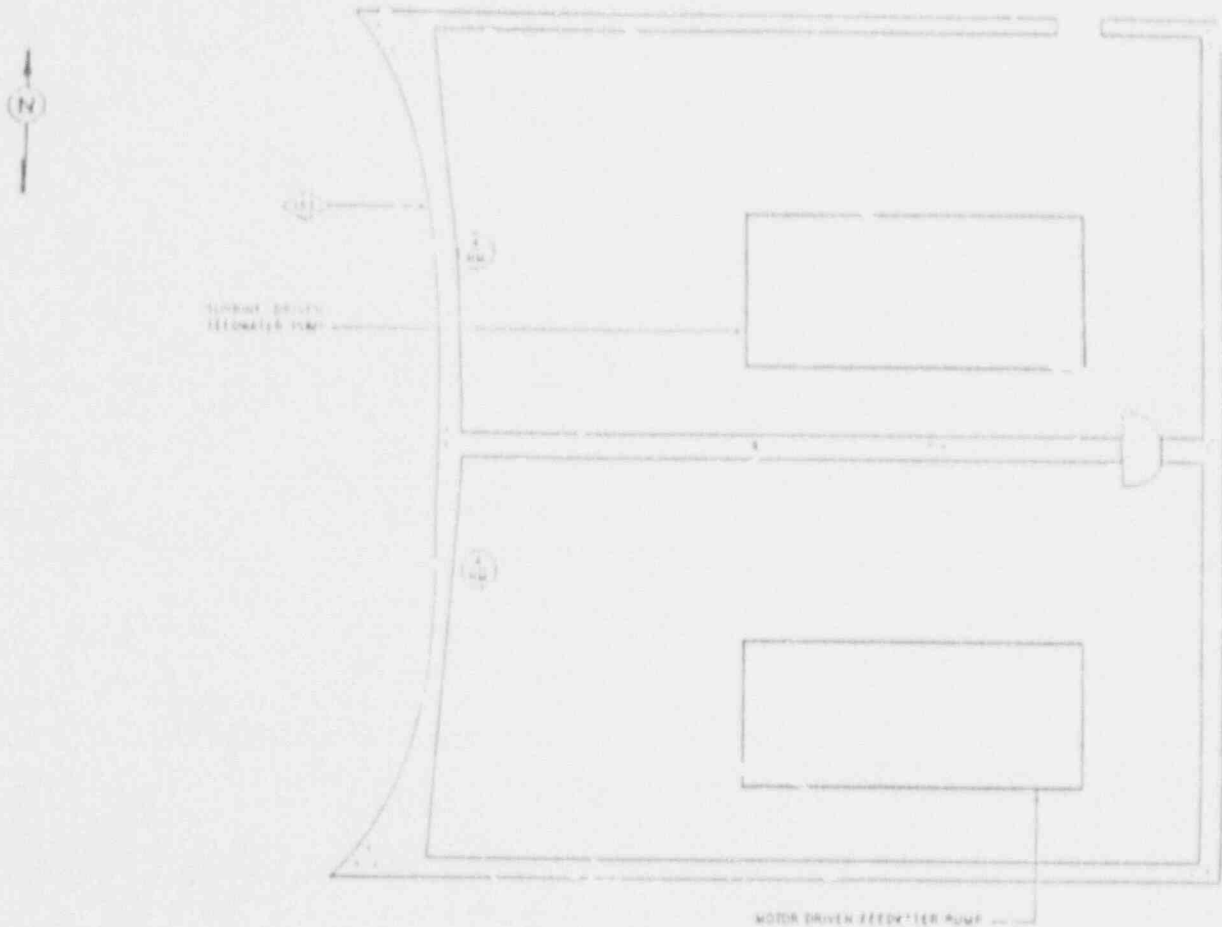
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
BDC	AS READ	AS READ	AS READ	N/A	N/A	N/A	
DBDC-On	12	8	<2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LF/ELF

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/ft ³	uCi/ft ³	uCi/ft ³	LEVELS IN CPM	NOTES
DBDC-On	AS READ	AS READ	AS READ	AS READ	

81' - 89' M.S.S.S. - AUXILIARY FEEDWATER
PUMP ROOMS "A" AND "B"



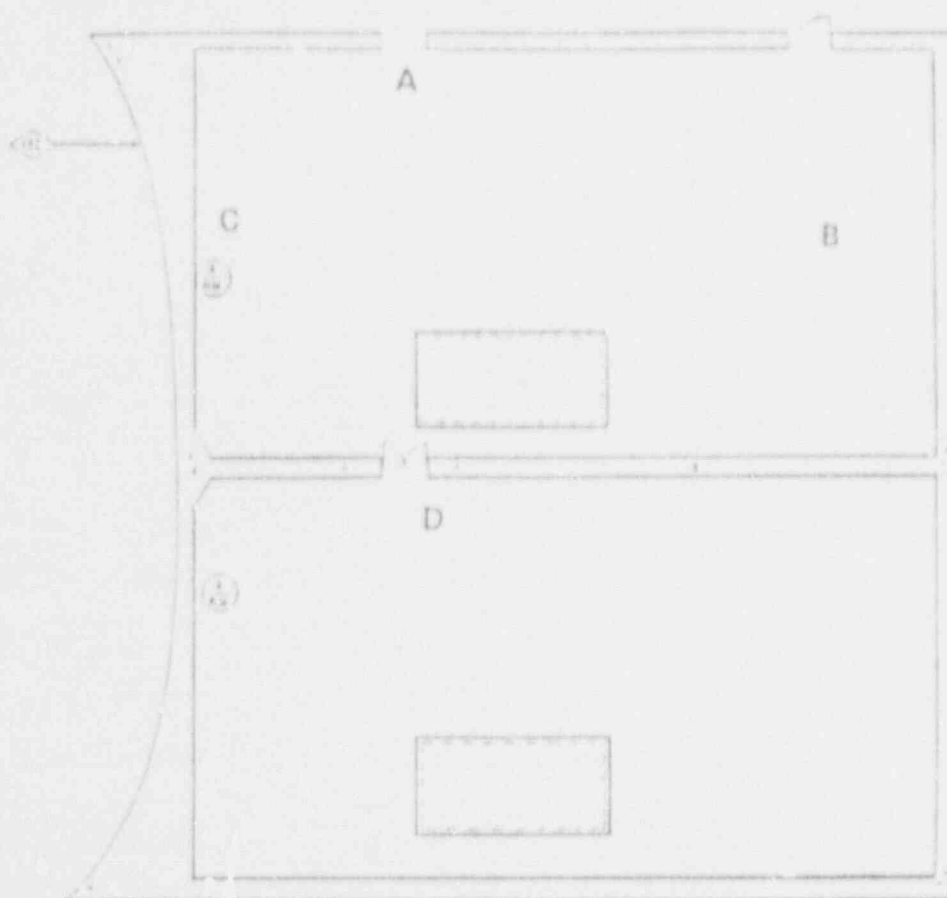
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	

100 - 110' M.S.S.S.
VALVE & PIPEWAY AREAS



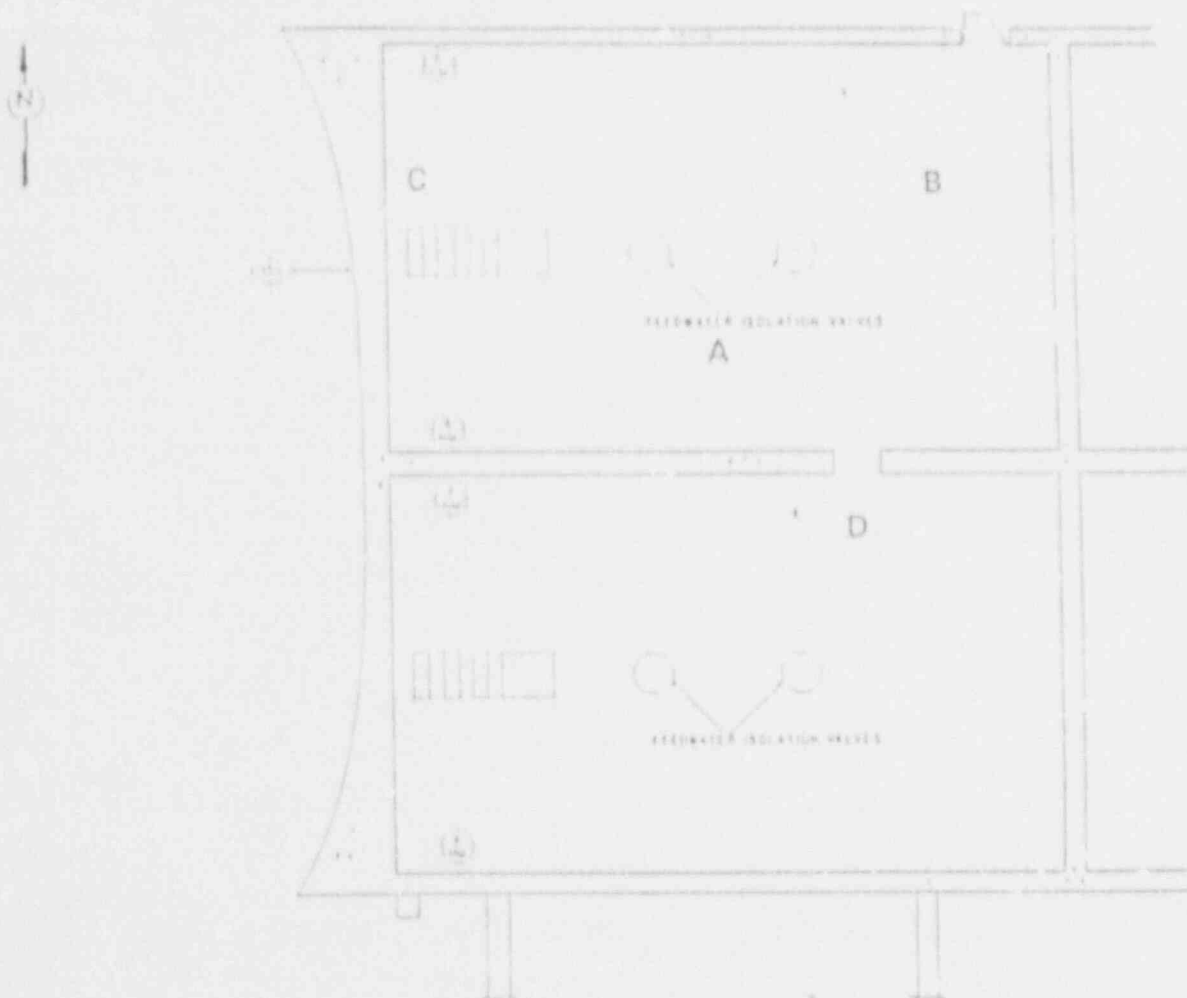
1. DOSE RATE INFORMATION

TIME HRS	mR/hr UNLESS NOTED						GENERAL NOTES
	A	B	C	D	E	F	
800	AS READ	AS READ	AS READ	AS READ	N/A	N/A	
900	2	1	1	AS READ	N/A	N/A	
1030	79	50	59	AS READ	N/A	N/A	
1040	14 R/hr	10 R/hr	10 R/hr	137	N/A	N/A	
1200	13 R/hr	10 R/hr	10 R/hr	128	N/A	N/A	
1300 On	11 R/hr	8 R/hr	8 R/hr	114	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME HRS	GAS uCi/cc	IODINE uCi/cc	PARTIC. uCi/cc	CONTAMINATION LEVELS IN CPM	GENERAL NOTES
900	3.26E-21	2.88E-21	2.87E-21	AS READ	
1030	1.41E-20	1.55E-20	1.70E-20	AS READ	
1040	2.71E-17	3.06E-17	3.27E-17	AS READ	
1200	2.08E-17	3.07E-17	3.23E-17	AS READ	
1300 On	2.65E-17	3.05E-17	3.18E-17	AS READ	

120' - 132' M.S.S.S. - MAIN STEAM
RELIEF VALVE ROOMS "A" & "B"



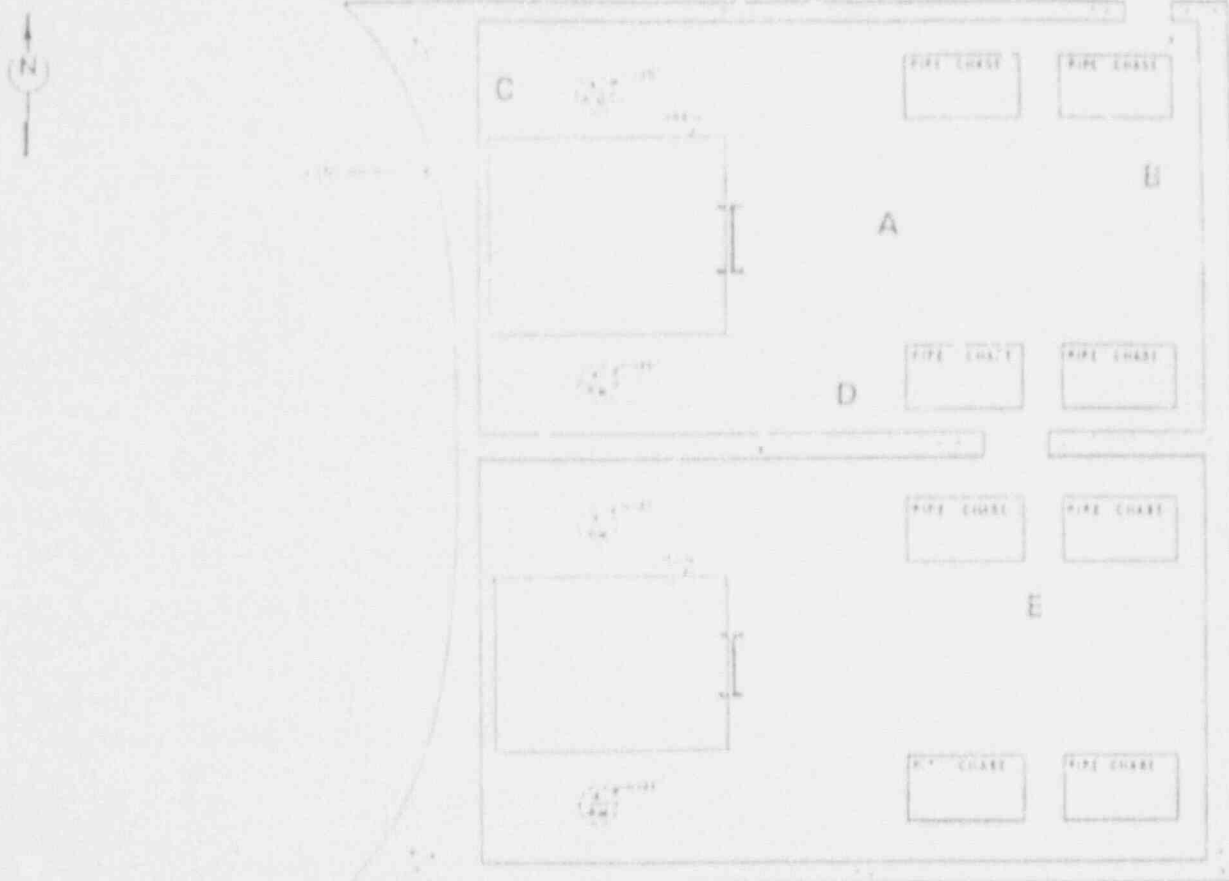
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	L	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	AS READ	N/A	N/A	
900	4	2	2	AS READ	N/A	N/A	
1030	160	85	85	AS READ	N/A	N/A	
1040	28 R/hr	15 R/hr	15 R/hr	282	N/A	N/A	
1200	26 R/hr	14 R/hr	14 R/hr	264	N/A	N/A	
1300 On	23 R/hr	12 R/hr	12 R/hr	235	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PAETIC	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	9.74E-11	8.62E-11	8.99E-11	AS READ	
1030	4.21E-10	4.64E-10	5.07E-10	AS READ	
1040	6.11E-07	9.16E-07	9.79E-07	AS READ	
1200	8.02E-07	9.13E-07	9.66E-07	AS READ	
1300 On	7.82E-07	9.11E-07	9.50E-07	AS READ	

140' - 148' M S S S - UPPER MAIN
STEAM LINE ROOMS "A" & "B"



1. DOSE RATE INFORMATION

TIME HRS	mR/hr UNLESS NOTED						GENERAL NOTES
	A	B	C	D	E	F	
800	AS READ	AS READ	AS READ	AS READ	AS READ	N/A	
900	2	1	1	2	AS READ	N/A	
1030	79	59	59	71	AS READ	N/A	
1040	14 R/hr	10 R/hr	14 R/hr	10 R/hr	123	N/A	
1200	13 R/hr	10 R/hr	13 R/hr	10 R/hr	115	N/A	
1300 On	14 R/hr	8 R/hr	14 R/hr	8 R/hr	84	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME HRS	GAS uCi/cc	IODINE uCi/cc	PARTIC uCi/cc	CONTAMINATION LEVELS IN CPM	GENERAL NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	9.74E-11	9.07E-11	9.04E-11	AS READ	
1030	4.21E-10	4.88E-10	5.34E-10	AS READ	
1040	8.11E-07	8.84E-07	1.03E-06	AS READ	
1200	8.02E-07	9.61E-07	1.02E-06	AS READ	
1300 On	7.92E-07	9.59E-07	1.00E-06	AS READ	

167 M.S.S.S
ROOF



1. DOSE RATE INFORMATION

TIME	R/h UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800-1140	AS READ	AS READ	AS READ	AS READ	AS READ	N/A	
1145	1734	139	1207	69	55	N/A	
1300 On	1340	107	1072	64	43	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC.	CONTAMINATION	GENERAL
HRS	$\mu\text{Ci/cc}$	$\mu\text{Ci/cc}$	$\mu\text{Ci/cc}$	LEVELS IN CPM	NOTES
800-1140	AS READ	AS READ	AS READ	AS READ	
1145	3.19E+02	9.40E+00	1.47E-02	7.28E+07	
1300 On	3.14E+02	8.69E+00	1.44E-02	7.15E+07	

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 09:00 - 10:40

Nuclide Type: fission gas

Nuclide	Half-life	Decay Corr uCi/ML
Kr-87	1.27 H	4.06E-02
Xe-131	12.00 D	1.86E-03
Xe-133	5.25 D	<u>3.40E-01</u>
Total Activity:		3.82E-01

Nuclide Type: fission

Nuclide	Half-life	Decay Corr uCi/ML
Te-132	3.25 D	<u>7.99E-04</u>
Total Activity:		7.99E-04

Nuclide Type: FP

Nuclide	Half-life	Decay Corr uCi/ML
Te-129	1.12 H	<u>8.52E-05</u>
Total Activity:		8.52E-05

Nuclide Type: halogen

Nuclide	Half-life	Decay Corr uCi/ML
I-131	8.04 D	1.14E-01
I-132	2.29 H	1.13E-01
I-133	20.8 H	2.19E-01
I-135	6.59 H	<u>1.93E-01</u>
Total Activity:		6.40E-01

Grand Total Activity: 1.02E+00

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 10:40 - 11:20

Nuclide Type: fission gas

Nuclide	HLife	Decay Corr uCi/ML
Kr-87	1.27 H	3.29E+01
Xe-131	12.00 D	3.39E+00
Xe-133	5.25 D	<u>6.21E+02</u>
Total Activity:		6.57E+02

Nuclide Type: fission

Nuclide	HLife	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.45E+00</u>
Total Activity:		1.45E+00

Nuclide Type: FP

Nuclide	HLife	Decay Corr uCi/ML
Te-129	1.12 H	<u>0.061856</u>
Total Activity:		0.061856

Nuclide Type: halogen

Nuclide	HLife	Decay Corr uCi/ML
I-131	8.04 D	2.08E+02
I-132	2.29 H	1.33E+02
I-133	20.3 H	3.84E+02
I-135	6.59 H	<u>3.04E+02</u>
Total Activity:		1.03E+03

Grand Total Activity: 1.69E+03

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: After 11:20

Nuclide Type: fission gas

Nuclide	Hlife	Decay Corr uCi/ML
Kr-87	1.27 H	2.09E+01
Xe-131	12.00 D	3.30E+00
Xe-133	5.25 D	<u>6.19E-02</u>
Total Activity:		6.44E+02

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.45E+00</u>
Total Activity:		1.45E+00

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>3.69E-02</u>
Total Activity:		3.69E-02

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	2.08E+02
I-132	2.29 H	1.03E+02
I-133	20.8 H	3.75E+02
I-135	6.59 H	<u>2.79E+02</u>
Total Activity:		9.65E+02

Grand Total Activity: 1.61E+03

CHEMISTRY DATA

Type of Sample: Condenser Exhaust
Sample Time: 09:00 - 10 J

Nuclide Type: fission gas

Nuclid	Half	Decay Corr uCi/ML
Kr-87	1.27 H	2.77E-04
Xe-131	12.00 D	1.26E-05
Xe-133	5.25 D	<u>2.32E-03</u>
Total Activity:		2.61E-03

CHEMISTRY DATA

Type of Sample: Condenser Exhaust
 Sample Time: 10-40 - 11 10

Nuclide Type: fission gas

Nuclide	Half-life	Decay Corr μCi/ML
Kr-87	1.27 H	1.05E+00
Xe-131	12.00 D	1.19E-01
Xe-133	5.25 D	<u>2.17E-01</u>
Total Activity:		2.29E-01

CHEMISTRY DATA

Type of Sample: Condenser Exhaust
Sample Time: After 11:10

Nuclide Type: fission gas

Nuclide	Half	Decay Corr
Kr-87	1.27 H	8.74E-05
Xe-131	12.00 D	1.18E-05
Xe-133	5.25 D	<u>2.16E-03</u>
Total Activity:		2.26E-03

CHEMISTRY DATA

Type of Sample: Steam Blowdown
 Sample Time: 09-00 - 10-40

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	5.93E-03
I-132	2.29 H	5.55E-03
I-133	20.8	1.14E-02
I-135	6.57	<u>9.86E-03</u>
Total Activity:		3.27E-02

Nuclide Type: fission

Nuclide	Hlife	Dec. Corr uCi/ML
Te-132	3.25 D	<u>4.17E-05</u>
Total Activity:		4.17E-05

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>3.93E-06</u>
Total Activity:		3.93E-06

Grand Total Activity: 3.28E-02

CHEMISTRY DATA

Type of Sample: Steam Blowdown
 Sample Time: 10:40 - 11:20

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	5.44E-01
I-132	2.29 H	3.09E+01
I-133	20.80 H	9.93E+01
I-135	6.59 H	<u>7.64E+01</u>
Total Activity:		2.61E+02

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.93E-01</u>
Total Activity:		1.93E-01

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>0.006587</u>
Total Activity:		0.006587

Grand Total Activity: 2.61E+02

CHEMISTRY DATA

Type of Sample: Steam Blowdown
Sample Time: After 11:20

Nuclide Type: halogen

Nuclide	Hlife	Decay Corr uCi/ML
I-131	8.04 D	5.42E+01
I-132	2.29 H	2.40E+01
I-133	20.80 H	9.66E+01
I-135	6.59 H	<u>6.99E+01</u>
Total Activity:		2.45E+02

Nuclide Type: fission

Nuclide	Hlife	Decay Corr uCi/ML
Te-132	3.25 D	<u>3.76E-01</u>
Total Activity:		3.76E-01

Nuclide Type: FP

Nuclide	Hlife	Decay Corr uCi/ML
Te-129	1.12 H	<u>7.69E-03</u>
Total Activity:		7.69E-03

Grand Total Activity: 2.45E+02

PVNGS Annual Exercise

3.1 Initial Conditions

Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1SI11 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

- 1C DG B Trip
- 1C DG B Emergency Manual Trip
- 1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

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3.2 Narrative Summary

This scenario is based on a leak developing in a U-Tube in Steam Generator #1. The operators assess the leak and determine that a shutdown is required per 41AO-1ZZ08. Before the reactor can be tripped, at approximately 30 % Reactor Power, the leaking tube fails catastrophically, and leak rate increases to approximately 400 gpm. Operators manually trip the reactor and initiate Safety Injection. Operators re-diagnose the accident and transition to 41OP-1ZZ06 "Tube Rupture" based on the initiation of Safety Injection. When operators attempt to rapidly reduce the flow through the ruptured tube by depressurizing the RCS, the spray valve controller fails, necessitating the use of slower auxiliary spray to reduce pressure. Operators use Safety Injection to maintain RCS inventory, auxiliary spray to reduce pressure and steam the un-affected steam generator to cool the RCS.

A sudden failure of RCP-1A impeller sends debris from the failed impeller through the core. Fuel damage occurs. Fission products enter the coolant and flow into the failed Steam Generator. When a spring on the #1 Steam Generator Safety Valve fails, the safety valve lifts, and a release of RCS activity begins to the environment from the failed relief valve.

The scenario will be mitigated by:

- Normal Primary to Secondary leak response actions.
- Restoration of the Spray Valve controller to expedite plant depressurization.
- Cooldown and stabilization of the plant.
- Performance of off-site radiological monitoring and evaluation.

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3.3 Major Sequence of Events

0700 -0030 Initial Conditions, Simulator Board walkdown.

Unit 2 is operating at 100% power; middle of core loss. DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-1SI11 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

1C DG B Trip
1C DG B Emergency Manual Trip
1C DG B High Priority Trouble

NOTE: Although the Simulator represents the Unit 2 Control Room for purposes of the Exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

3.3 Major Sequence of Events (Continued)

- 0800 0000 Medical Emergency:
Spent resin spill occurs during transfer when a flexible coupling blows out. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-21. RU-21 indicates off-scale high locally and in the Control Room. Local area radiation levels indicate up to 7000 mR/hr. One Rad Waste Operator at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg. Radwaste Operators notify Security, Fire Protection and the Control Room.
- 0810 0010 While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred. Operators check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset. They inform Unit 2 Control Room and continue troubleshooting.
- 0815 0015 EMTs and Radiation Protection Technicians arrive at the Radwaste Building, assess the situation medically and radiologically, and prepare the victim for transport to a medical facility.
- 0835 0035 Control Room declares an ALERT based on EPIP-02 Appendix B, Tab 1 "Direct Radiation Readings within the Unit Increase by a Factor of 1000." The Control Room should realize that "Transportation of internally or externally contaminated injured person to offsite hospital" (when this event occurs) constitutes a Notification of Unusual Event" per EPIP-02 Appendix B, Tab 1. This emergency classification level is superseded by the ALERT.
- 0900 0100 RCS tube leak starts in "A" Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, and RU-139 channel-2 High alarm, and by a mismatch between charging and letdown flow. Operators enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02.
- 0902 0102 Initial determination of the leak rate exceeds 1 gpm (approximately 12 gpm). Preliminary indications by blowdown radiation monitors indicate S/G 1 is faulted. Operators continue leak rate determinations.

3.3 Major Sequence of Events (Continued)

- 0913 0113 15 minute leak rate determination indicates approximately 58 gpm primary to secondary leak rate. Operators continue 41AO-1ZZ08, Step 4 (Plant Shutdown) after stabilizing plant conditions and measuring leak rate [approximately 15 minutes]. Operators should realize that a leak rate greater than 44 gpm meets the criteria for an ALERT per EPIP-02 Appendix B Tab 2 "RCS Leak Rate >44 gpm." It may result in a minor release of noble gases to the environment. Operators have completed step 2 of 41AO-1ZZ08 to minimize releases to the environment. Follow-up notifications to offsite agencies should indicate the changed plant conditions but the event is not reclassified because the plant emergency classification is still at the ALERT level.
- 0914 0114 [NOTE: Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.] Controllers must pay attention to player decision-making process on what sort of shutdown to use. Controllers may need to increase the magnitude of the leak to ensure that it is clear that even with letdown minimized, maximum charging cannot compensate for the additional shrinkage due to a rapid power reduction or trip. [use 12% break for the 15 minute leak rate check].
- 0915 0115 Operators should brief and commence a plant shutdown per 41OP-1ZZ08 and/or 41OP-1ZZ07. Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.
- 0916 0116 Operators commence shutdown by boration at 60 gpm, 1700 gal dialed in. If operators have not isolated letdown and lined up to blend the boron, they will get a pressurizer trouble alarm and VCT may isolate on low level as soon as power starts to decrease. They will then have to secure boration and isolate letdown. [Note: Operators will need to track Axial Shape Index (ASI) as power is reduced. If power shifts too far to top of the core, operators must drive in groups 4 and 5 rods to restore power distribution as necessary].
- 0940 0140 The injured worker is transported offsite by ambulance. SS/EC/EOD should realize that this is a redundant indication for NUE.

3.3 Major Sequence of Events (Continued)

- 1006 0206 Shutdown continues. Operators trip the "B" Main Feed Pump
- 1010 0210 Shutdown continues. Operators trip the "B" Condensate Pump
- 1015 0215 RCP-1A high vibration alarms and eccentricity alarms actuate. Operators analyze the vibration, but magnitude of eccentricity is below the 10 mils mandatory shutdown point per 79AC-OSV01. Since immediate shutdown of the RCP is not required, operators continue monitoring.
- 1030 0230 With reactor power at approximately 30%, operators are briefing for manual Reactor Trip at 20% power. The leaking Steam Generator tube ruptures [Simulator Operator will key leak rate to 30%]. RCS leak rate increases to approximately 400 gpm. The RCS rapidly depressurizes [PZR trouble alarm on lowering level, PZR pressure low alarm, PZR level low alarm, #1 S/G level increasing confirms faulted S/G].
- 1035 0235 Operators manually trip the reactor and initiate SI. Radiation levels in the secondary plant increase due to the higher leak rate. Operators re-diagnose the tube leak and transition to 41RO-1ZZ06 "Tube Rupture" based on SIAS. The large tube rupture meets the criteria of EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity." Two check marks in Appendix A merit declaration of a SITE AREA EMERGENCY.
- 1040 0240 Immediately prior to operators' attempt to shut down RCP-1A and -2A per 41RO-1ZZ06, RCP-1A impeller fails. Debris from the impeller are flushed into the core. The loose parts monitor alarms. Hot leg ARMs and area ARMs increase indicating possible fuel damage. RCP-2A is tripped manually, RCP-1B and -2B are running normally. SS should direct a RCS sample if the normal post-trip sample has not already been ordered. RU-16 and -17 indicate greater than 10 times their high alarm setpoints, which operators may view as an additional indication for a SITE AREA EMERGENCY per EPIP-02 Appendix B, Tab 2 "Major Damage to spent fuel with a release of radioactivity to the Containment or Fuel Handling Building resulting in valid radiation readings > 10 times the high radiation alarms on any of the following: RU-16, -17, -31, -33, -143, or -145", despite the fact that the only radioactive release is to the isolated faulted Steam Generator.
- 1050 0250 S/G #1 level increases rapidly due to the tube rupture. Operators line up and conduct a high rate blowdown of #1 S/G to maintain level below 80%.

3.3 Major Sequence of Events (Continued)

- 1055 0255 When operators attempt to rapidly depressurize the plant with spray to reduce the Primary to Steam Generator differential pressure, they find that the spray valves will not open in the Control Room. The Spray Valve controller has failed. Operators use slower Aux. Spray to lower pressure, and commence troubleshooting the failed Spray Valves.
- 1100 0300 TSC Emergency Coordinator declares a SITE AREA EMERGENCY based on EPIP-02 Appendix A "RCS Leak rate greater than 44 gpm" and "RCS leak rate greater than charging pump capacity.", if not already done, and makes appropriate notifications. Operators are expected to use safety injection systems to makeup inventory losses and continue steaming using auxiliary feed to cool the RCS and remove heat from the core.
- 1145 0345 Main Steam safety relief valve trouble alarm. Indications of #1 S/G relief lifted. Un-Monitored release to the environment begins via the lifting relief in the MSSS.
- 1200 0400 With the primary to secondary leak in combination with the lifting relief, the EC should recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY. Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.
- 1210 0410 While investigating low volume on the plant paging speaker in the OSC, electrician strikes a sprinkler system spray head with a ladder. One OSC sprinkler system spray head is damaged. The damaged sprinkler head sprays down the room. Before the fire main in that area can be isolated, the room is thoroughly wet. Emergency supplies and paperwork are rendered unserviceable. Telephones in the OSC are OOS. Emergency Response personnel should be evacuated to the alternate OSC, or to another suitable location. OSC supervisory personnel and RP personnel should take plume exposure during the evacuation into account.
- 1230 0430 Operators continue to cool down the RCS and depressurize to control the release rate from the ruptured S/G. Attempts to shut the leaking relief valve will be ineffective due to temperature and radiation levels in the vicinity of the valve.
- 1300 0500 When plant is ready to be placed on shutdown cooling, and all objectives have been demonstrated, secure from the Exercise.

Appendix A
Scenario Controller Guide

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0730	1	C-1 All	SS All	<p><u>INITIAL CONDITIONS</u></p> <p>Unit 2 is operating at 100% power; middle of core life; DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. 41ST-IZZ02 was last run at 0600. Day tank refill is about to start. A spent resin transfer from the storage tank to a shipping cask is in progress. Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam. LPSI "B" is OOS. While conducting 41ST-ISH1 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time. Power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. No Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today.</p> <p><u>Annunciators in Control Room</u></p> <p>1C DG B Trip 1C DG B Emergency Manual Trip 1C DG B High Priority Trouble</p>	<p><u>Unit 2 Control Room (CR) [Simulator]:</u></p> <p>Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards</p>		<p>0730 - All controllers distribute the initial conditions to all Facility managers and key players as they are manned during the exercise.</p> <p><u>NOTE:</u> Although the Simulator represents the Unit 2 Control room; for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 2 procedures will be used.</p> <p>All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.</p> <p>All troubleshooting information for LPSI "B" troubleshooting and repair will be found in the OSC Mini-Scenarios, <u>Appendix N</u></p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0800	2	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-20 indicates 1000 mR/hr. RU-21 indicates 500 mR/hr. RU-22 indicates 7000 mR/hr.</p>	<p>Be aware of plant conditions. Attempt to validate the high radiation alarm in the Rad Waste Building. SS should realize that valid high radiation alarms in the area constitute an ALERT per EPIP-02 App B Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"</p>		<p>Flex coupling has blown out during resin transfer. Approximately 5 - 6 Ci of normal hot resin have spilled on the floor of the Rad Waste Building. Elevated radiation levels due to the spill.</p>
0800	3	C-4b	RWO	<p>Spent resin spill: Flexible coupling blows out during transfer. Resin spills out onto the floor. Local area radiation levels increase. RU-22 alarms followed by RU-20 and -21. RU-22 indicates 7000 mR/hr locally. Local area radiation levels indicate up to 1000 mR/hr. One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, is contaminated, and is suffering from a possible fracture of the lower left leg.</p>	<p><u>Resin Transfer Scene:</u> Radwaste Operator notify Security, Fire Protection and the Control Room. <u>Security</u> Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification. <u>Fire Protection (FP)</u> Shift Captain, dispatch EMTs to the scene. Notify medical. <u>Unit 2 CR (Sim):</u> SS: Notify Radiation Protection (RP). Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.</p>		<p>Scene controller, posing as a RWO standing by at the scene, phones in the notification of the resin spill to extension 4444</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0810	4	C-4	RT Ldr at DG "B"	While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.	<p>Check transfer pump supply breaker (PHB-M3212). Breaker is tripped and will not reset.</p> <p>Inform Unit 2 Control Room.</p> <p>Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.</p>		<p>NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios, Appendix N.</p>
0815	5	C-4b	EMT / RPT	EMTs and RPTs arrive at the scene of the Resin Spill.	<p><u>Fire Protection</u> EMTs: evaluate medical situation and begin immediate treatment. Report status of the victim to Unit 2 CR (Sim).</p> <p><u>Security</u> Officer on-scene: Establish and maintain communications at the scene. Assist in transport of victims to the Site Medical Facility. Security Shift Captain (SSC): Prepare for security support of handling and transport of the victim. Notify the vehicular access (sally) port.</p> <p><u>RPT</u> Perform initial radiological assessment of the victim and the immediate area. Report the status to medical and the Unit 2 CR (Sim).</p>		<p>EMTs and RPTs begin to arrive at the scene. Controller interact with EMTs and RPTs to provide information required to assess condition of the contaminated injured worker. EMTs and RPTs should determine that the worker is contaminated and requires transportation to a medical facility.</p> <p>NOTE: The remainder of the medical and radiological data relating to the contaminated</p>

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TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0815 Cont	5 Cont				<p><u>Unit 2 Control Room (Sim)</u> SS: Evaluate the RPT reports and continue to monitor the on-going events. Determine injury and contamination status of the victim. Pass information to the CR.</p>	MB	<p>injured worker will be provided from the Medical Emergency Scenario, <u>App. M</u></p> <p>0840 - (C-4b) Prompt on-site medical to arrange for ground evacuation of injured worker. (See App. M)</p>
0820				<p>With notification of the resin spill in the Rad Waste building, SS has validated ARM alarms, and has sufficient information to declare an ALERT per E11P-02, App B Tab 1, "Direct Radiation Readings within the plant increase by a factor of 1000"</p>		A	<p>0835 (C-1) To ensure ALERT is declared</p>
0830				<p>Radiological and Medical assessment of the victim is complete. Initial contamination control measures are in place.</p>	<p><u>Fire Protection</u> EMTs prepared for transport on litter to Site Medical Facility and ambulance. <u>RPTs</u> Contamination control boundaries and methodologies are in place for movement of the victim.</p>		<p>NOTE: Detailed medical and radiological data relating to the contaminated injured worker will be provided from the Medical Emergency Scenario, <u>Appendix M</u>. Initial move of injured worker to the Radwaste Building fence area for rapid transport to ambulance is <u>only</u> required for life-threatening injury, and is not required in this case.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0835	A	C-1	SS	Declare an ALERT per EPIP-02, Appendix B, Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"	<p><u>Unit 2 Control Room (Sim)</u> SS/On-shift Emergency Coordinator declare the ALERT. Direct notifications in accordance with (IAW) EPIP-04.</p> <p><u>Satellite Technical Support Center (STSC)</u> STSC Communicator make appropriate notifications per EPIP-04.</p> <p><u>Operations Support Center (OSC)</u> Begin Activation.</p> <p><u>Technical Support Center (TSC)</u> Begin Activation.</p> <p><u>Emergency Operations Facility (EOF)</u> Begin Activation.</p>		Deliver this message only if SS has not declared the ALERT by this time.
0902	6	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RU-141 Alert alarm RU-4 High alarm RU-139 Channel 1 and 2 high alarm</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CU enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor initiates the Emergency Plan per EPIP-02. Inform TSC/OSC.</p>		RCS tube leak (12%) starts in #1 Steam Generator. The leak is initially indicated by alarms on the Condenser Off-Gas radiation monitor (RU-141) Alert alarm, Blowdown radiation monitor (RU-4) high alarm, RU-139 ch 1 & 2 High alarm, and mismatch between charging and letdown flow.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0902	B	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> PZR Level Channel X deviation low PZR Level Channel Y deviation low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> Pressurizer level indicates 50% and lowering slowly Pressurizer backup heaters cycling in auto</p>	<p><u>Unit 2 Control Room (Sim)</u> Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74C1-9ZZ/5 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1R/02. The Shift Supervisor informs TSC/OSC.</p>		<p>Deliver this message only if the simulator is not operational. Lowering Pressurizer level gives additional indications of RCS leak.</p>
0902	C	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 66 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination.</p>		<p>Deliver to AO if Simulator is not operational, when performing leak rate determination. Initial determination of leak rate is 12 gpm. Rate may be increasing.</p>
0905	D	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination: Charging Flow: 88 gpm Letdown Flow: 53 gpm</p>	<p><u>Unit 2 Control Room (Sim)</u> AO report to SS/Shift EC. Continue leak rate determination. SS report to TSC/OSC</p>		<p>Deliver to AO if Simulator is not operational, when performing second leak rate determination: 35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0913	E	C-1	SS, AO	<p>Steam Generator Primary to Secondary Leak Rate Determination.</p> <p>Charging Flow: 88 gpm</p> <p>Letdown Flow: 30 gpm</p>	<p>Unit 2 Control Room (Sim)</p> <p>AO report leak rate to SS/Shift EC.</p> <p>SS report leak rate to TSC/OSC</p> <p>Technical Support Center</p> <p>EC recognizes that >44 gpm leak rate is a redundant indication for ALERT per EPIP-02, App B, Tab 2.</p>		<p>[use 12% break for the 15 minute leak rate check]. Deliver to AO if Simulator is not operational, when performing second leak rate determination:</p> <p>58 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.</p> <p>41AO-1ZZ08 Step 2 should be complete by this time to minimize release to the environment.</p> <p>NOTE: Per 41AO-1ZZ08 4.0 "...a controlled shutdown is much preferred over tripping the unit." Controllers <u>must</u> pay attention to player decision-making process on mode of shutdown. Controllers may need to increase the leak rate to ensure that it is clear that even with let-down minimized, maximum charging cannot compensate for the additional shrinkage from a rapid power reduction or trip.</p>

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
09 4	F	C-1	SS/ Shift EC	DO NOT TRIP THE UNIT. Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lifting main steam safeties.	<u>UNIT 2 CONTROL ROOM (Sim)</u> Commence normal shutdown by boration at the one hour rate (approximately 5% power per minute). Maximum power reduction rate is 10% power per minute based on turbine unload limit. Operators are expected to try for a 1 hour power drop at a rate that keeps pressurizer level constant, and to isolate letdown to get a head start on contraction from cooldown. "PZR Trouble" and "PZR Press Hi-Lo" alarms upon isolating letdown.		Deliver to SS / Shift EC if the decision is made to shut the unit down using a Reactor Trip, vice a controlled shutdown at a 5% per minute rate.
0920				Shutdown in progress. Reactor Power 94%			Be aware of plant conditions.
0930	7	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> RMS Alarm <u>INDICATIONS IN CONTROL ROOM</u> RU-5 ALERT alarm	<u>UNIT 2 CONTROL ROOM (Sim)</u> SS Direct chemistry perform 74CH-9ZZ66.		RU-5 alarm due to cross-contamination of "A" Steam Generator from the feed and condensate system.
0940				Contaminated injured worker is ready for offsite transportation by ambulance.	SS/EC/EOD should all realize that this is a redundant indicatio. for NUE.		

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
0945				Reactor shutdown continues. Reactor Power 74%.			
0950				Reactor shutdown continues. Reactor Power 69%.			
1000				Reactor shutdown continues Reactor Power 62%.			
1006	G	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> FW Pump 7B Disch Vlv Pos Nt Open FWPT B Hyd Cont Press Trip FWPT B HP SV Pos Closed FWPT B LP SV Pos Closed <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Feed Pump is tripped			Deliver this message only if simulator is inoperative, when operators trip "B" Main Feed Pump.
1010	H	C-1	SS, CO	<u>ANNUNCIATORS IN CONTROL ROOM</u> CNDS Pump B Disch Vlv Pos Nt-Open CNDS Pump B Recirc Flow Lcw <u>INDICATIONS IN CONTROL ROOM</u> "B" Main Condensate Pump is tripped			Deliver this message only if the simulator is inoperative, when operators trip "B" Main Condensate Pump. Reactor Shutdown continues, Reactor power at 51%.

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TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1015	J	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates 4 mils.</p>	<p>Unit 2 Control Room (Sim) AO perform 79AC-OSV01 to analyze vibration problem.</p>		<p>Deliver this message only if the simulator is not operating. Initial indication of worsening RCP fault, which will lead to rotor failure. 79AC-OSV01 requires pump shutdown for displacement of 10 mils</p>
1020				<p>Reactor Shutdown continues Reactor power 45%</p>			
1030				<p>Reactor Shutdown continues Reactor power 31%</p>			<p>Operators should brief the anticipated reactor trip</p>
1032	K	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> VCT Level Low PZR Nar Rnge Press Ch A,B,C Low PZR Wide Rnge Press Ch A,B,C,D Low PZR Level Ch X Deviation Low PZR Level Ch Y Deviation Low</p> <p><u>INDICATIONS IN CONTROL ROOM</u> VCT Level indicates 31.9 % Pzr Press indicates 2218 psia</p>	<p>Operators see increased leak rate, and isolate letdown to attempt to control lowering pressurizer level</p>		<p>Simulator operator key leak rate to 30%. Steam Generator Tube Rupture begins. Leak rate increases to 400 gpm.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1035	L	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u></p> <p>Master Turb Trip Gen/Reac Initiated Trip 125V Trip Bus Energized Remote Man RPS Ch A Ch A Trip Ckt Bkr Pos Remote Man RPS Ch B Ch B Trip Ckt Bkr Pos Remote Man RPS Ch C Ch C Trip Ckt Bkr Pos Remote Man RPS Ch D Ch D Trip Ckt Bkr Pos CEDM Pwr Bus UNDV 1, 2, 3, 4 CEA 01 through 89 at Btn Steam Bypass Valve 1 - 6 Open Permissive SIAS A Man Act CIAS A Man Act DG Start Signal A Actuated DG Start Signal B Actuated</p> <p><u>INDICATIONS IN CONTROL ROOM</u></p> <p>Reactor Trip Turbine Trip Generator Trip All CEAs indicate fully inserted</p>	<p>Take all immediate actions for Tube Rupture, rediagnose leak and transition to 41AO-1ZZ06 "S/G Tube Rupture" based on SIAS.</p>		<p>Deliver this message only if the simulator is not operational, following manual reactor trip and SI after Steam Generator Tube Rupture.</p> <p>NOTE: CIAS will isolate RU-1. Operators will have to manually line up the monitor from the Control Room to place it back in service. Radiological data assumes that the monitor is returned to service. If monitor is not deliberately placed back in service, indicate "offline" on RMS data sheets prior to passing out to players.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1040	M	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> RCP-1A vibration alarm RCP-1A Eccentricity alarm Loose Parts Monitor Alarm RMS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> RCP-1A vibration indicates > 10 mils. RCP-1A Indicates Tripped Loose Parts Monitor indicates alarms on lower vessel head and S/G #1 lower head. RU-16, -17, -148 High Alarm</p>	Be aware of plant conditions.		Deliver this message only if the simulator is not operating. RCP-1A rotor fails, RCP trips. Remaining operating pumps -2A, -1B and -2B will flush rotor debris through the core. RCS Rad levels increase.
1045					<p><u>Unit 2 CR/STSC (Sim)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator.</p> <p><u>TSC</u> EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct implant team activities.</p> <p><u>OSC</u> OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.</p> <p><u>EOF</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>	Q	Sufficient information is available for declaration of a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity". (H100) C-2 To ensure SAE is declared.

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1050				Wide range level in #1 S/G is approaching 80%. Operators line up and conduct high rate blowdown on S/G #1 to keep level below 80%.		N	(1050) C-1 to ensure operators conduct high rate blowdown to control #1 S/G level.
1050	N	C-1	SS	Implement high rate blowdown on S/G #1 to keep level below 80%.			Deliver this message only if operators fail to conduct high rate blowdown on #1 S/G with level exceeding 80%.
1055	P	C-1	CO	<u>INDICATIONS IN CONTROL ROOM</u> Spray valves indicate shut	<u>Unit 2 Control Room (Sim)</u> CO: Inform SS, attempt to open other Spray valve (fails). SS: Direct CO to use aux. spray to reduce plant pressure. <u>TSC</u> Direct OSC to troubleshoot fault. <u>OSC</u> Brief and dispatch team to investigate.		Deliver this message only if the simulator is not operating, when operator attempts to use spray to depressurize the plant and reduce primary to secondary d/p. Spray valve controller has failed, both spray valves are shut. Repair time will be 2 hours. All additional troubleshooting and repair information for the Spray Valve Controller will be found in the OSC Mini-Scenarios, <u>Appendix N</u>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1100	Q	C-2	TSC/ EC	Declare a SITE AREA EMERGENCY per EPIP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity".	<p><u>Unit 2 CR/STSC (SCM)</u> SS: Continue to direct the evaluation and mitigation effort. Ops Advisor: Continue to update the Ops Coordinator.</p> <p><u>TSC</u> EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures. RPC: Evaluate radiological conditions, direct inplant team activities.</p> <p><u>OSC</u> OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.</p> <p><u>EOF</u> EOD: Evaluate plant conditions, update EOC/TOC.</p>		Deliver this message only if a SAE has not yet been declared.
1100	R	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> SESS Alarm</p> <p><u>INDICATIONS IN CONTROL ROOM</u> SC-221 (Downcomer Sample Line) is shut.</p>	<p>Be aware of plant conditions.</p> <p>SC-221 is a normally open valve. The valve has failed shut due to a burned up solenoid operator.</p> <p>SS will either direct Chem Tech to sample via hot leg, or troubleshoot the failed valve.</p>		<p>Deliver this message only if the simulator is not operating.</p> <p>Additional troubleshooting data is found in Appendix N, OSC Mini-Scenarios.</p> <p>SESS alarms due to lineup for sampling Steam Generators.</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1110					#1 Steam Generator is isolated, beginning cooldown at initial rate of 30°F/hr, increasing to 75°F/hr when under control.		Be aware of plant conditions.
1130	T	C-1	SS, CO	Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage.			Deliver this message only if SS has not yet ordered a PASS sample.
1145	U	C-1	SS, CO	<p><u>ANNUNCIATORS IN CONTROL ROOM</u> MSRV Trouble Alarm.</p> <p><u>INDICATIONS IN CONTROL ROOM</u> #1 S/G Safety valve indicates open.</p>			Deliver this message if the simulator is not operating.

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1145	8	C-4a	On Site RMT	<p>Call in the following message to be passed to the Unit 2 Control Room (Simulator):</p> <p>"I just heard a loud noise from the direction of the Unit 2 MSSS, kind of a bang or crack, and now there is steam visible flowing out near the top."</p>	<p><u>Unit 2 Control Room/STSC (Sim)</u> SS: Recognize that a release of steam has started, evaluate source. When #1 S/g is determined to be leaking, begin dose projection efforts. Inform OSC/TSC.</p> <p><u>TSC</u> EC: Evaluate plant conditions. Assist in mitigation effort. Consider protective measures.</p> <p><u>TSC</u> EC: recognize that the conditions of EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere" are met. The EC should declare a GENERAL EMERGENCY.</p> <p><u>EOF - RAC</u>: Given the indication of fuel damage and known release, field teams should be positioned to gather data for dose assessment.</p>	W	<p>Call in message to alert Control Room (Sim) of start of release. #1 S/G Safety Valve spring has failed, the safety is open and a release of activity to the environment has started.</p> <p>(1200) C-2 Ensure a GE is declared.</p>
1155	9	C-4a	OSC Coord.	<p>You are having trouble hearing announcements over the plant page speaker in the OSC.</p>	<p>OSC Repair Coordinator direct electrician to investigate.</p>		

1997 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1200	W	C-2	TSC, EC	"Declare a GENERAL EMERGENCY per EPIP-02 Appendix A "RCS Leakage > 44 gpm", "RCS Leakage greater than available charging pump capacity" and ">10 gpm Primary to Secondary leak concurrent with a release of steam to the atmosphere"			Deliver this message only if EC has not yet declared a GENERAL EMERGENCY.
1210	10	C-4	OSC Coord.	Electrician troubleshooting low volume on plant page speaker in OSC returned with stepladder. While setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the speaker, and breaks it off. The entire OSC is immediately and continuously sprayed with water (approximately 40 gpm). As fire main pressure drops, the fire pump starts, increased header pressure increases spray flow rate to 75gpm.	<p><u>OSC</u> Attempt to save documentation, equipment, and procedures. Move temporarily to the RP island area. Isolate the fire main in the OSC. Evaluate damage. Based on lack of communications and ruined procedures, evacuate to the backup OSC.</p> <p><u>TSC</u> Continue to monitor and evaluate plant conditions. Coordinate OSC evacuation.</p> <p><u>EOF</u> RAC: Monitor radiological conditions and make appropriate recommendations for minimizing exposure during OSC relocation.</p>	X	<p>(1220) C-4 Ensure OSC is evacuated to the backup OSC.</p> <p>Controllers begin randomly hanging up phones in use to simulate loss of phone lines. Direct players to ignore ringing phones.</p> <p>Controller communications will continue unaffected on the PBX line.</p> <p>Remaining troubleshooting and repair scenario will be found in the OSC Main Scenario, Appendix N</p>

1992 EVALUATED EXERCISE CONTROLLER GUIDE

TIME	MSG. NO.	FROM	TO	EVENT SUMMARY	ANTICIPATED RESPONSE	CM	CONTROLLER NOTES
1220	X	C-4	OSC Dir.	Relocate OSC functions to the backup OSC.	<u>OSC</u> Prepare and evacuate the OSC.		Deliver this message as directed by the Master Controller, only if OSC relocation has not yet been ordered.
1215							Cooldown continues, Release to the environment continues.
1230				Adjust Coolant Charging Pump Vibration Dampers due to continued cooldown and depressurization of the RCS.	Team will adjust CCP Pulsation dampers per procedure. No additional information or equipment indications beyond those in the applicable procedures are required.		Deliver to team leader assigned to adjust CCP pulsation dampers per 41AO-1Z206.
1235					SS should elect to continue cooldown by steaming, but make preparations for shutdown cooling.		Conditions are met for entering S/D cooling per 41AO-1Z206, App A, Para 15 of 17, Step 26. RCS temp 289°F, Pri to S/D d/p 67 psid, safety remains open.
1300	11	/ C	ALL	Secure from the Exercise.	Secure from the exercise. Clean and restow emergency equipment. Prepare for facility critiques.		Deliver this message as directed by the master controller when the plant is ready to enter S/D cooling.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1 / All

TO: SS / All

MESSAGE NO. 1

TIME: 0730

LOCATION: Unit 2 Control Room (Simulator)

INSTRUCTION:

Pass the following message to the Shift Supervisor at this time.

Note:

Pass the following message to facility managers and key players in all facilities as they are manned in the course of the Exercise.

NOTE: Although the Simulator represents the Unit 2 Control room for the purposes of the exercise, in accordance with normal Simulator training practices, Unit 1 procedures will be used.

All radiological information for this scenario will be presented via paper hard copy. The RMS computer will not be used.

Shift Supervisor review plant conditions, brief the operating crew and walk down the simulator boards

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS / All

TIME: 0730

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Simulator)

MESSAGE:

INITIAL CONDITIONS

Unit 2 is operating at 100% power; middle of core life;
DG-B fuel oil day tank has been drained and flushed to eliminate water and suspected contaminants noted in the day tank sight glass. The Diesel has been tagged out and is 36 hours into the 72 hour action statement. DG-A was last run at 0400. Surveillance test 41ST-1ZZ02 was last run at 0600. Day tank refill is about to start.

A spent resin transfer from the storage tank to a shipping cask is in progress.

Unit 1 is in a refueling outage. Unit 3 is operating at 100% power and is supplying aux steam.

LPSI "B" is OOS. While conducting 41ST-1SI11 (LPSI Pump Operational Test) on train "B", the pump failed to start when operated from Control Room board B02, hand switch 3. The pump is tagged out electrically. No further troubleshooting has taken place at this time.

Due to a fire in electrical cabinet 2E-SDN-D03 earlier this morning, power has been lost to the Unit 2 Data Acquisition System associated with ERFDADS. As a result, no Unit 2 ERFDADS information is available. Information is still available for Unit 1, Unit 3, and the meteorology tower. Repairs are expected to be completed by 4:00 pm today, and the DAS unit should be restored to service shortly thereafter.

Annunciators in Control Room

1C DG B Trip
1C DG B Emergency Manual Trip
1C DG B High Priority Trouble

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-2

TO: SS, CO

MESSAGE NO. 2

TIME: 0800

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS and CO at this time.

Note:

Flex coupling has blown out during resin transfer. Approximately 5 - 6 kCi of normal hot resin have spilled on the floor of the Rad Waste Building. Elevated radiation levels due to the spill of resin.

Be aware of plant conditions. Attempt to validate the high radiation alarms in the Rad Waste Building. SS should realize that valid high radiation alarms in the area constitute an ALERT per EPIP-02 App B Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS_CO

TIME: 0800

MESSAGE NO. 2

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS alarm

INDICATIONS IN CONTROL ROOM

RU-20 indicates 1000 mR/hr.

RU-21 indicates 500 mR/hr.

RU-22 indicates 7000 mR/hr.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RWO

MESSAGE NO. 3

TIME: 0800

LOCATION: Radwaste Building, Scene of resin transfer.

INSTRUCTION:

Pass the following message to RWO at this time.

Note:

Scene controller, posing as a RWO standing by at the scene, phones in the notification of the resin spill to extension 4444

Resin Transfer Scene:

Radwaste Operator: notify Security, Fire Protection and the Control Room.

Security

Central Alarm Station (CAS) Dispatch security officer to the scene, verify Fire Protection and medical notification.

Fire Protection (FP)

Shift Captain, dispatch EMTs to the scene. Notify medical.

Unit 2 CR (Sim):

SS: Notify Radiation Protection (RP). Ensure that Radiation Protection Technicians (RPTs) are dispatched to the scene.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: RWO

TIME: 0800

MESSAGE NO. 3

LOCATION: Radwaste Building, Scene of resin transfer.

MESSAGE:

Spent resin spill:

Flexible coupling blows out during transfer. Resin spills out onto the floor.

Local area radiation levels increase. RU-22 alarms, followed by RU-20 and -21.

Local area radiation levels indicate up to 7000 mR/hr.

One Rad Waste Operator (RWO) at the scene slips and falls while attempting to escape the resin spray. The operator falls in the resin, and is suffering from a compound fracture of the lower left leg.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: RT Leader at DG-B

MESSAGE NO. 4

TIME: 0810

LOCATION: Diesel Generator B

INSTRUCTION:

Pass the following message to RT Leader at this time.

Note:

DG-B fuel oil transfer pump failed after pumping 100 gallons

RT informs Unit-2 Control Room (Sim.) and checks breaker for pump. Breaker PHB-M3212 is tripped and will not reset.

Operators are expected to pursue repairs to the pump with high priority. Initially, cross connecting the "A" and "B" DG train transfer pumps will allow them to temporarily restore full function to the "B" Diesel. In order to get out of the 72 hour action statement, operators will have to restore the failed transfer pump. Both courses of action should be pursued.

NOTE: The remainder of data for troubleshooting and repair of the DG-B is found in the OSC Mini-Scenarios.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: RT Leader DG-B

TIME: 0810

MESSAGE NO. 4

LOCATION: Diesel Generator "B"

MESSAGE:

While refilling the DG-B fuel oil day tank, refilling started normally but fuel oil stopped flowing after approximately 100 gallons were transferred.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: EMT / RPT

MESSAGE NO. 5

TIME: 0815

LOCATION: Radwaste Building, Scene of resin spill

INSTRUCTION:

Pass the following message to EMT / RPT at this time.

Note:

EMTs and RPTs begin to arrive at the scene. Controller interact with EMTs and RPTs to provide information required to assess condition of the contaminated injured worker. EMTs and RPTs should determine that the worker is contaminated and requires transportation to an off-site medical facility.

NOTE: The remainder of the medical and radiological data relating to the contaminated injured worker will be provided from the Medical Emergency Scenario, Appendix M.

Fire Protection

EMTs: evaluate medical situation and begin immediate treatment. Report status of the victim to Unit 2 CR (Sim).

Security

Officer on-scene: Establish and maintain communications at the scene. Assist in transport of victims to the Site Medical Facility.

Security Shift Captain (SSC): Prepare for security support of handling and transport of the victim. Notify the vehicular access (sally) port.

RPT

Perform initial radiological assessment of the victim and the immediate area. Report the status to medical and the Unit 2 CR (Sim).

Unit 2 Control Room (Sim)

SS: Evaluate the RPT reports and continue to monitor the on-going events.

Determine injury and contamination status of the victim. Pass information to the CR.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: EMT / RPT

TIME: 0815

MESSAGE NO. 5

LOCATION: Radwaste Building, Scene of resin spill

MESSAGE:

EMTs and RPTs arrive at the scene of the Resin Spill.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS

TIME: 0835

MESSAGE NO. A

LOCATION: Unit 2 Control Room (Sim 1)

MESSAGE:

Declare an ALERT per EPIP-02, Appendix B, Tab 1 "Direct Radiation Readings within the Unit increase by a factor of 1000"

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 0902

MESSAGE NO. 6

LOCATION: Unit 2 Control Room (Sim 2)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS Alarm

INDICATIONS IN CONTROL ROOM

RU-141 Alert alarm

RU-4 High alarm

RU-139 Channel 1 high alarm

RU-139 Channel 2 high alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, CO

MESSAGE NO. B

TIME: 0902

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, CO at this time:

Note:

Deliver this message only if the simulator is not operational.

Lowering Pressurizer level gives additional indications of RCS leak

Unit 2 Control Room (Sim.)

Evaluate indications. SS direct CO enter 41AO-1ZZ08 "Steam Generator Tube Leak". Chemistry is directed to perform 74CH-9ZZ66 "Primary to Secondary Leak Rate" to assess the location and magnitude of the S/G fault. Operators concurrently perform RCS leak rate determination per 41AO-1ZZ08 and 41ST-1RC02. The Shift Supervisor informs TSC/OSC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 0915

MESSAGE NO: B

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

PZR Level Channel X deviation low

PZR Level Channel Y deviation low

INDICATIONS IN CONTROL ROOM

Pressurizer level indicates 50% and lowering slowly

Pressurizer backup heaters cycling in auto

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS AG

TIME: 0902

MESSAGE NO. C

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Lea: Rate Determination:
Charging Flow: 88 gpm
Letdown Flow: 66 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS, AO

MESSAGE NO. D

TIME: 0905

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS, AO at this time.

Note:

Deliver to AO if Simulator is not operational, when performing second leak rate determination.

35 gpm mismatch indicates increasing rate of RCS primary to secondary leakage.

Unit 2 Control Room (Sim.)

AO report to SS/Shift EC. Continue leak rate determination.

SS report to TSC/OSC

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS, AO

TIME: 18:02

MESSAGE NO. D

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination
Charging Flow: 88 gpm
Letdown Flow: 53 gpm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS, AO

TIME: 0713

MESSAGE NO. E

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Steam Generator Primary to Secondary Leak Rate Determination
Charging Flow: 88 gpm
Letdown Flow: 30 gpm

UNIT 2 CR (SIMULATOR) PHONES: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS Shift EC

TIME: 0914

MESSAGE NO: F

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

DO NOT TRIP THE UNIT.

Per 41AO-1ZZ08 4.0 "With a minor Steam Generator Tube Leak a controlled shutdown is much preferred over tripping the unit. A normal shutdown and cooldown will tend to confine activity to the leaking generator, reduce the possibility of losing the SBCS (loss of vacuum) and reduce the possibility of lining main steam safeties.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 0330

MESSAGE NO: 7

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RMS Alarm

INDICATIONS IN CONTROL ROOM

RU-5 ALERT alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be take .
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS-CO

TIME: 1006

MESSAGE NO. G

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

FW Pump 7B Disch Vlv Pos Nt Open
FWPT B Hyd Cont Press Trip
FWPT B HP SV Pos Closed
FWPT B LP SV Pos Closed

INDICATIONS IN CONTROL ROOM

"B" Main Feed Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1010

MESSAGE NO. H

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

CNDS Pump B Disch Vlv Pos Nt-Open
CNDS Pump B Recirc Flow Low

INDICATIONS IN CONTROL ROOM

"B" Main Condensate Pump is tripped

UNIT 2 CR (SIMULATOR) PHONE: N7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1015

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates 4 mils.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

**DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS**

TO: SS CO

TIME: 1032

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

VCT Level Low
PZR Nar Rnge Press Ch A Low
PZR Nar Rnge Press Ch B Low
PZR Nar Rnge Press Ch C Low
PZR Wide Rnge Press Ch A Low
PZR Wide Rnge Press Ch B Low
PZR Wide Rnge Press Ch C Low
PZR Wide Rnge Press Ch D Low
PZR Level Ch X Deviation Low
PZR Level Ch Y Deviation Low

INDICATIONS IN CONTROL ROOM

VCT Level indicates 31.9%
PZR Press indicates 2218 psia

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO. 1

TIME: 1035

LOCATION: Unit 2 Control Room (Sim 1)

INSTRUCTION:

Pass the following message to SS CO at this time.

Note:

Deliver this message only if the simulator is not operational, following manual reactor trip and SI after Steam Generator Tube Rupture.

Take all immediate actions for Tube Rupture, rediagnose leak and transition to 41AO-1ZZ06 "S.G Tube Rupture" based on SIAS.

NOTE: CIAS will isolate RU-1. Operators will have to manually line up the monitor from the Control Room to place it back in service. Radiological data assumes that the monitor is returned to service. If monitor is not deliberately placed back in service, indicate "offline" on RMS data sheets prior to passing out to players.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1035

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

INDICATIONS IN CONTROL ROOM

Master Turb Trip
Gen/Reac Initiated Trip
125V Trip Bus Energized
Remote Man RPS Ch A
Ch A Trip Ckt Bkr Pos
Remote Man RPS Ch B
Ch B Trip Ckt Bkr Pos
Remote Man RPS Ch C
Ch C Trip Ckt Bkr Pos
Remote Man RPS Ch D
Ch D Trip Ckt Bkr Pos
CEDM Fwr Bus UNDV 1, 2, 3, 4
CEA 01 through 89 at Btm
Steam Bypass Valve 1 - 6 Open Permissive
SIAS A Man Act
CIAS A Man Act
DG Start Signal A Actuated
DG Start Signal B Actuated

Reactor Trip
Turbine Trip
Generator Trip
All CEAs indicate fully inserted

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS/CO

MESSAGE NO. M

TIME: 1040

LOCATION: Unit 2 Control Room (Sim.)

INSTRUCTION:

Pass the following message to SS/CO at this time.

Note:

Deliver this message only if the simulator is not operating.

Be aware of plant conditions.

RCP-1A rotor falls. RCP trips. Remaining operating pumps -2A, -1B and -2B will flush rotor debris through the core. RCS Rad levels increase.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS/CO

TIME: 1040

MESSAGE NO. 31

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

RCP-1A vibration alarm
RCP-1A Eccentricity alarm
Loose Parts Monitor Alarm
RMS Alarm

INDICATIONS IN CONTROL ROOM

RCP-1A vibration indicates > 10 mils.
RCP-1A Indicates Tripped
Loose Parts Monitor indicates alarms on lower vessel head and S/G #1 lower head
RU-16, -17, -148 High Alarm

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7201, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO SS

TIME: 1050

MESSAGE NO. N

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

Implement high rate blowdown on S/G #1 to keep level below 80%.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: CC

TIME: 1055

MESSAGE NO. P

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

INDICATIONS IN CONTROL ROOM

Spray valves indicate shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-2

TO: EC

MESSAGE NO. Q

TIME: 1700

LOCATION: Technique Support Center

INSTRUCTION:

Pass the following message to the Emergency Coordinator at this time:

Note:

Deliver this message only if a SAE has not yet been declared.

Unit 2 CR/STSC (Sim)

SS: Continue to direct the evaluation and mitigation effort.

Ops Advisor: Continue to update the Ops Coordinator.

TSC

EC: Evaluate plant conditions, assist in mitigation efforts, consider protective measures.

RPC: Evaluate radiological conditions, direct inplant team activities.

OSC

OSC Coordinator: Assemble, brief and dispatch teams as required by the TSC.

EOE

EOD: Evaluate plant conditions, update EOC/TOC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: FC

TIME: 1100

MESSAGE NO. Q

LOCATION: Technical Support Center

MESSAGE:

Declare a SITE AREA EMERGENCY per EHP-02, Appendix A, "RCS Leak > 44 gpm" and "RCS Leak Rate Greater than Charging Pump Capacity".

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS CO

TIME: 1100

MESSAGE NO. R

LOCATION: Unit 2 Control Room (Sim.)

MESSAGE:

ANNUNCIATORS IN CONTROL ROOM

SESS Alarm

INDICATIONS IN CONTROL ROOM

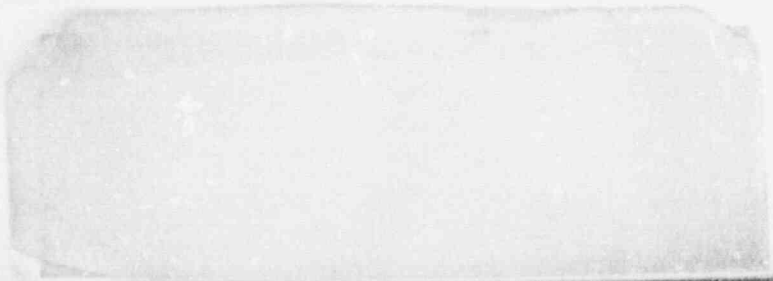
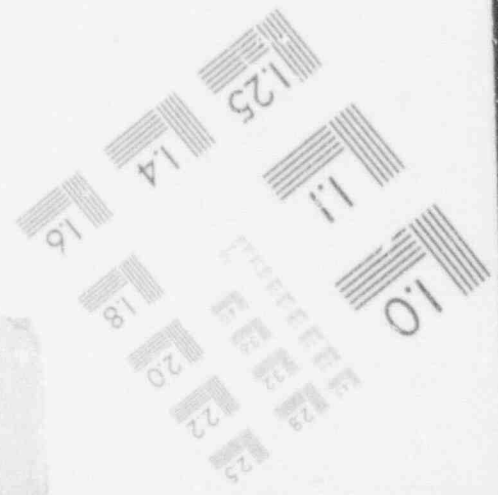
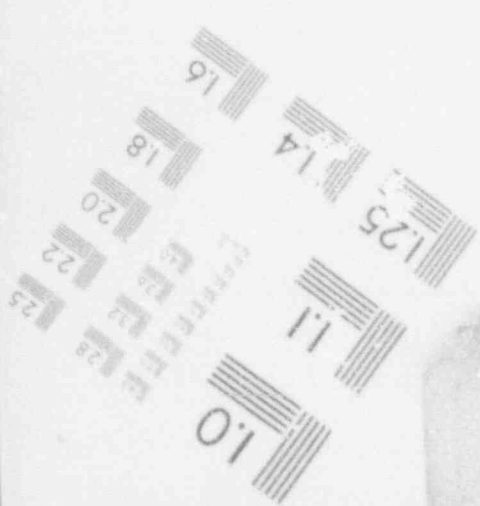
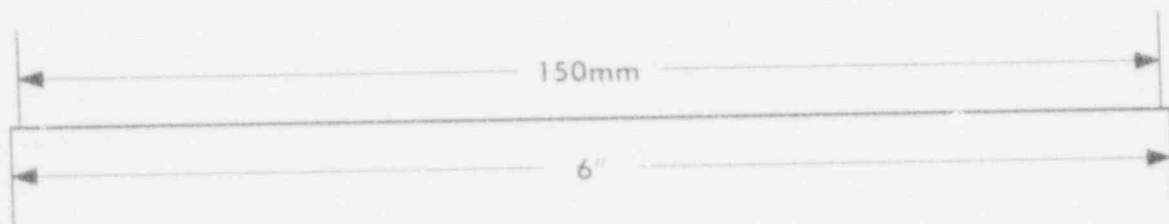
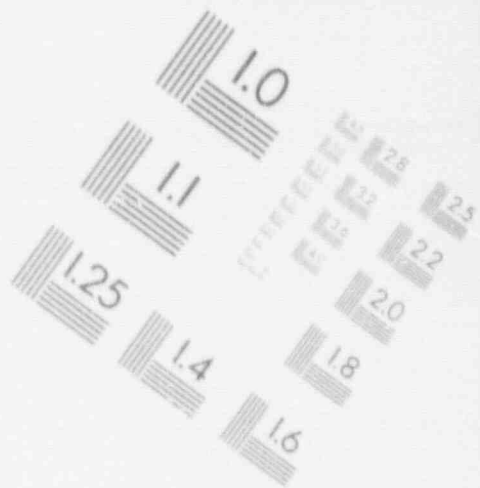
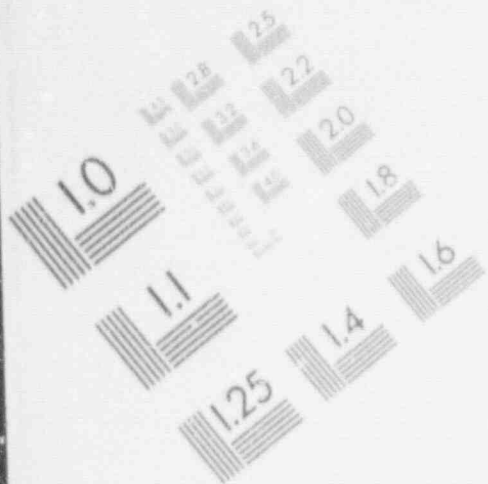
SC-221 (Downcomer Sample Line) is shut

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

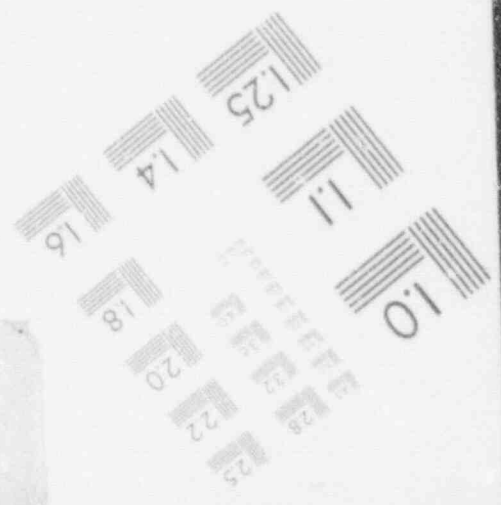
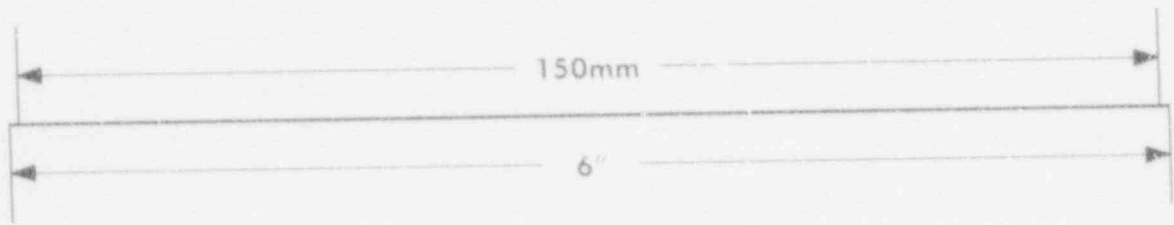
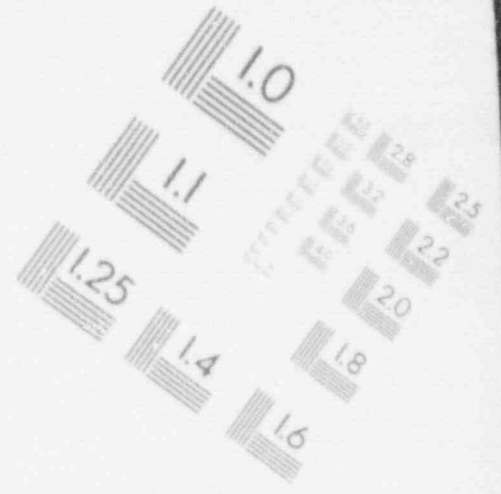
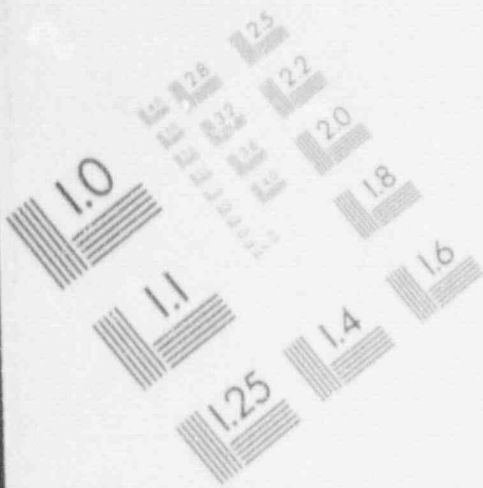
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IMAGE EVALUATION TEST TARGET (MT-3)



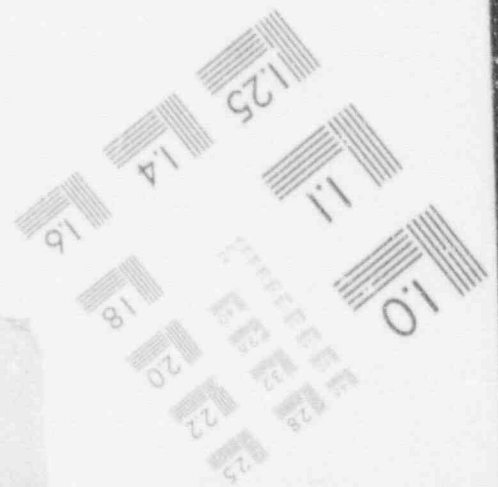
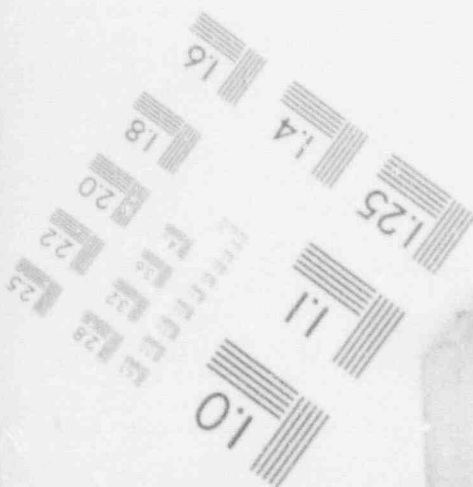
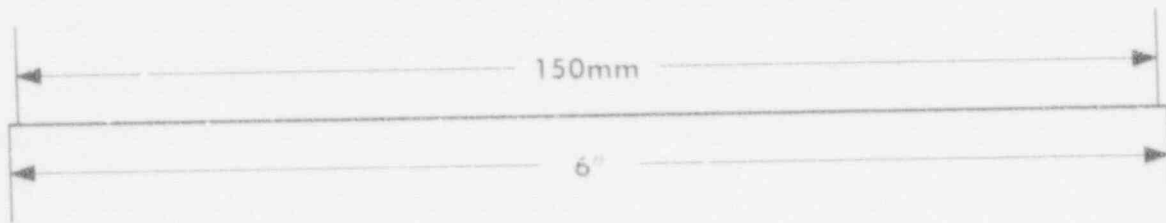
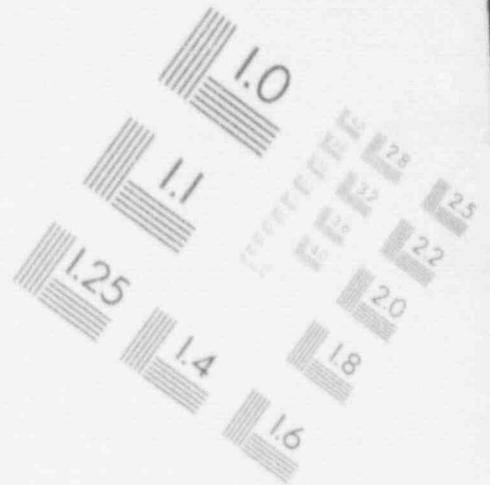
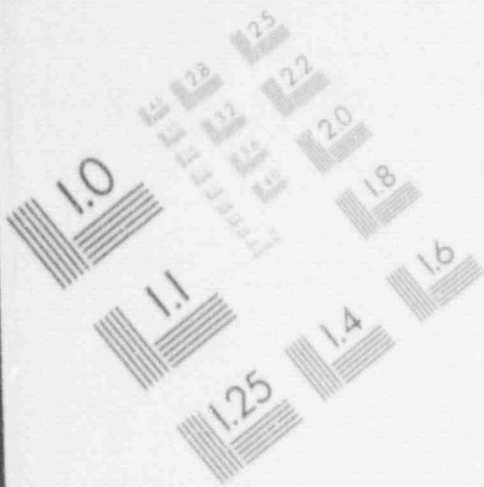
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IMAGE EVALUATION TEST TARGET (MT-3)



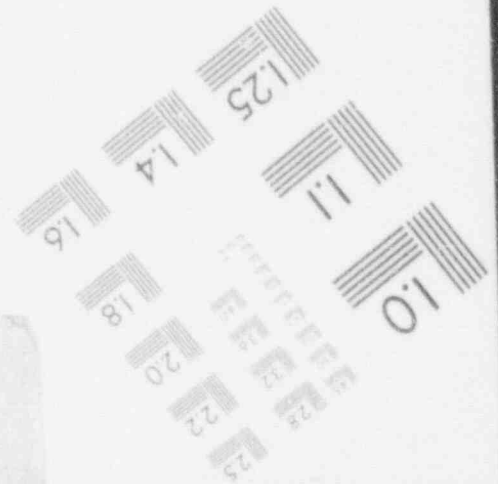
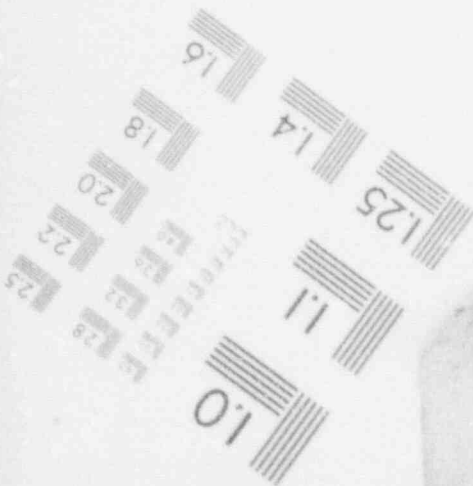
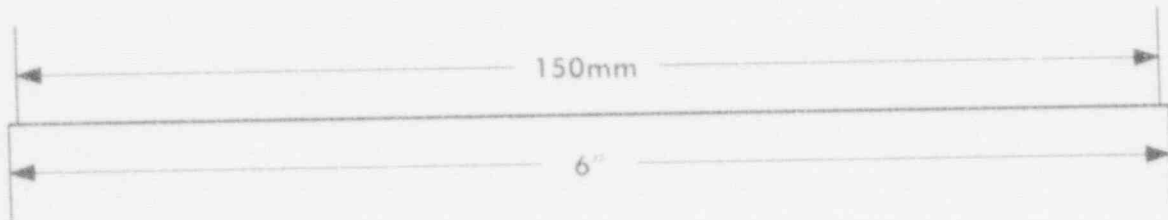
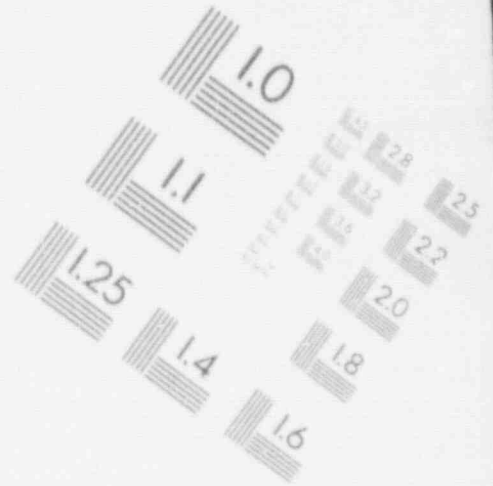
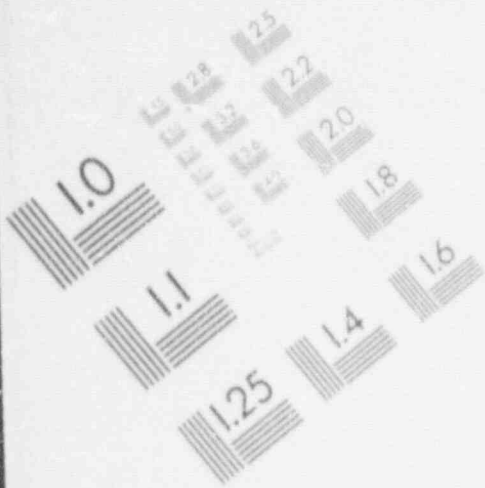
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IMAGE EVALUATION TEST TARGET (MT-3)



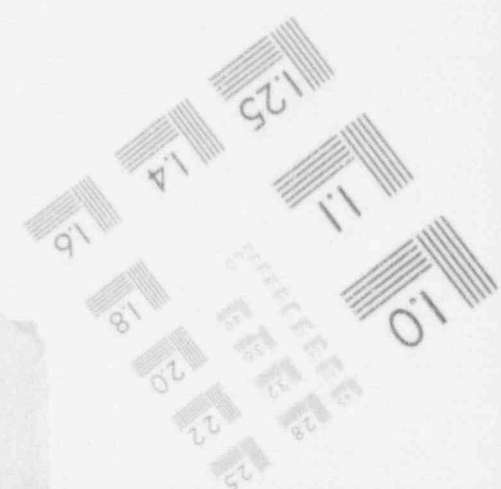
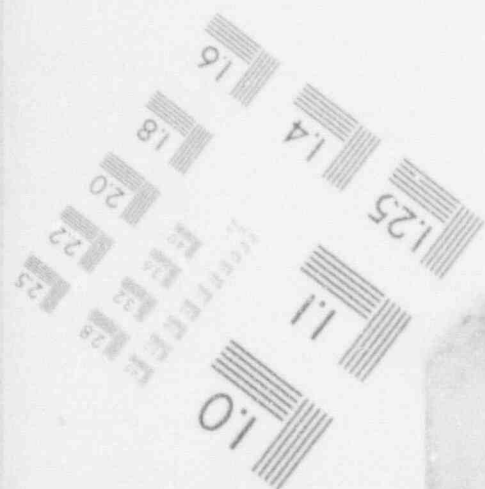
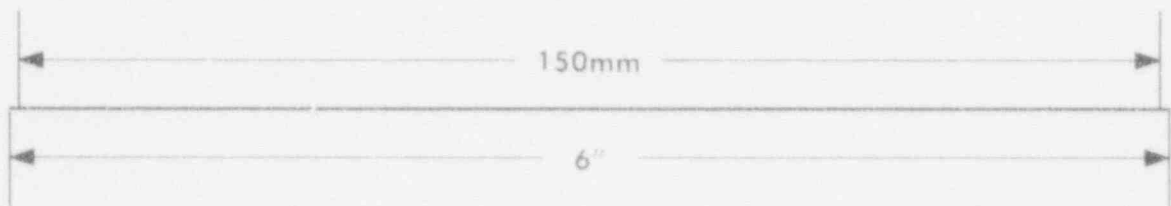
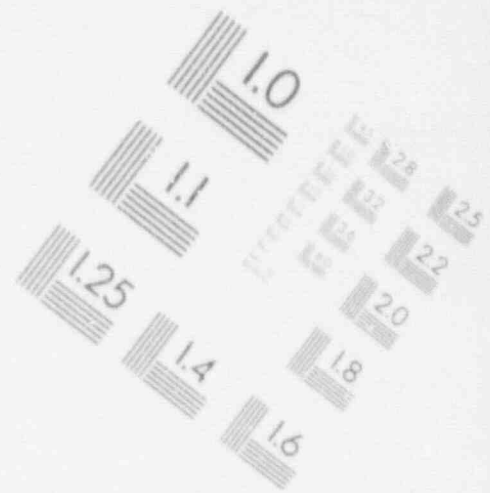
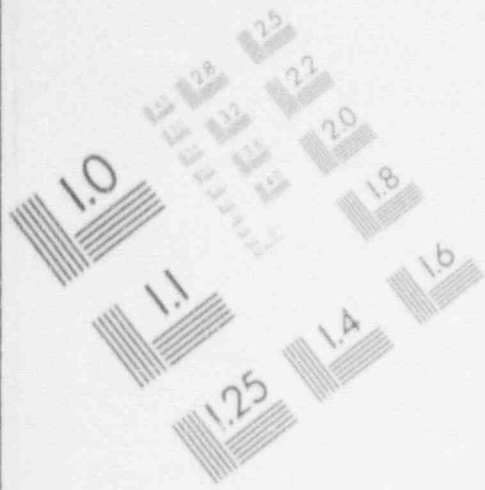
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IMAGE EVALUATION TEST TARGET (MT-3)



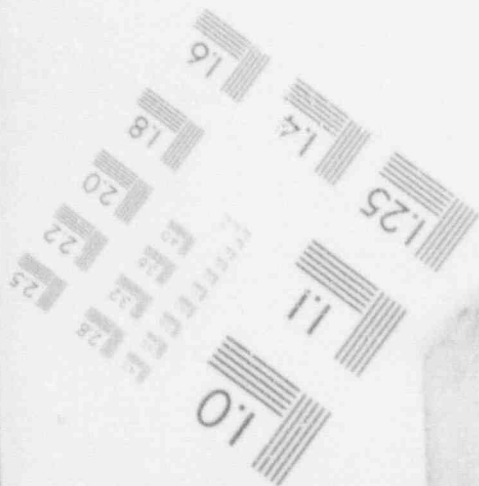
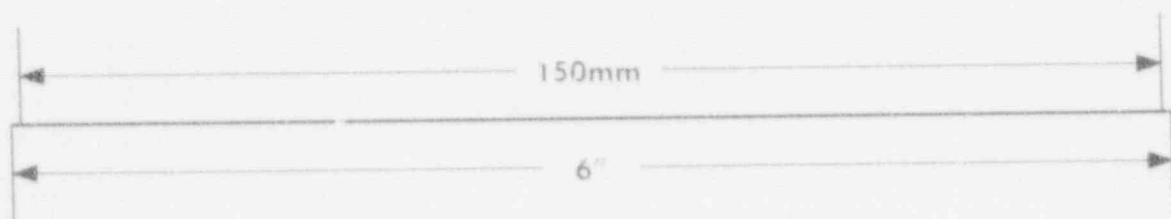
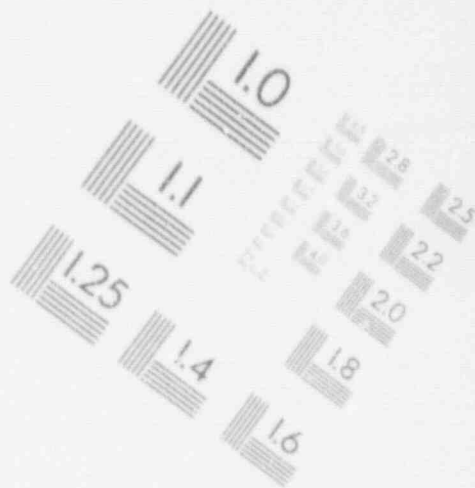
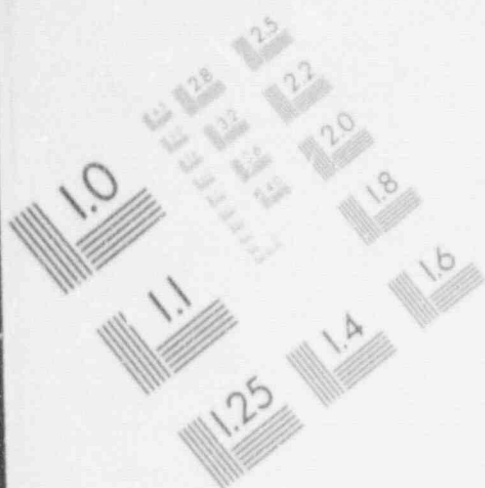
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IMAGE EVALUATION TEST TARGET (MT-3)



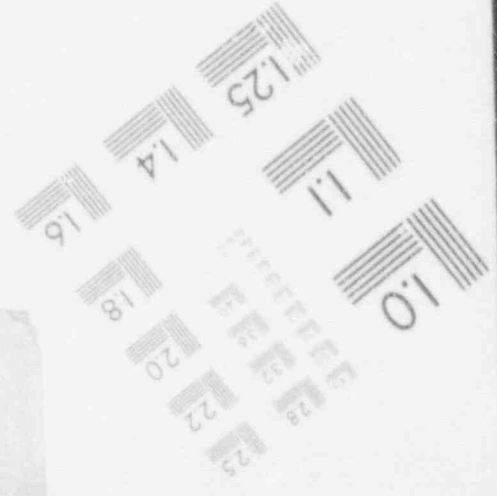
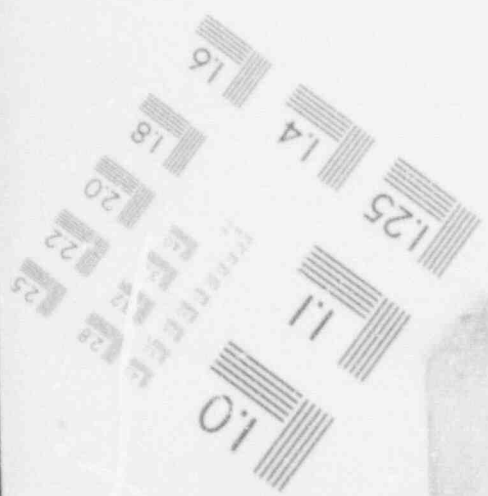
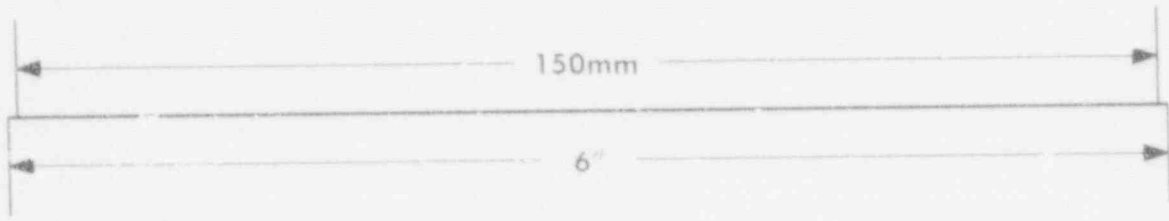
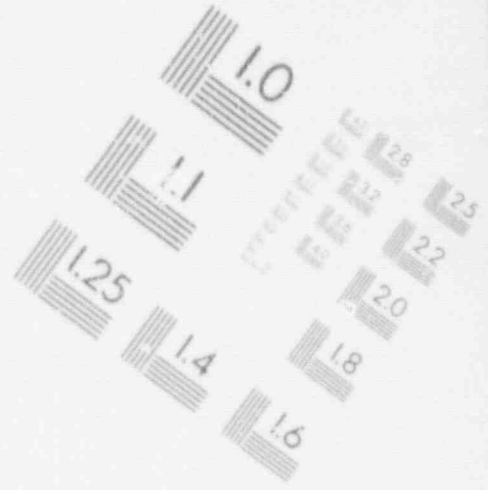
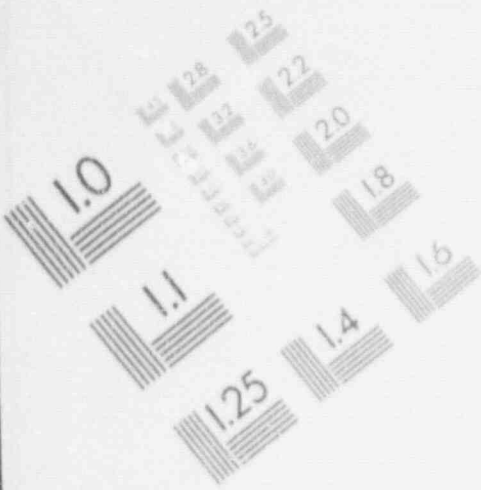
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IMAGE EVALUATION TEST TARGET (MT-3)



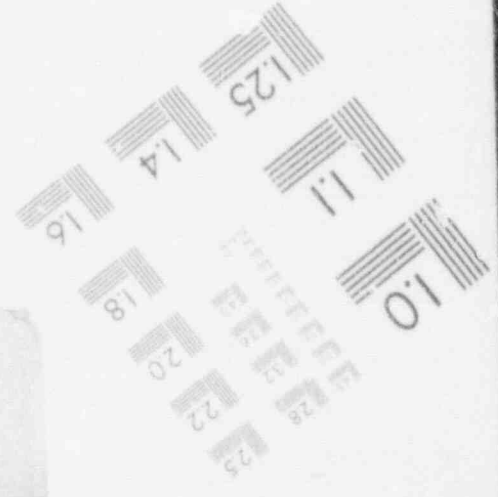
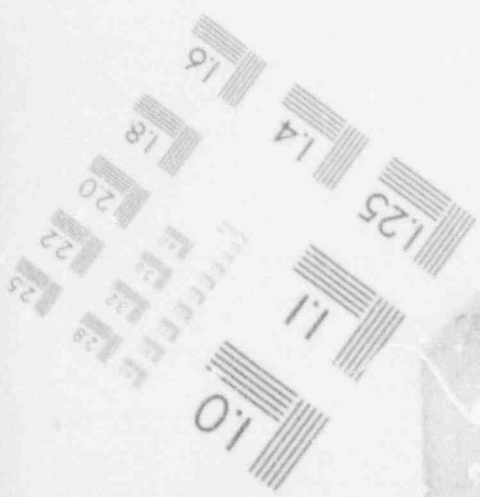
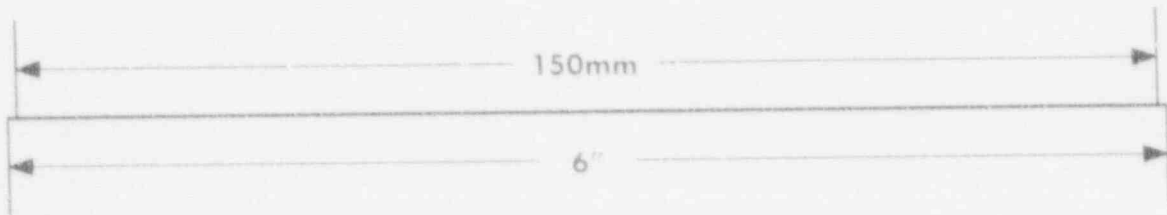
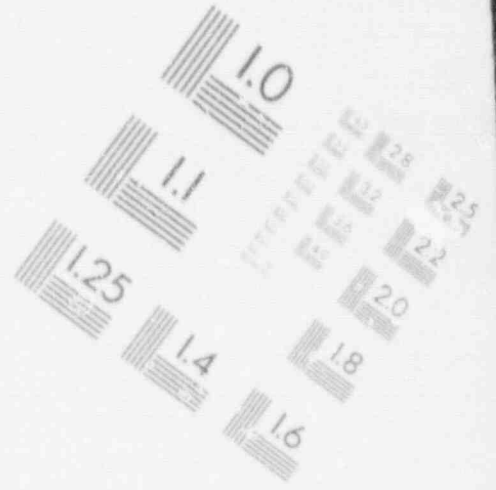
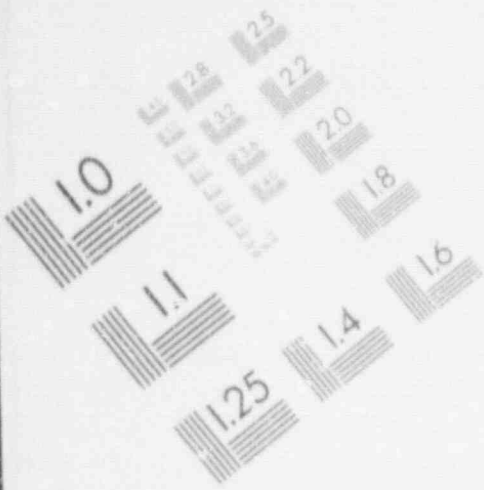
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IMAGE EVALUATION TEST TARGET (MT-3)



1

IMAGE EVALUATION TEST TARGET (MT-3)



CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-1

TO: SS CO

MESSAGE NO. 1

TIME: 1130

LOCATION: Unit 2 Control Room Panel

INSTRUCTION:

Pass the following message to SS CO at this time.

Note:

Deliver this message only if SS has not yet ordered a PASS sample.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: SS/CO

TIME: 1430

MESSAGE NO. 1

LOCATION: Unit 2 Control Room (Sim)

MESSAGE:

Direct chemistry to perform a PASS sample of the RCS to assess potential fuel damage

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: SS CO

TIME: 1145

MESSAGE NO. 8

LOCATION: Outside of Unit 2 near the MSSS

MESSAGE:

Call in the following message to pass to the Unit 2 Control Room (Simulator):
"I just heard a loud noise from the direction of the Unit 2 MSSS. When I turned around, I saw that
it steam valve. I am trying to get the MSSS."

UNIT 2 CR (SIMULATOR) PHONE: N7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO OSC Coordinator

TIME: 1155

MESSAGE NO. 9

LOCATION: OSC

MESSAGE:

You are having trouble hearing announcements over the flat page speaker in the OSC.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-2

TO: TSC, EC

MESSAGE NO: W

TIME: 1200

LOCATION: Technical Support Center

INSTRUCTION:

Pass the following message to EC in TSC at this time:

Note:

Deliver this message only if EC has not yet declared a GENERAL EMERGENCY

DRILL MESSAGE FORM

THIS IS A DRILL!

DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: Emergency Coordinator

DATE: 12/81

MESSAGE NO. W

LOCATION: Technical Support Center

MESSAGE:

Declare a GENERAL EMERGENCY for EPP-02 Appendix A "RCV Leakage > 42 gpm, RCV Leakage greater than available charging pump capacity" and >10 gpm. Contact to Secondary tank concurrent with release of steam & H₂O into other."

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your simulator informed of actions to be taken.
2. Request clarification from your control if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: OSC Coordinator

MESSAGE NO. 10

TIME: 12:10

LOCATION: Operations Support Center

INSTRUCTION

Past the following message to OSC Director at this time.

Note

OSC

Attempt to save documentation, equipment, and procedures. Move temporarily to the RP island.
Isolate the fire main in the OSC. Evaluate damage. Based on lack of communications and robot
procedures, evacuate to the backup OSC.

TSC

Continue to monitor and evaluate plant conditions. Coordinate OSC evacuation.

EOF

RAC: Monitor radiological conditions and make appropriate recommendations for minimizing exposure
during OSC relocation.

Controllers begin randomly hanging up phones in use to simulate loss of phone lines. Direct players to
ignore ringing phones.

Controller communications will continue unaffected on the PBX line.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO: OIS Coordinator

TIME: 1230

MESSAGE NO: 10

LOCATION: Operations Support Centre

MESSAGE:

Event: when troubleshooting low volume in plant pipe streamer in OAC a laddered staff (ie, ladder) with setting up the ladder, the ladder swings up too high, strikes the fire suppression sprinkler head nearest to the quarter, and breaks it off. The entire OAC is immediately and entirely watered with water at approximately 40 gpm. As fire main pressure drops, the fire pump starts. The water control operator increases spray flow rate to 75gpm.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

CONTROLLER INSTRUCTIONS

CALL YOUR LEAD CONTROLLER IMMEDIATELY FOR ADVICE
IF IN DOUBT WHAT TO DO

FROM: C-4

TO: OSC, D6

MESSAGE NO. Y

TIME: 1230

LOCATION: Generations Support Center

INSTRUCTION

Pass the following message to OSC Director at this time.

Note:

Deliver this message as directed by the Master Controller, only if OSC relocation has not yet been created.

OSC

Prepare to and evacuate the OSC.

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS.

TO: ALL

TIME: 1300

MESSAGE NO.

LOCATION: All Facilities

MESSAGE:

Secure from the Overseas.

UNIT 2 CR (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your Controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

APR 1992

APP B-CC

Rev. 04 11 92

DRILL MESSAGE FORM

THIS IS A DRILL!
DO NOT TAKE ANY ACTIONS THAT WILL AFFECT ACTUAL
STATION OPERATIONS OR ACTIVITIES IN PROGRESS

TO

TIME

MESSAGE NO. number

LOCATION

MESSAGE:

text

UNIT 2 CB (SIMULATOR) PHONE: X7200, 7291, 7202, 7203, 7204, 7205

1. Keep your controller informed of actions to be taken.
2. Request clarification from your controller if the message is not fully understood.
3. Request additional information if you feel that it is needed.

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07	9.67E-07
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07	7.42E-07
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	1.60E-11	1.60E-11	1.60E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	5.25E-07	5.25E-07	5.25E-07	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.12E-01	1.12E-01	1.12E-01	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	1.00E+00	1.00E+00	1.00E+00	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	3.16E-01	3.16E-01	3.16E-01	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	7.87E-01	7.87E-01	7.87E-01	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06	1.21E-06
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	0	10	20	30	40	50
Monitor	Units	0730	0740	0750	0800	0810	0820
RU-148	f/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04	2.23E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04	2.42E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	9.67E-07	9.67E-07	9.67E-07	3.28E-02	6.37E-02	9.19E-02
RU-5	uCi/cc	7.42E-07	7.42E-07	7.42E-07	5.78E-06	1.12E-05	1.62E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-139 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.00E+01	9.42E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.21E-06	1.21E-06	1.21E-06	2.70E-03	2.61E-03	2.43E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	60	70	80	90	100	110
Monitor	Units	0830	0840	0850	0900	0910	0920
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.23E+04	2.23E+04	2.23E+04	2.37E+04	2.33E+04	2.14E+04
RU-151	mR/hr	2.42E+04	2.42E+04	2.42E+04	2.24E+04	2.21E+04	2.03E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.20E-01	1.46E-01	1.72E-01	1.97E-01	2.21E-01	2.46E-01
RU-5	uCi/cc	2.11E-05	2.58E-05	3.03E-05	3.46E-05	3.89E-05	4.31E-05
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00	7.22E+00
RU-17	mR/hr	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02	1.54E+02
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 C	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-139 C 2	mR/hr	9.50E+00	9.46E+00	9.20E+00	9.17E+00	9.37E+00	9.46E+00
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.44E-03	2.42E-03	2.34E-03	2.32E-03	2.36E-03	2.38E-03
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	120	130	140	150	160	170
Monitor	Units	0930	0940	0950	1000	1010	1020
RU-148	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-149	R/hr	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
RU-150	mR/hr	2.11E+04	2.08E+04	2.06E+04	2.03E+04	2.01E+04	1.98E+04
RU-151	mR/hr	2.00E+04	1.97E+04	1.95E+04	1.92E+04	1.90E+04	1.88E+04
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 C	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	3.76E-01	1.34E+02	2.63E+02	3.89E+02	5.12E+02	6.33E+02
RU-5	uCi/cc	6.60E-05	4.60E-02	9.05E-02	1.34E-01	1.32E-01	1.30E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	7.22E+00	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.54E+02	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-139 Ch 2	mR/hr	5.34E+01	1.06E+05	1.05E+05	1.04E+05	1.04E+05	1.04E+05
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	1.17E-03	2.27E-05	2.26E-05	2.25E-05	2.24E-05	2.23E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL+	180	190	200	210	220	230
Monitor	Units	1030	1040	1050	1100	1110	1120
RU-148	R/hr	1.00E+03	2.28E+03	2.27E+03	2.26E+03	2.25E+03	2.25E+03
RU-149	R/hr	1.00E+00	1.09E+02	1.06E+02	1.06E+02	1.06E+02	1.05E+02
RU-150	mR/hr	1.96E+04	3.85E+07	3.81E+07	3.77E+07	3.74E+07	3.70E+07
RU-151	mR/hr	1.86E+04	3.64E+07	3.61E+07	3.57E+07	3.54E+07	3.51E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	7.90E+01	1.40E+07	1.39E+07	1.38E+07	1.36E+07	1.35E+07
RU-157 Ch 2	mR/hr	1.00E+01	1.37E+02	1.36E+02	1.35E+02	1.34E+02	1.33E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL+	240	250	260	270	280	290
Monitor	Units	1130	1140	1150	1200	1210	1220
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	7.50E+02	8.65E+02	9.77E+02	1.09E+03	1.19E+03	1.30E+03
RU-5	uCi/cc	1.29E-01	1.27E-01	1.25E-01	1.24E-01	1.22E-01	1.21E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-139 Ch 2	mR/hr	1.04E+05	1.04E+05	1.03E+05	9.04E+04	9.02E+04	9.00E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.23E-05	2.22E-05	2.21E-05	2.20E-05	2.20E-05	2.19E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Monitor	DRILL+	243	250	260	270	280	290
	Units	1130	1140	1150	1200	1210	1220
RU-148	R/hr	2.24E+03	2.23E+03	2.22E+03	2.22E+03	2.21E+03	2.20E+03
RU-149	R/hr	1.05E+02	1.05E+02	1.04E+02	1.04E+02	1.04E+02	1.03E+02
RU-150	mR/hr	3.67E+07	3.64E+07	3.61E+07	3.58E+07	3.55E+07	3.52E+07
RU-151	mR/hr	3.45E+07	3.45E+07	3.42E+07	3.39E+07	3.36E+07	3.34E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.34E+07	1.33E+07	1.31E+07	1.30E+07	1.27E+07	1.23E+07
RU-157 Ch 2	mR/hr	1.32E+02	1.31E+02	1.30E+02	1.28E+02	1.26E+02	1.23E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

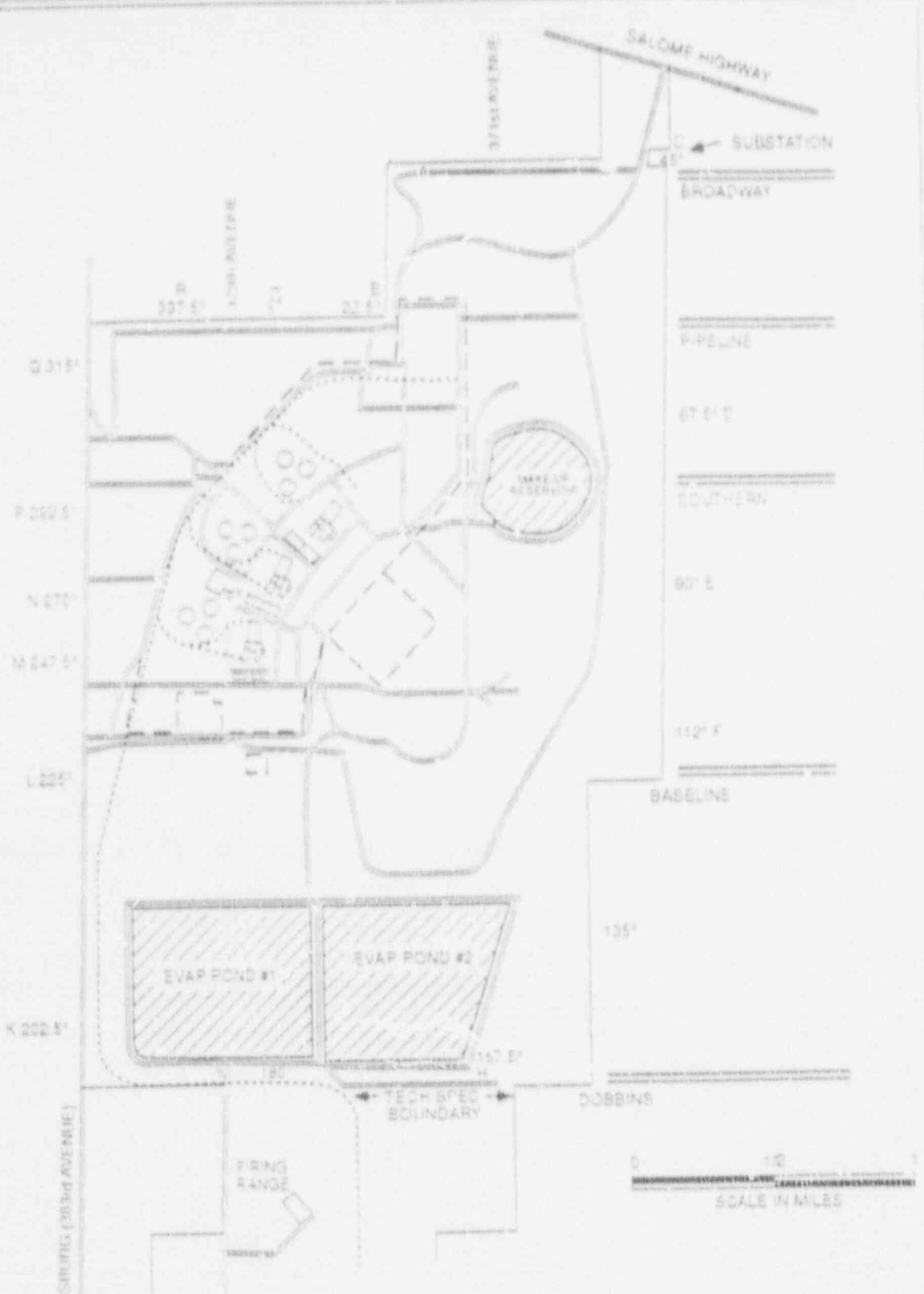
Monitor	DRILL+ Units	300 1230	310 1240	320 1250	330 1300	340 310	350 1320
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-23	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.40E+03	1.50E+03	1.60E+03	1.69E+03	1.79E+03	1.88E+03
RU-5	uCi/cc	1.20E-01	1.18E-01	1.17E-01	1.16E-01	1.14E-01	1.13E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-33	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-64	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-139 Ch 2	mR/hr	7.27E+04	7.26E+04	7.24E+04	7.23E+04	7.22E+04	7.20E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.19E-05	2.18E-05	2.18E-05	2.17E-05	2.17E-05	2.16E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	300	310	320	330	340	350
Monitor	Units	1230	1240	1250	1300	1310	1320
RU-148	R/hr	2.20E+03	2.19E+03	2.18E+03	2.18E+03	2.17E+03	2.17E+03
RU-149	R/hr	1.03E+02	1.03E+02	1.02E+02	1.02E+02	1.01E+02	1.01E+02
RU-150	mR/hr	3.50E+07	3.47E+07	3.45E+07	3.42E+07	3.40E+07	3.37E+07
RU-151	mR/hr	3.31E+07	3.28E+07	3.26E+07	3.24E+07	3.21E+07	3.19E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.20E+07	1.17E+07	1.13E+07	1.10E+07	1.07E+07	1.05E+07
RU-157 Ch 2	mR/hr	1.21E+02	1.19E+02	1.16E+02	1.14E+02	1.12E+02	1.09E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	8.00E+06	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-159 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01	1.00E+01

	DRILL*	360	370	380	390
Monitor	Units	1330	1340	1350	1400
RU-1 Ch 1	uCi/cc	3.49E-11	3.49E-11	3.49E-11	3.49E-11
RU-1 Ch 2	uCi/cc	9.70E-11	9.70E-11	9.70E-11	9.70E-11
RU-1 Ch 3	uCi/cc	5.31E-06	5.31E-06	5.31E-06	5.31E-06
RU-2/3	uCi/cc	8.60E-07	8.60E-07	8.60E-07	8.60E-07
RU-4	uCi/cc	1.98E+03	2.07E+03	2.17E+03	2.27E+03
RU-5	uCi/cc	1.12E-01	1.10E-01	1.08E-01	1.07E-01
RU-6	uCi/cc	1.01E-06	1.01E-06	1.01E-06	1.01E-06
RU-7	uCi/cc	5.17E-07	5.17E-07	5.17E-07	5.17E-07
RU-8 Ch 1	uCi/cc	2.26E-11	2.26E-11	2.26E-11	2.26E-11
RU-8 Ch 2	uCi/cc	5.76E-11	5.76E-11	5.76E-11	5.76E-11
RU-9	uCi/cc	8.44E-07	8.44E-07	8.44E-07	8.44E-07
RU-10	uCi/cc	9.45E-07	9.45E-07	9.45E-07	9.45E-07
RU-12	uCi/cc	1.50E-04	1.50E-04	1.50E-04	1.50E-04
RU-14	uCi/cc	7.80E-11	7.80E-11	7.80E-11	7.80E-11
RU-15	uCi/cc	1.10E-06	1.10E-06	1.10E-06	1.10E-06
RU-16	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-17	mR/hr	1.00E+20	1.00E+20	1.00E+20	1.00E+20
RU-18	mR/hr	3.78E-02	3.78E-02	3.78E-02	3.78E-02
RU-19	mR/hr	6.22E-02	6.22E-02	6.22E-02	6.22E-02
RU-20	mR/hr	1.00E+03	1.00E+03	1.00E+03	1.00E+03
RU-21	mR/hr	5.00E+02	5.00E+02	5.00E+02	5.00E+02
RU-22	mR/hr	7.00E+03	7.00E+03	7.00E+03	7.00E+03
RU-23	mR/hr	1.00E-01	1.00E-01	1.00E-01	1.00E-01
RU-25	mR/hr	5.25E+00	5.25E+00	5.25E+00	5.25E+00
RU-26	mR/hr	6.73E-01	6.73E-01	6.73E-01	6.73E-01
RU-29	uCi/cc	3.89E-07	3.89E-07	3.89E-07	3.89E-07
RU-30	uCi/cc	4.09E-07	4.09E-07	4.09E-07	4.09E-07
RU-31	mR/hr	2.91E-01	2.91E-01	2.91E-01	2.91E-01
RU-32	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-34	uCi/cc	2.94E-06	2.94E-06	2.94E-06	2.94E-06
RU-37	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-38	mR/hr	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-44	uCi/cc	OFFLINE	OFFLINE	OFFLINE	OFFLINE
RU-139 Ch 1	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-139 Ch 2	mR/hr	7.19E+04	7.18E+04	7.16E+04	7.14E+04
RU-140 Ch 1	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-140 Ch 2	mR/hr	1.50E+00	1.50E+00	1.50E+00	1.50E+00
RU-141	uCi/cc	2.16E-05	2.15E-05	2.15E-05	2.14E-05
RU-142 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-142 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-143 Ch 1	uCi/cc	6.63E-07	6.63E-07	6.63E-07	6.63E-07
RU-143 Ch 2	uCi/cc	1.59E-11	1.59E-11	1.59E-11	1.59E-11
RU-143 Ch 3	uCi/cc	3.17E-11	3.17E-11	3.17E-11	3.17E-11
RU-144 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-144 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-145	uCi/cc	3.24E-07	3.24E-07	3.24E-07	3.24E-07
RU-146 Ch 1	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-146 Ch 2	uCi/cc	0.00E+00	0.00E+00	0.00E+00	0.00E+00

	DRILL*	360	370	380	390
Monitor	Units	1330	1340	1350	1400
RU-148	R/hr	2.16E+03	2.15E+03	2.15E+03	2.14E+03
RU-149	R/hr	1.00E+02	9.86E+01	9.81E+01	9.75E+01
RU-150	mR/hr	3.35E+07	3.32E+07	3.30E+07	3.27E+07
RU-151	mR/hr	3.16E+07	3.14E+07	3.11E+07	3.09E+07
RU-152 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-152 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-153 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-154 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-155 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-156 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-157 Ch 1	mR/hr	1.00E+07	9.67E+06	9.33E+06	9.00E+06
RU-157 Ch 2	mR/hr	1.07E+02	1.05E+02	1.02E+02	1.00E+02
RU-157 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 1	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 2	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 3	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01
RU-158 Ch 4	mR/hr	1.00E+01	1.00E+01	1.00E+01	1.00E+01

- A 0°
- AB 11°
- B 22 5'
- BC 34°
- C 45°
- CD 56°
- D 67 5'
- DE 78°
- E 90°
- EF 101°
- F 112°
- FG 124°
- G 135°
- GH 146°
- H 157 5'
- HJ 169°
- J 180°
- JK 191°
- K 202 5'
- KL 214°
- L 225°
- LM 236°
- M 247 5'
- MN 259°
- N 270°
- NP 281°
- P 292 5'
- PO 304°
- Q 315°
- OR 326°
- R 337 5'
- RA 348°



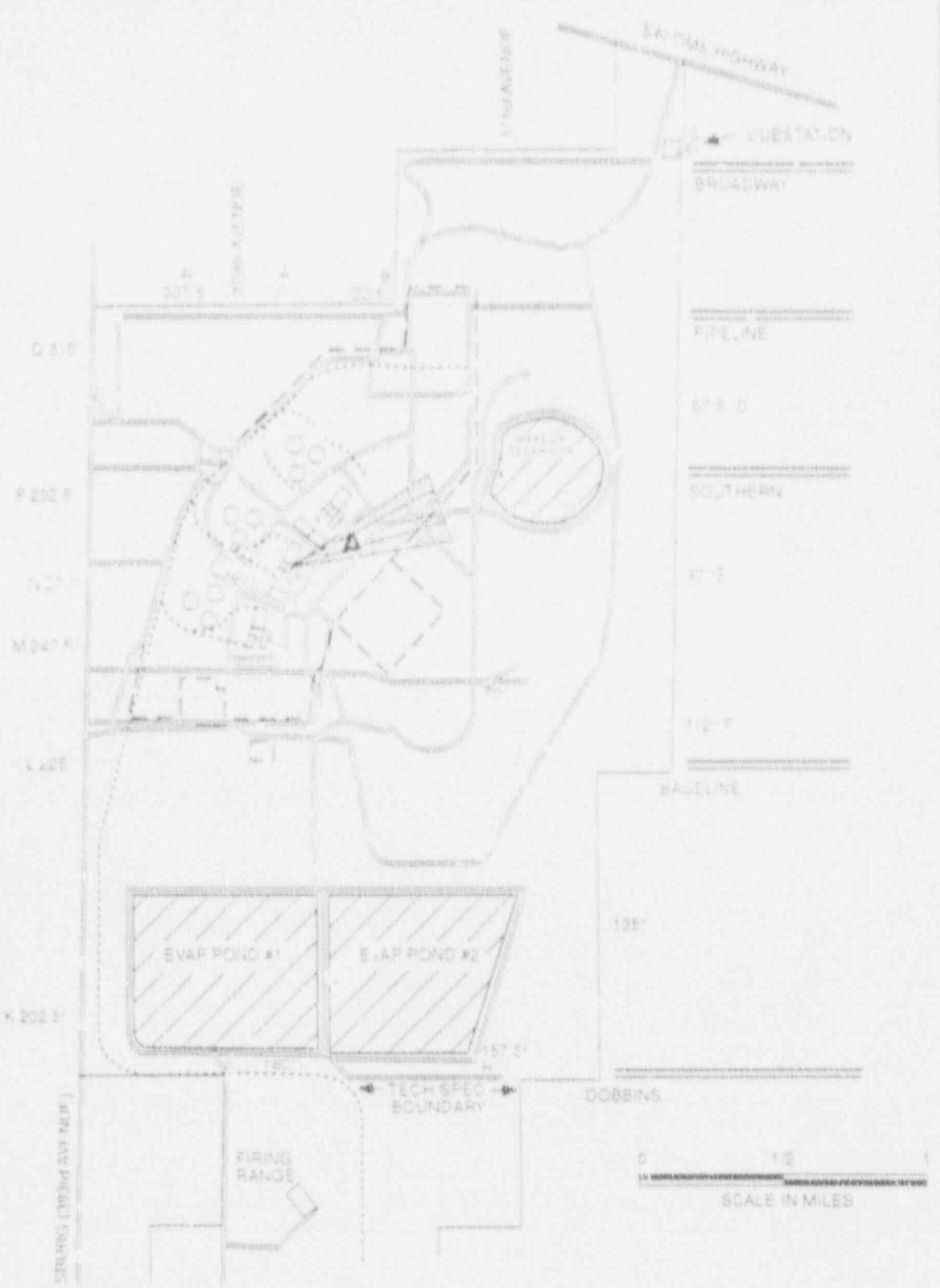
Point Location	Centerline Data Point			Fly of Point Data Point			Air Samples		Water Cap	Stream
	W.C. (mR/hr)	W.C. (mR/hr)	Fraser (cpm)	V.C. (mR/hr)	V.C. (mR/hr)	Fraser (cpm)	Ag2 Cartridge	Filter Paper		
ALL	AS READ	AS READ	AS P1-C1	AS READ	AS P1-C1	AS READ	AS READ	AS READ	AS READ	AS READ

ON-SITE INSTRUMENT READINGS

DATE: 1-20-85



- A 0'
- AP 11'
- B 22.5'
- BC 34'
- C 45'
- CD 56'
- D 67.5'
- DE 79'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157.5'
- I 169'
- JH 181'
- K 202.5'
- KL 214'
- L 225'
- LM 236'
- M 247.5'
- MN 259'
- N 270'
- NP 281'
- P 292.5'
- PG 304'
- Q 315'
- QR 326'
- R 337.5'
- RA 349'

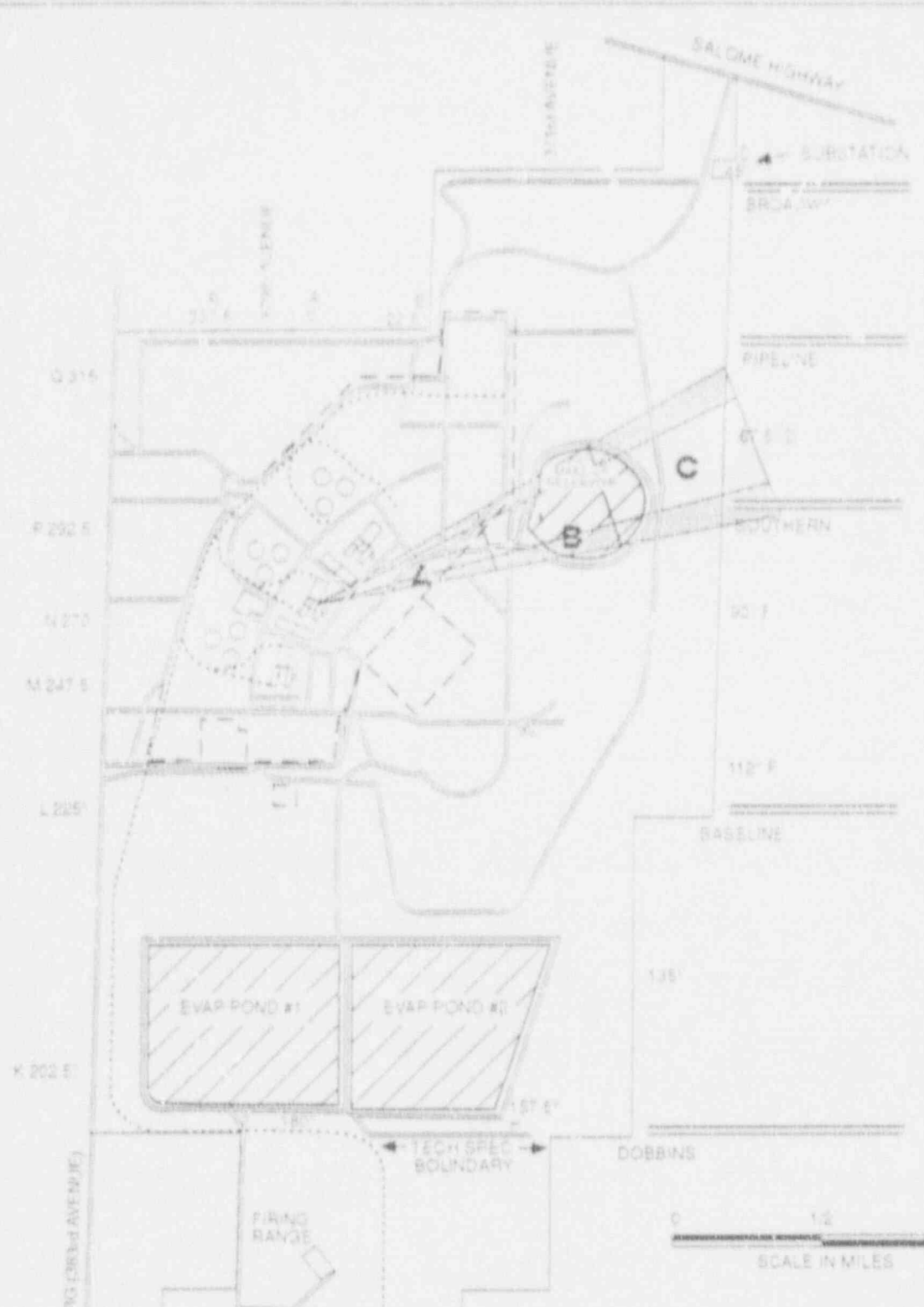


Plume Location	Centerline Data Rate			Edge of Plume Data Rate			Air Samples Counts per Minute		Wind	Smears
	W.C. (m³/hr)	W.C. (m³/hr)	Flows (gpm)	W.C. (m³/hr)	W.C. (m³/hr)	Flows (gpm)	Cartridge	Filter Paper		
A	5300	2280	> 100,000	5300	2280	> 100,000	3270	AS READ	AS READ	AS READ

ON SITE INSTRUMENT READINGS
 TIME 11:45 - 12:00



- A 1'
- AB 11'
- B 22'
- BC 34'
- C 45'
- CD 56'
- D 67'
- DE 78'
- E 89'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 146'
- H 157'
- HJ 148'
- J 180'
- JK 191'
- K 202'
- KL 214'
- L 225'
- LM 236'
- M 247'
- MN 258'
- N 270'
- NP 281'
- P 292'
- PG 304'
- Q 315'
- QR 326'
- R 337'
- RA 348'



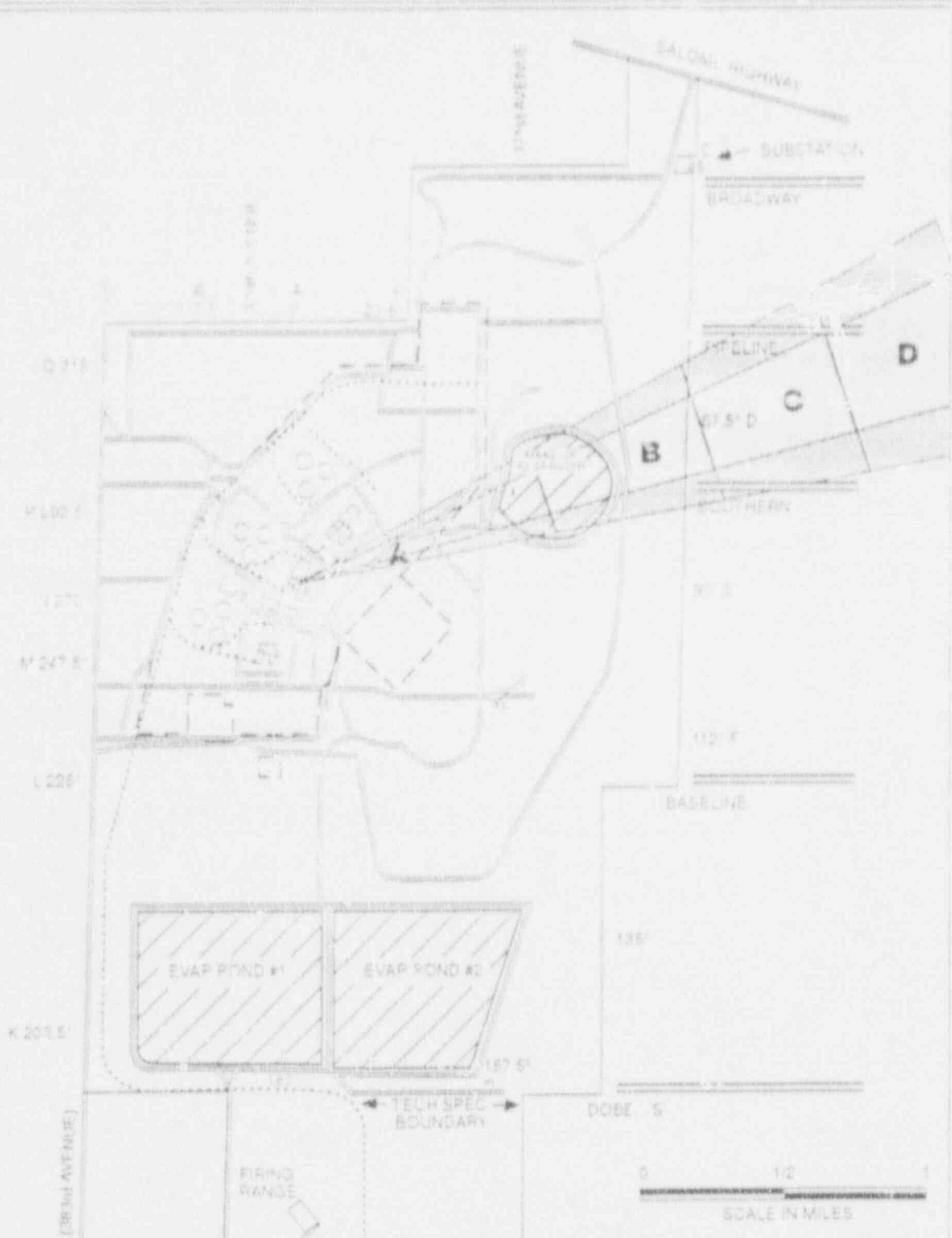
Flume Location	Centerline Data Rate			Edge of Flume Data Rate			Air Samples		Iodine Conc	Smears
	W.C. (in/hr)	W.C. (in/day)	Flume (in/hr)	W.C. (in/hr)	W.C. (in/day)	Flume (in/hr)	Cartridge	Filter Paper		
A	43750	21875	> 100,000	4375	2188	> 100,000	2825 in/hr	AS READ	6.13E-04	AS READ
B	1835	8190	> 100,000	835	819	> 100,000	881 in/hr	AS READ	3.04E-04	AS READ
C	7441	3822	> 100,000	744	382	> 100,000	419 in/hr	AS READ	4.23E-04	AS READ

ON-SITE INSTRUMENT READINGS

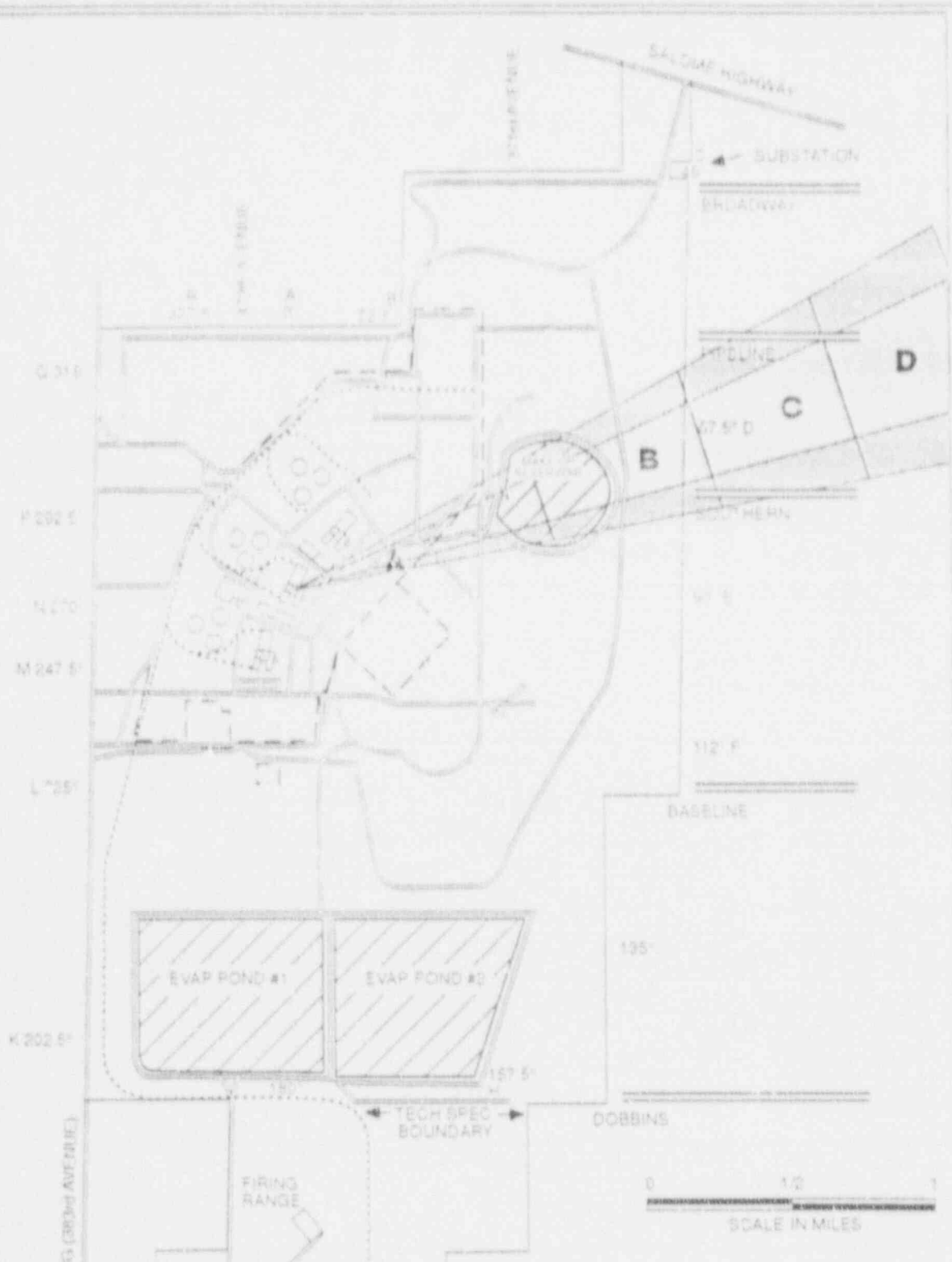
1949 12.00 12.25



- A 0'
- AB 11'
- B 22.5'
- JC 34'
- C 45'
- CD 66'
- D 67.5'
- DE 76'
- E 90'
- EF 101'
- F 112'
- FG 124'
- G 135'
- GH 143'
- H 167.5'
- I 169'
- J 180'
- JK 191'
- K 202.5'
- KL 214'
- L 221'
- LM 236'
- M 247.5'
- NO 259'
- N 270'
- NP 281'
- P 292.5'
- Q 304'
- R 318'
- OR 326'
- S 337.5'
- RA 349'



A 0
 AB 117
 B 22.6
 BC 34
 C 45
 CD 54
 D 67.5
 DE 79
 E 90
 F 111
 G 124
 H 131
 I 146
 J 157.5
 K 169
 L 180
 M 191
 N 202.5
 O 214
 P 225
 Q 236
 R 247.5
 S 259
 T 270
 U 281
 V 292.5
 W 304
 X 315
 Y 326
 Z 337.5
 AA 349



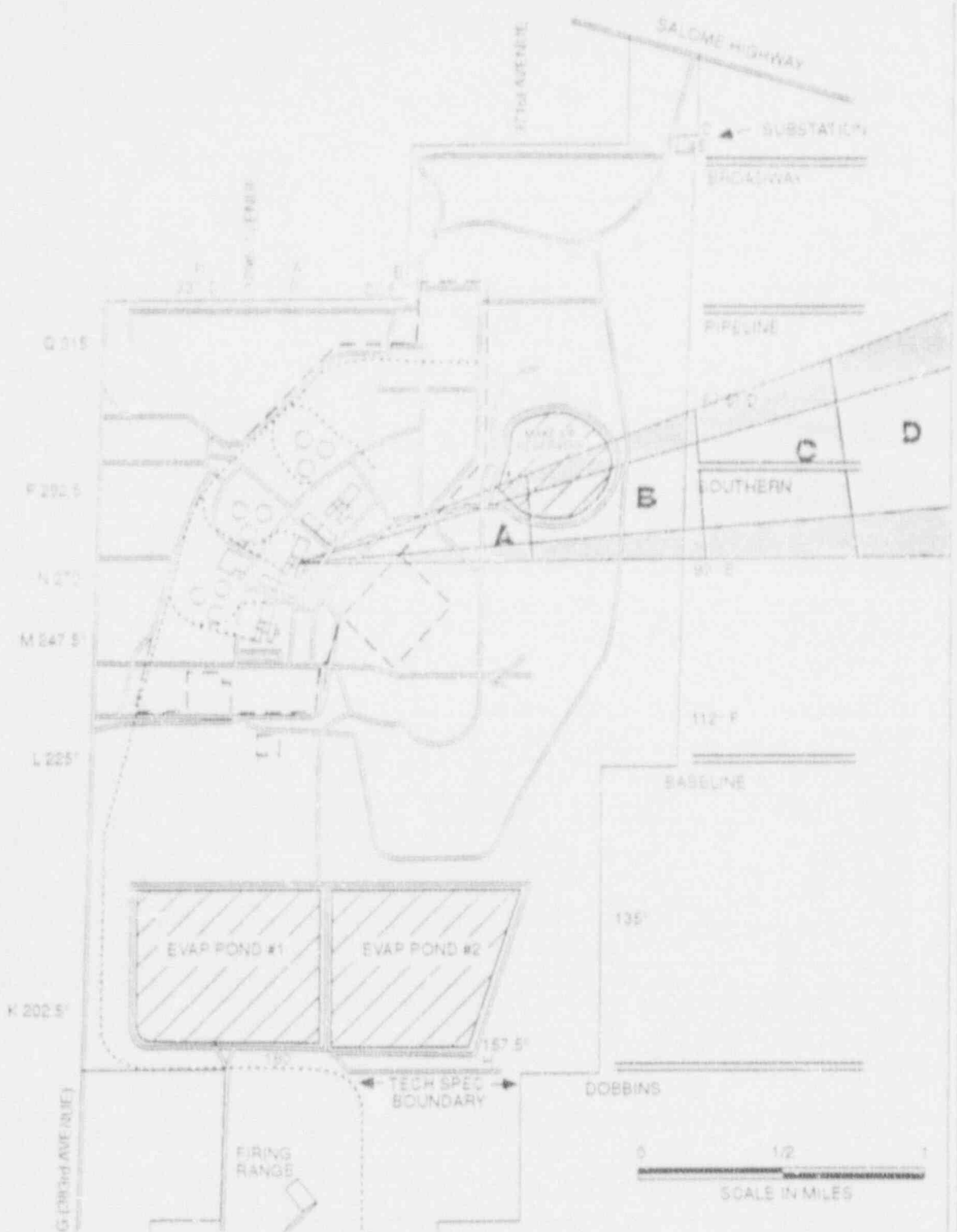
Flume Location	Canister Dose Rate			Edge of Flume Dose Rate			Air Samples		100% Calc	Smears
	W.C. (mR/hr)	W.C. (mR/hr)	Proxer (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Proxer (cpm)	Counts per Minute	Filter Paper		
							Canister			
A	2653	1326	>100,000	767	1027	>100,000	1592 mR/hr	AS READ	4.93E 04	AS READ
B	1046	523	>100,000	104	523	>100,000	628 mR/hr	AS READ	94E 04	AS READ
C	8518	3009	>100,000	65	30	>100,000	181 mR/hr	AS READ	1.12E 04	AS READ
D	4	2088	>100,000	412	208	>100,000	247 mR/hr	AS READ	7.69E 05	AS READ

UN SITE INSTRUMENT READINGS

TIME 12:20 12:30



- A 0'
- AB 11'
- B 22'
- C 33'
- D 44'
- E 55'
- F 66'
- G 77'
- H 88'
- I 99'
- J 110'
- K 121'
- L 132'
- M 143'
- N 154'
- O 165'
- P 176'
- Q 187'
- R 198'
- S 209'
- T 220'
- U 231'
- V 242'
- W 253'
- X 264'
- Y 275'
- Z 286'
- AA 297'
- AB 308'
- AC 319'
- AD 330'
- AE 341'



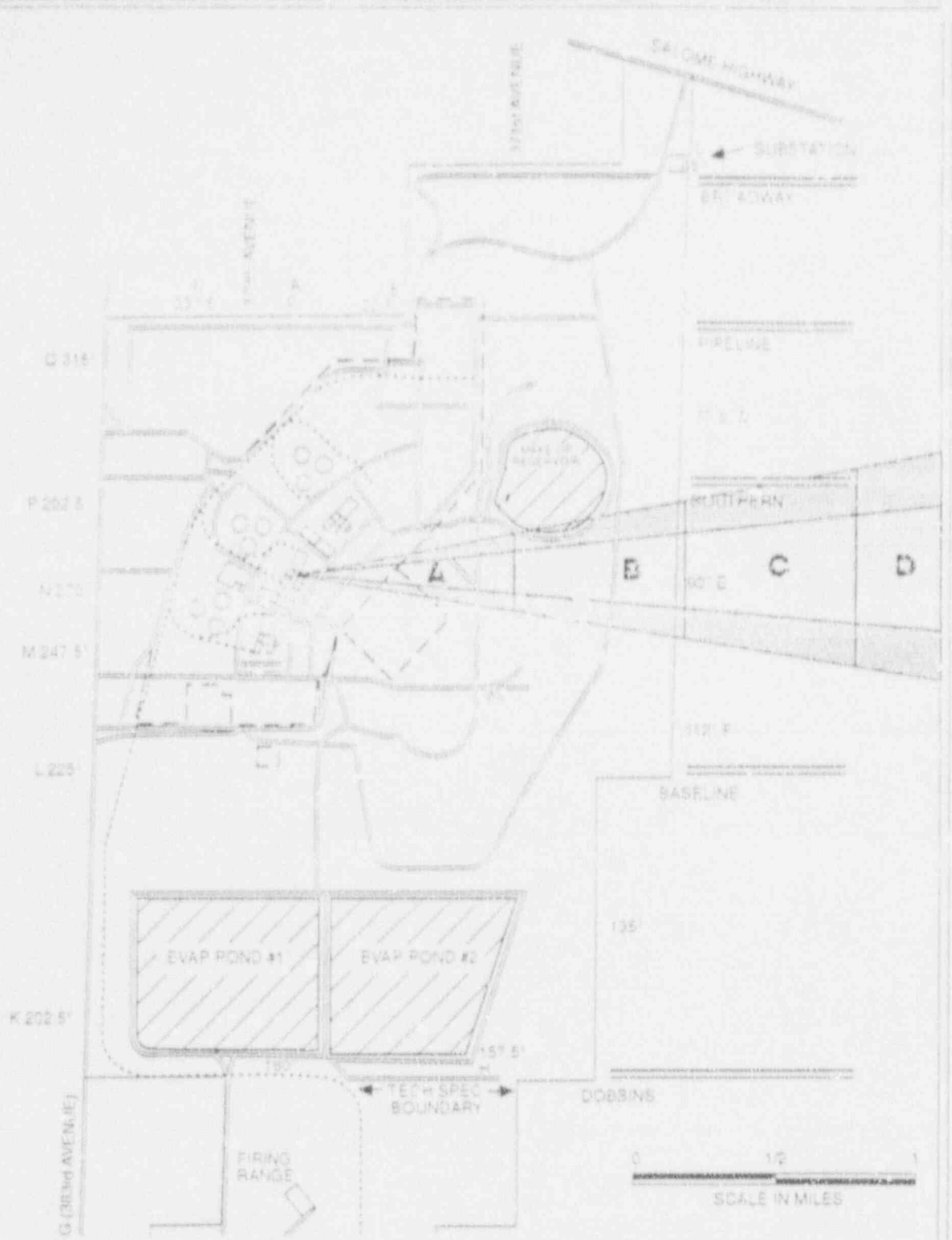
Pump Location	Cermetone Dose Rate			Edge of Ponds Dose Rate			Air Samples Counts per Minute		ppm Calc	Shears
	W.C. (mR/hr)	W.C. (mR/hr)	Fraser (cpm)	W.C. (mR/hr)	W.C. (mR/hr)	Fraser (cpm)	Ag2 Cartridge	Filter Paper		
A	19465	9733	> 100,000	1947	973	> 100,000	1188 mR/hr	AS READ	3.62E-04	AS READ
B	7054	3527	> 100,000	305	353	> 100,000	473 mR/hr	AS READ	1.21E-04	AS READ
C	4110	2055	> 100,000	411	205	> 100,000	347 mR/hr	AS READ	1.63E-05	AS READ
D	3006	1503	> 100,000	301	150	> 100,000	180 mR/hr	AS READ	5.98E-05	AS READ

ON-SITE INSTRUMENT READINGS

TIME 11:25 12:40



A 0'
 AB 11'
 B 22.5'
 BC 34'
 C 45'
 CD 56'
 D 67.5'
 DE 79'
 E 90'
 EF 101'
 F 112'
 FG 124'
 G 136'
 H 148'
 I 161.5'
 J 180'
 K 202.5'
 L 225'
 M 247.5'
 N 280'
 O 312'
 P 352.5'
 Q 397.5'
 R 447.5'
 RA 540'



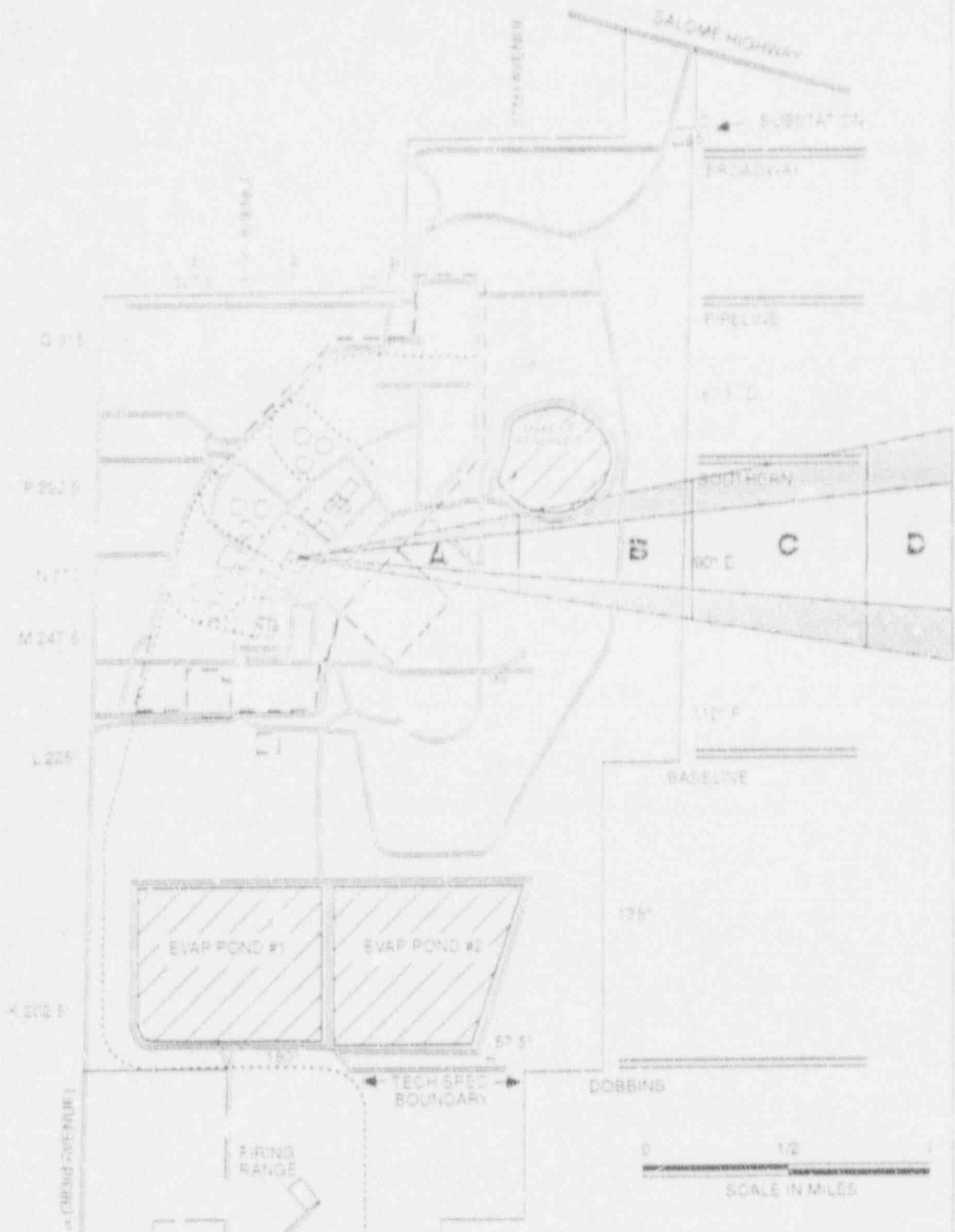
Plume Location	Centerline Dose Rate			Edge of Plume Dose Rate			Air Samples Counts per Minute		Time Secs	Remarks
	W-D (mR/hr)	W-C (mR/hr)	Filter (cpm)	W-D (mR/hr)	W-C (mR/hr)	Filter (cpm)	Ag2 Cartridge	Paper		
A	16870	8435	> 100,000	1887	844	> 100,000	1012 mR/hr	AS READ	3.13E-04	AS READ
B	8072	3026	> 100,000	671	30	> 100,000	361 mR/hr	AS READ	1.21E-04	AS READ
C	3548	1323	> 100,000	325	152	> 100,000	183 mR/hr	AS READ	5.65E-05	AS READ
D	2408	1204	> 100,000	24	120	> 100,000	144 mR/hr	AS READ	4.47E-05	AS READ

ON SITE INSTRUMENT READINGS

TIME 12:45 12:50



A 0'
 AB 11'
 B 22'
 BC 34'
 C 44'
 CD 56'
 D 67'
 DE 79'
 E 90'
 EF 10'
 F 111'
 FG 124'
 G 135'
 GH 146'
 H 157'
 HI 169'
 I 180'
 JK 201'
 K 222'
 KL 234'
 L 256'
 M 268'
 MN 280'
 N 292'
 NP 304'
 P 325'
 Q 336'
 OR 348'
 R 359'
 RA 349'



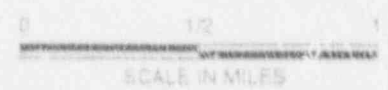
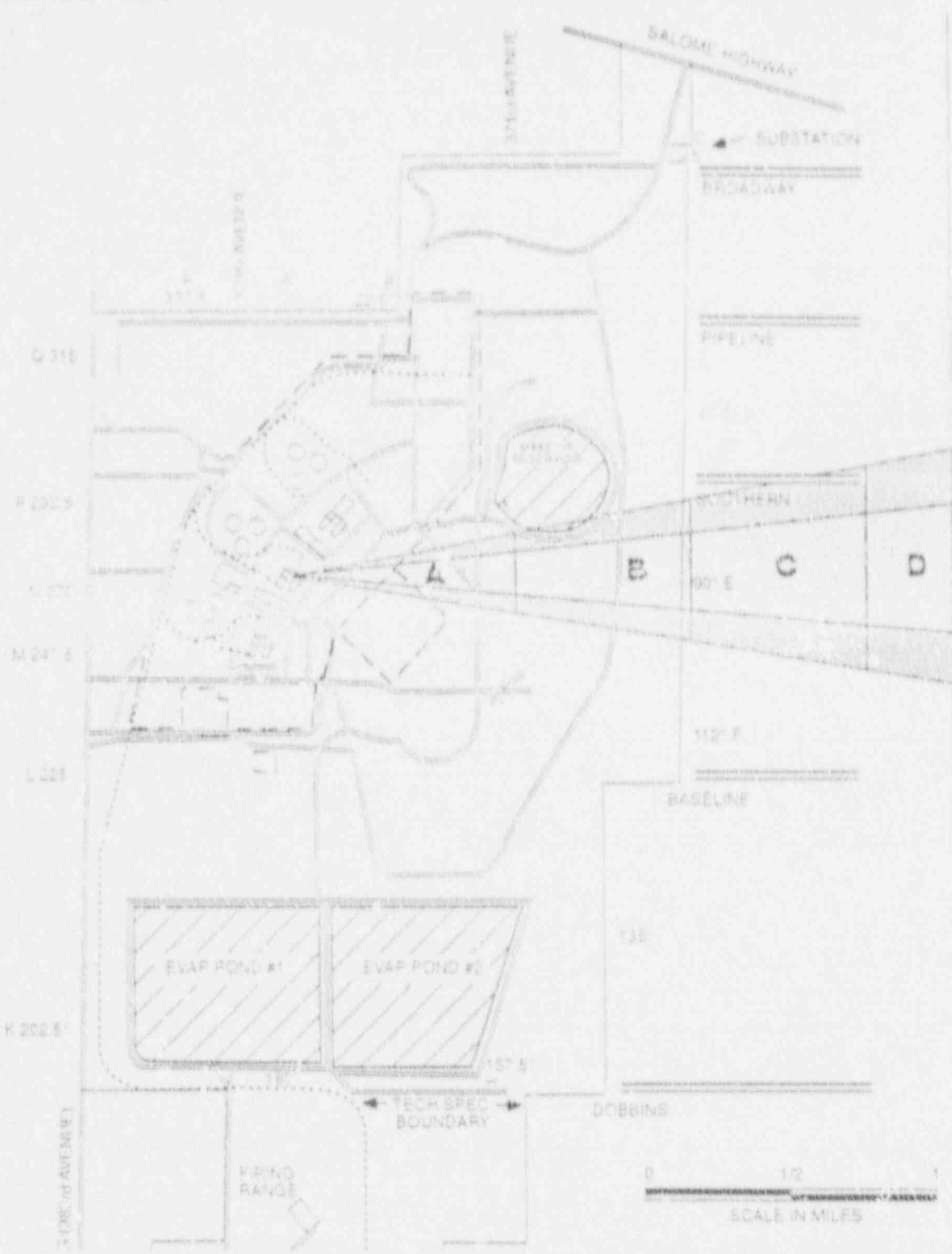
Pump Location	Generator Suck Rate			Edge of Pileup Dose Rate			Air Detector Counts per Minute		Wind Calc	Entry's	
	W/C	W/C	Fraser	W/C	W/C	Fraser	A42	Filter			
	imp/hr	l/min	gpm	imp/hr	imp/hr	gpm	Cartridge	Factor			
A	17541	8.1	>100,000	154	877	>100,000	1082	mR/hr	AS READ	1.52E 04	AS READ
B	6747	3.3	>100,000	425	372	>100,000	378	mR/hr	AS READ	1.61 04	AS READ
C	1600	0.8	>100,000	318	148	>100,000	190	mR/hr	AS READ	1.88E 04	AS READ
D	2601	1.3	>100,000	260	125	>100,000	160	mR/hr	AS READ	4.65E 04	AS READ

ON-SITE INSTRUMENT READINGS

TIME 17:55-18:00



- A 0
- AB 11
- B 22 F
- BC 34
- C 45
- CC 50
- D 67 S
- DE 79
- E 90
- E 101
- F 112
- GA 124
- G 135
- GH 146
- H 157 S
- I 168
- J 180
- K 191
- K 202 S
- L 214
- L 225
- LO 236
- M 247 S
- MO 259
- N 270
- NP 281
- P 292 S
- Q 304
- Q 315
- OR 326
- R 337 S
- RA 349



Pump Location	Canister Data Rate			Edge of Plume Data Rate			µm Sensors		Sulfide		
	W/D (m³/hr)	W/D (m³/hr)	Fluxes (ppm)	W/D (m³/hr)	W/D (m³/hr)	Fluxes (ppm)	Cartridge	Filter	µS/cm	ppm	
A	17403	8801	> 100,000	1760	880	> 100,000	1016	HR/HR	AS READ	5.21E-04	AS READ
B	5282	2740	> 100,000	478	274	> 100,000	377	HR/HR	AS READ	1.71E-04	AS READ
C	5184	1451	> 100,000	318	145	> 100,000	181	HR/HR	AS READ	1.81E-04	AS READ
D	2679	1280	> 100,000	252	128	> 100,000	181	HR/HR	AS READ	1.68E-04	AS READ

ON-SITE INSTRUMENT READINGS

TIME 12:00 14:00



10 MILE ENVIRONMENTAL DATA 08:00 - 11:50
 ENVIRONMENTAL DATA
 DATE: 10/11/82

Name	Category 1				Category 2				Category 3			
	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.
AS ROAD												
AS ROAD												
AS ROAD												
AS ROAD												
AS ROAD												
AS ROAD												
AS ROAD												
AS ROAD												
AS ROAD												

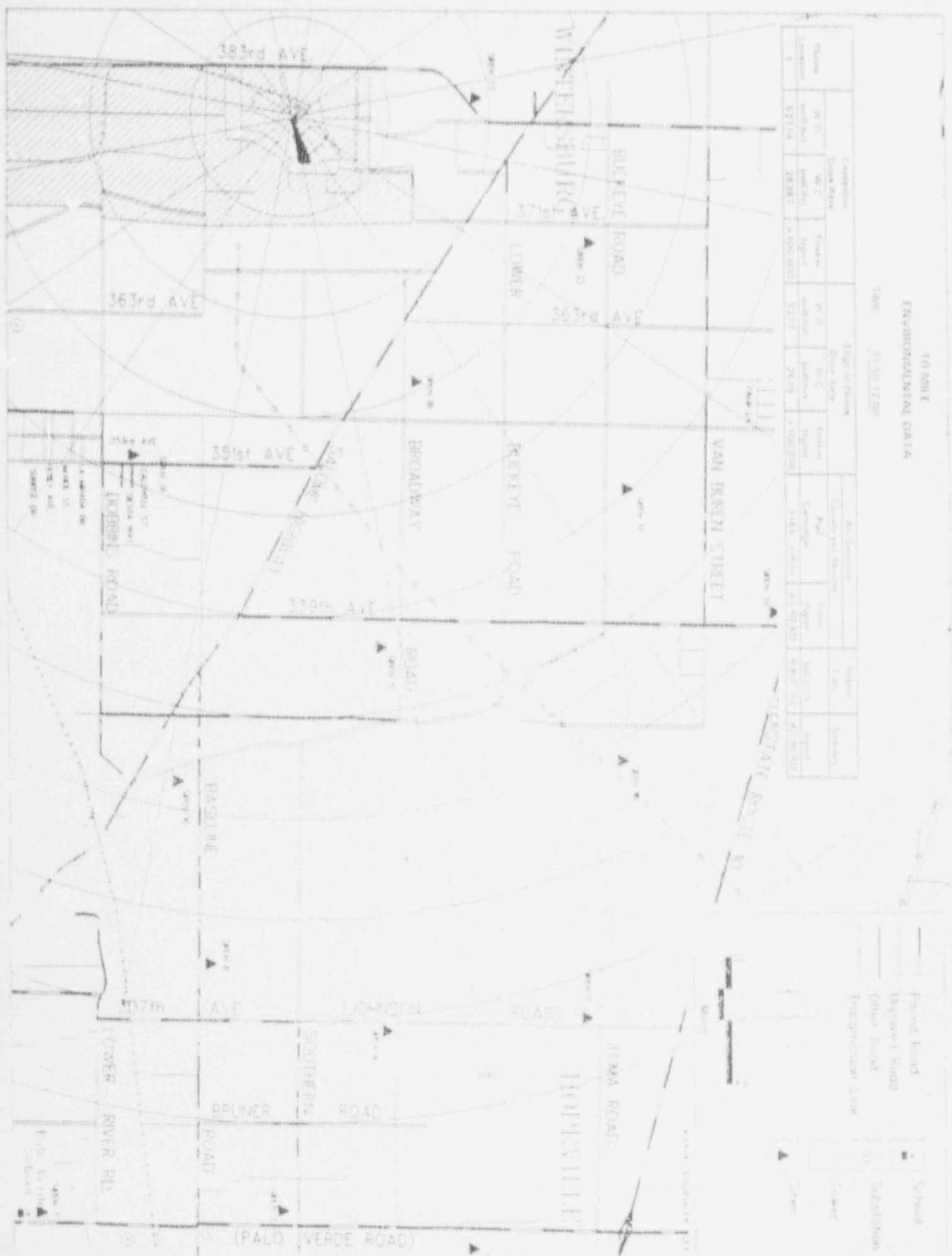


AIR PHOTOCOPY

10508E
 ENVIRONMENTAL DATA

TIME 01:50:17:00

Station Number	Location		Height of Pole		Distances		Tower
	Dist. Pole	Dist. Tower	Dist. Tower	Dist. Tower	Dist. Tower	Dist. Tower	
1	100	100	100	100	100	100	100
2	100	100	100	100	100	100	100
3	100	100	100	100	100	100	100
4	100	100	100	100	100	100	100
5	100	100	100	100	100	100	100
6	100	100	100	100	100	100	100
7	100	100	100	100	100	100	100
8	100	100	100	100	100	100	100
9	100	100	100	100	100	100	100
10	100	100	100	100	100	100	100



- Paved Road
- Unpaved Road
- Other Road
- Intersecting Line
- School
- Substation
- ▲ Tower
- ▼ Tower

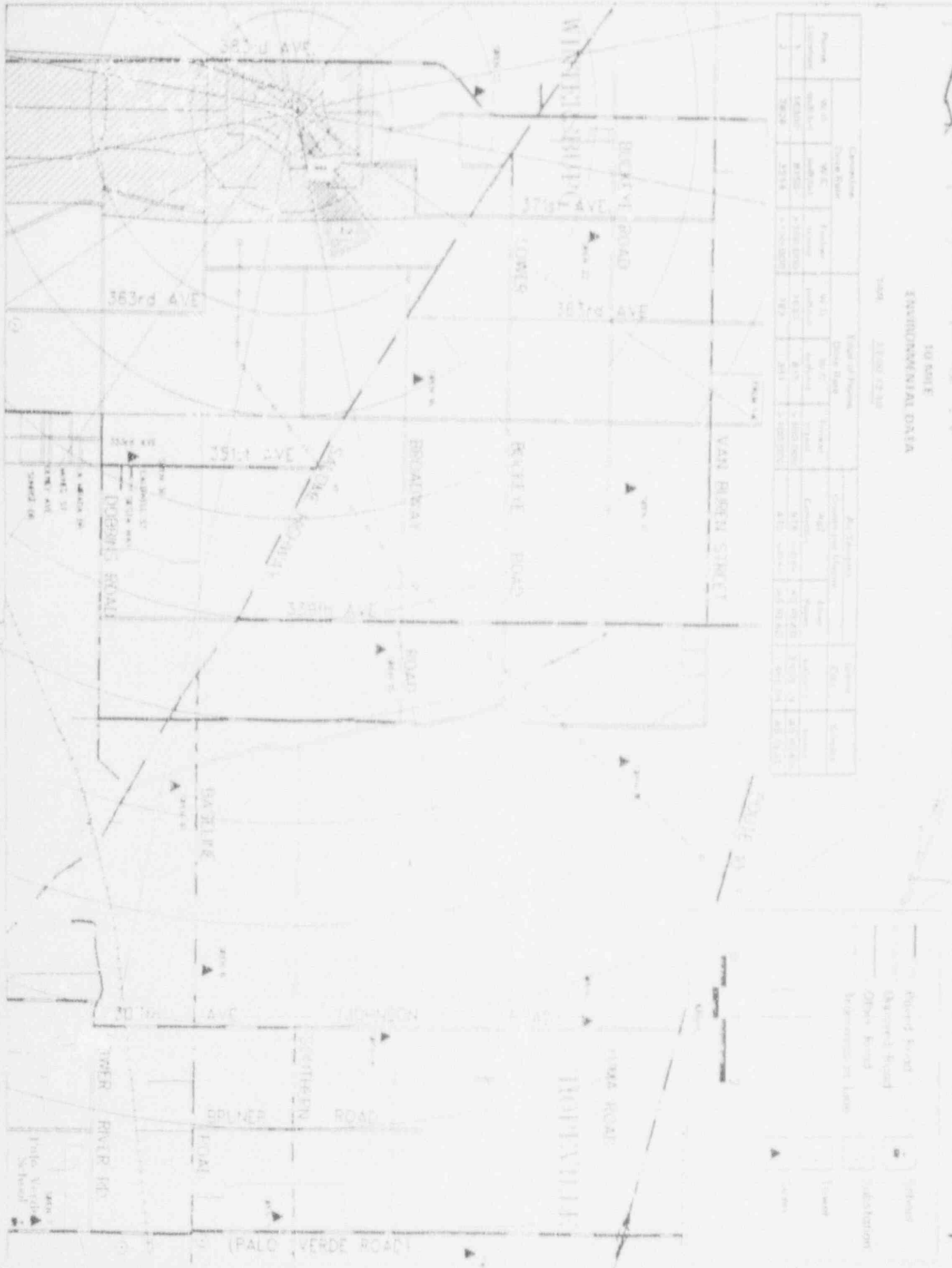
Scale
 1" = 100'

1-78

10 ROUTE
ENVIRONMENTAL DATA

DATE: 11/20/78

Route	Construction			Type of System			At-Station			Station	Mileage
	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.	W.C.		
1	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
2	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
3	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
4	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
5	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
6	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
7	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
8	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
9	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
10	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000



10-MILE
ENVIRONMENTAL DATA

Date: 12/20/79

Feature	Coordinates			Elevation of Feature			Area			Volume		
	N. D.	W. C.	Number	W. D.	W. C.	W. E.	Area	Area	Area	Volume	Volume	Volume
1	3650	3400	1000	3650	3400	3400	1000	1000	1000	1000	1000	1000
2	3700	3400	1000	3700	3400	3400	1000	1000	1000	1000	1000	1000
3	3650	3400	1000	3650	3400	3400	1000	1000	1000	1000	1000	1000

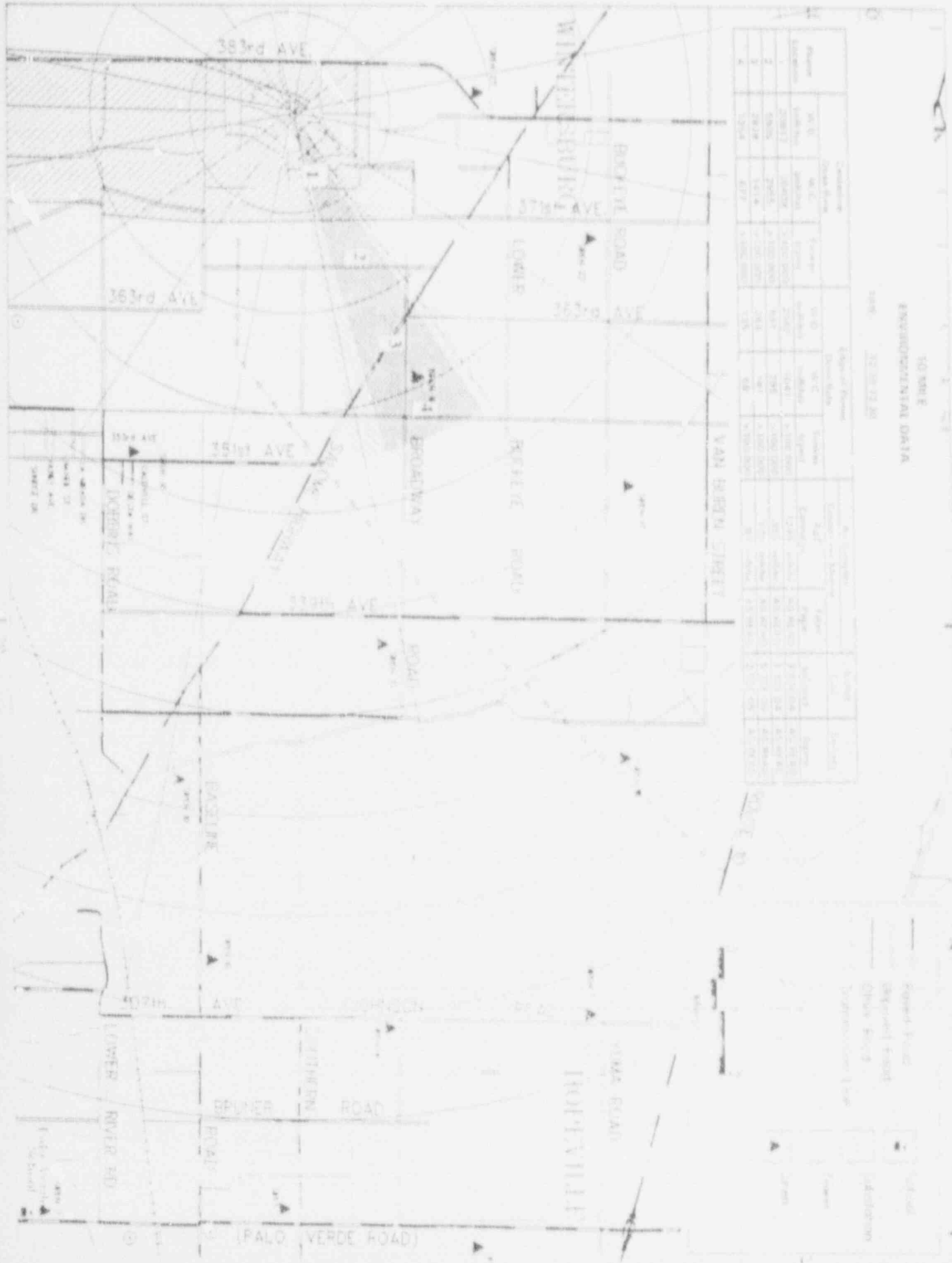


Part 10

50 000 E
ENVIRONMENTAL DATA

DATE: 12/28/78

Point	Contaminant				Depth of Penetration				At Completion				
	W.C.	Substrate	Topsoil	Subsoil	W.C.	Substrate	Topsoil	Subsoil	Age	Depth	Substrate	Topsoil	Subsoil
1	2000	2000	2000	2000	2000	2000	2000	2000	12/28/78	0.5	0.5	0.5	0.5
2	2000	2000	2000	2000	2000	2000	2000	2000	12/28/78	0.5	0.5	0.5	0.5
3	2000	2000	2000	2000	2000	2000	2000	2000	12/28/78	0.5	0.5	0.5	0.5
4	2000	2000	2000	2000	2000	2000	2000	2000	12/28/78	0.5	0.5	0.5	0.5



10 MILE
ENVIROMENTAL DATA

DATE: 10/11/80

Number	Geographic		Elevation		Area		Perimeter		Volume	
	Acres	Feet	Feet	Feet	Sq. Ft.	Sq. Ft.	Cu. Ft.	Cu. Ft.	Cu. Ft.	Cu. Ft.
1	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
2	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
3	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
4	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
5	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
6	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
7	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
8	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
9	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000
10	1.2	100	100	100	14400	14400	1440000	1440000	1440000	1440000



Proposed Road
 Existing Road
 Other Road
 Boundary Line
 Station
 Elevation
 Tower

10 MILE
ENVIRONMENTAL DATA

DATE: 11-01-1987

Point Number	Location			Elevation (Feet)			Area (Acres)			Volume (Cubic Feet)		
	Section	Block	Address	Spot	Top of Spot	Base of Spot	Top of Spot	Base of Spot	Top of Spot	Base of Spot	Top of Spot	Base of Spot
1	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
2	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
3	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
4	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
5	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
6	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
7	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000



Street
 Private Road
 Unimproved Road
 Other Road
 Systematic Line
 Station
 Spot
 Elevation

Scale

1" = 1000'
 1" = 1000'
 1" = 1000'

10 MILE
ENVIRONMENTAL DATA

DATE 12/13/77

Figure	Emission			Flow of Source			Concentration			Type	Status
	W.G.	W.G.	W.G.	W.G.	W.G.	W.G.	W.G.	W.G.	W.G.		
1	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
2	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
3	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
4	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
5	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
6	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
7	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000
8	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000	10000



School
 Industrial Plant
 Other Plant
 Proposed Plant
 Other

FIGURE
ENVIRONMENTAL DATA

DATE 11/10/78

Plot #	C. sensitive			Edge of Forest			No. Sensitive			Slope	Area
	W. 2. number	W. 2. number	W. 2. number	W. 2. number	W. 2. number	W. 2. number	W. 2. number	W. 2. number	W. 2. number		
1	4119	3618	2100	174	81	2100	100	100	100	100	
2	1220	868	2100	174	81	2100	100	100	100	100	
3	817	419	2100	174	81	2100	100	100	100	100	
4	489	290	2100	174	81	2100	100	100	100	100	
5	224	121	2100	174	81	2100	100	100	100	100	
6	241	121	2100	174	81	2100	100	100	100	100	
7	282	91	2100	174	81	2100	100	100	100	100	
8	144	72	2100	174	81	2100	100	100	100	100	
9	110	56	2100	174	81	2100	100	100	100	100	



ANNE RD

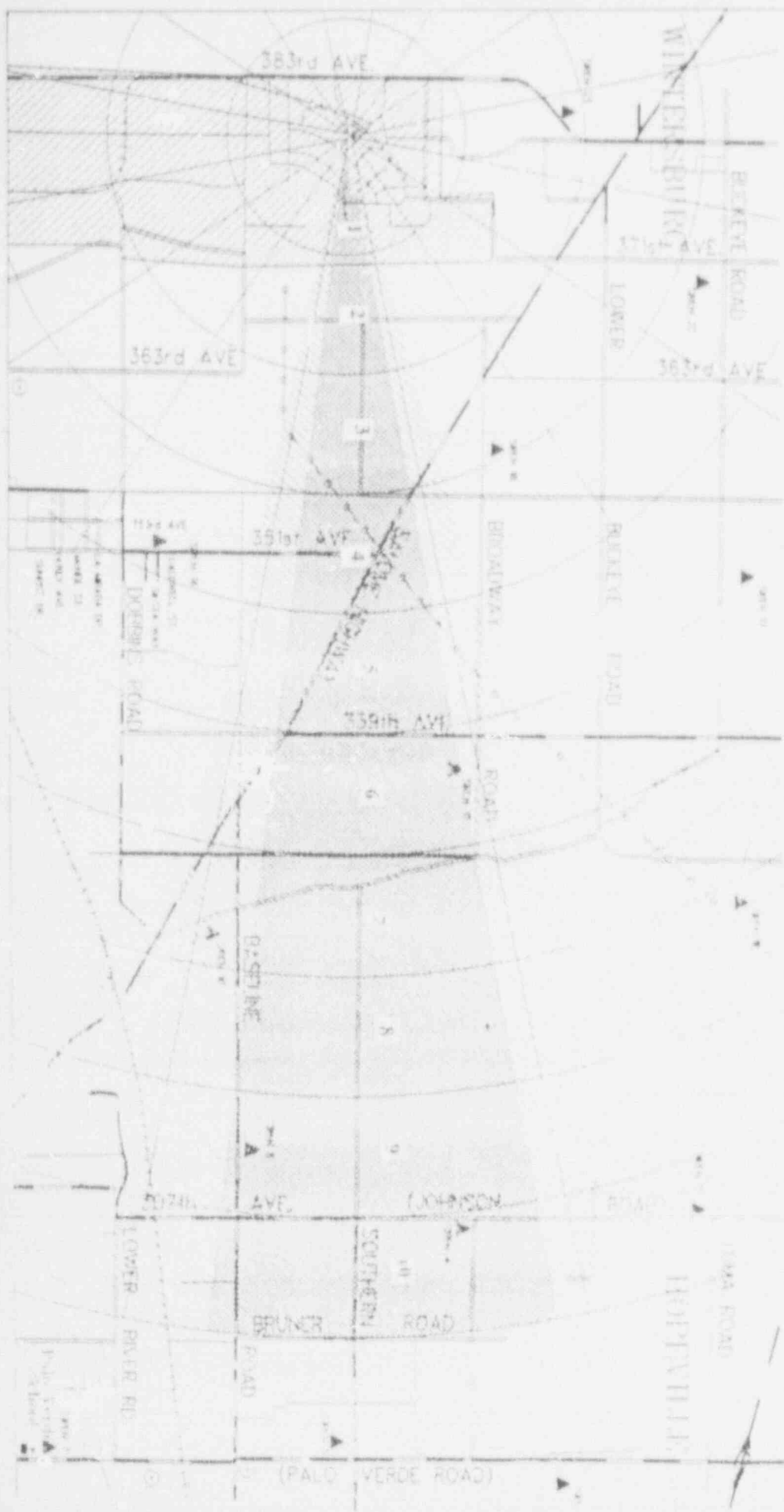
Forest Road
Unforested Road
River Road
Transmission Line

Plot
Tower

10 MBS
 ENVIRONMENTAL DATA

DATE: 03/20/14/80

Figure	Location			Elevation (Feet)			Area (Acres)			Volume	
	W 10	N 12	Volume	W 10	N 12	Volume	W 10	N 12	Volume	W 10	N 12
1	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
2	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
3	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
4	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
5	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
6	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
7	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
8	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
9	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000
10	61.96	5885	2,000,000	61.96	5885	2,000,000	11.9	11.9	1,261,000	41,000	41,000

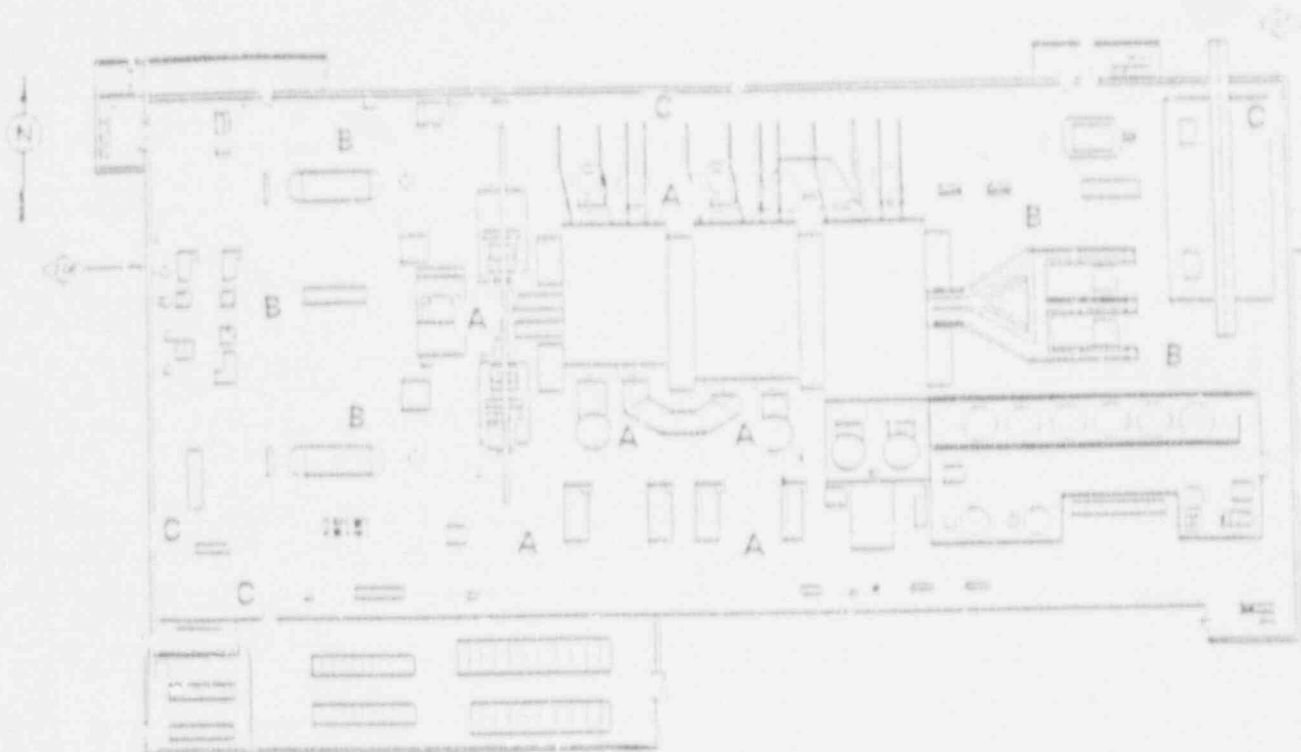


Station
 Topography
 Elevation
 Volume

PASS RADIOLOGICAL INFORMATION

	Drill Time		
	8:00-10:40 mR/hr	10:40-11:20 mR/hr	After 11:20 mR/hr
<u>RCS PASS</u>			
Unshielded sample dose rate: contact	3	9329	8339
Unshielded sample dose rate: 3 feet	As Read	9	8
Shielded sample dose rate: contact	As Read	767	687
Shielded sample dose rate: 3 feet	As Read	1	1

100 TURBINE BUILDING



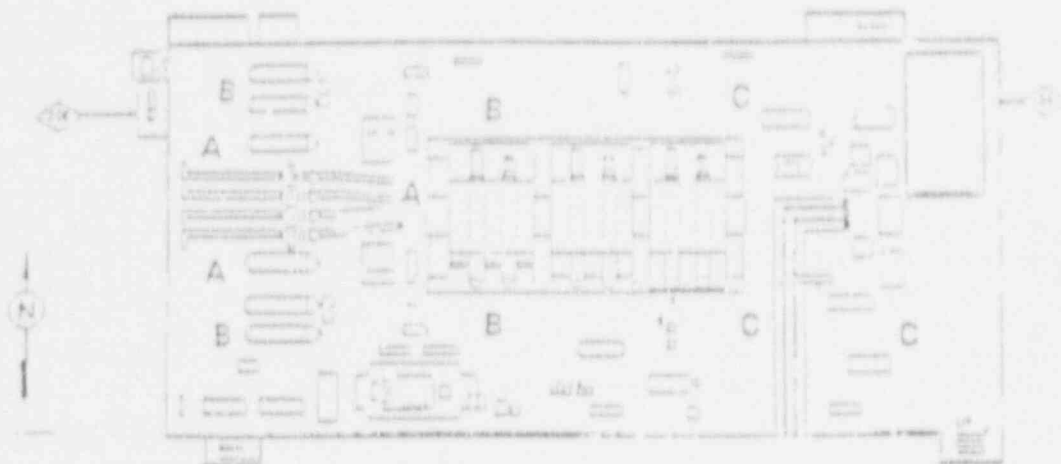
1 DOSE RATE INFORMATION

TIME	HR/HR UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
BDD	AS READ	AS READ	AS READ	N/A	N/A	N/A	
DBDD Cr	BC	1E	K 1	N/A	N/A	N/A	

2 AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION		GENERAL
HRS	UCI/CR	UCI/CR	UCI/CR	LEVELS IN CPM		NOTES
DBDD Cr	AS READ	AS READ	AS READ	AS READ		

140 TURBINE BUILDING
MEZZANINE DECK



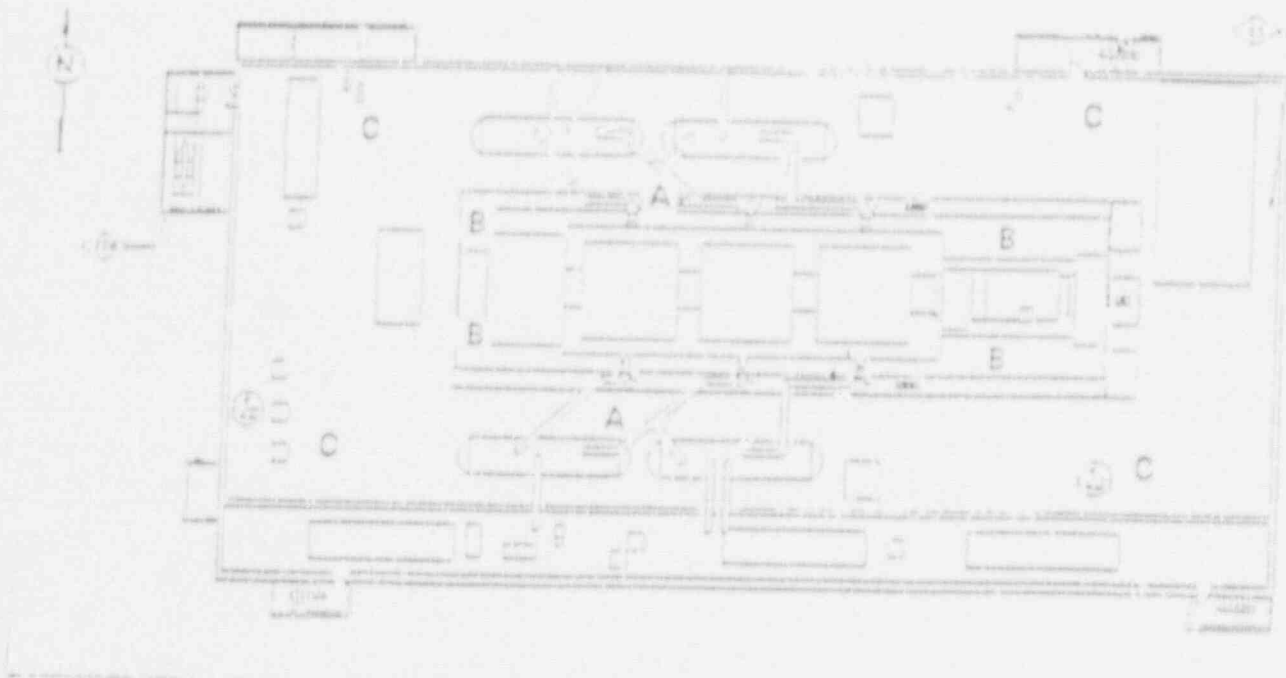
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
0800 On	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0800 Off	20	10	4.2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	uCi/ft ³	uCi/ft ³	uCi/ft ³	LEVELS IN CPM	NOTES
0800 On	AS READ	AS READ	AS READ	AS READ	

176 TURBINE BUILDING
OPERATING DECK



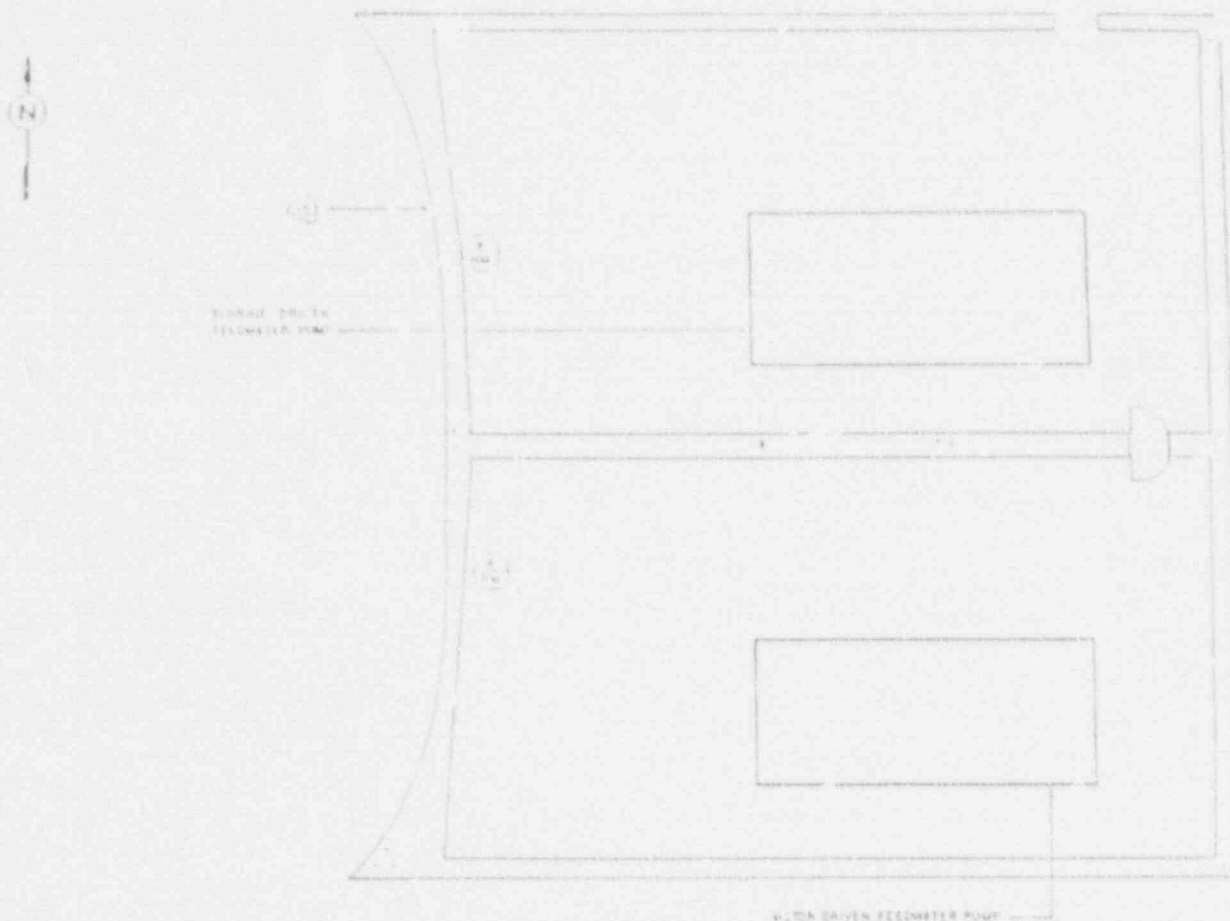
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	E	C	E	E	F	NOTES
BDC	AS READ	AS READ	AS READ	N/A	N/A	N/A	
0900-On	12	8	<2	N/A	N/A	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	μCi/ft ³	μCi/ft ³	μCi/ft ³	LEVELS IN CPM	NOTES
0900-On	AS READ	AS READ	AS READ	AS READ	

81' - 89' M S S S. - AUXILIARY FEEDWATER
PUMP ROOMS "A" AND "B"



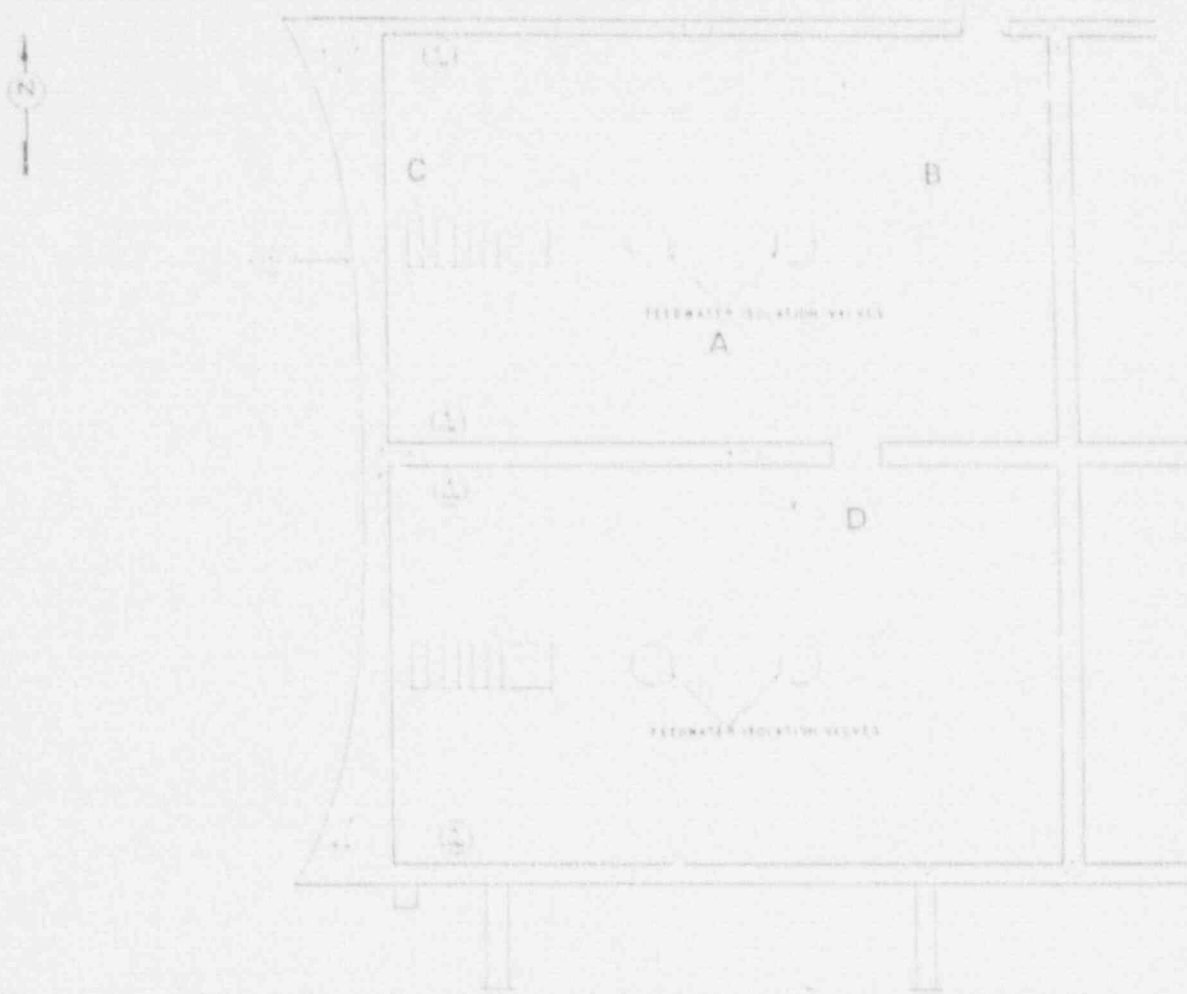
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	AS READ	AS READ	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC.	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800 on	AS READ	AS READ	AS READ	AS READ	

120' x 132' M.S.S.S. - MAIN STEAM
RELIEF VALVE ROOMS "A" & "B"



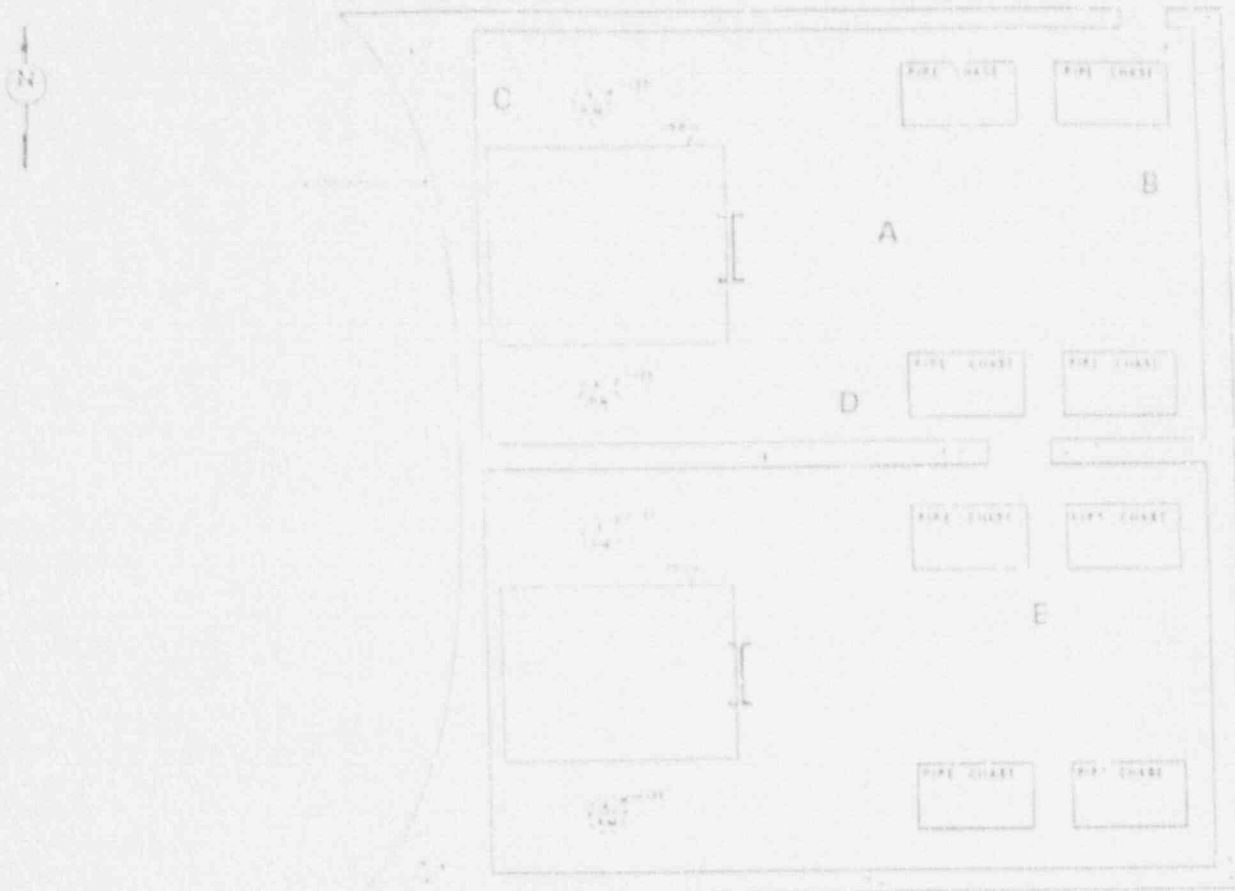
1 DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800	AS READ	AS READ	AS READ	AS READ	N/A	N/A	
900	4	2	2	AS READ	N/A	N/A	
1030	180	85	85	AS READ	N/A	N/A	
1040	28 R/hr	15 R/hr	15 R/hr	282	N/A	N/A	
1200	26 R/hr	14 R/hr	14 R/hr	264	N/A	N/A	
1300 On	23 R/hr	12 R/hr	12 R/hr	238	N/A	N/A	

2 AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IOGNE	PARTIC.	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CYM	NOTES
800	AS READ	AS READ	AS READ	AS READ	
900	8.74E-11	8.62E-11	8.59E-11	AS READ	
1030	4.21E-10	4.64E-10	5.07E-10	AS READ	
1040	8.11E-07	9.16E-07	9.79E-07	AS READ	
1200	8.03E-07	9.13E-07	9.66E-07	AS READ	
1300 On	7.92E-07	9.11E-07	8.50E-07	AS READ	

140' x 148' M.S.S.S. - UPPER MAIN
STEAM LINE ROOMS "A" & "B"



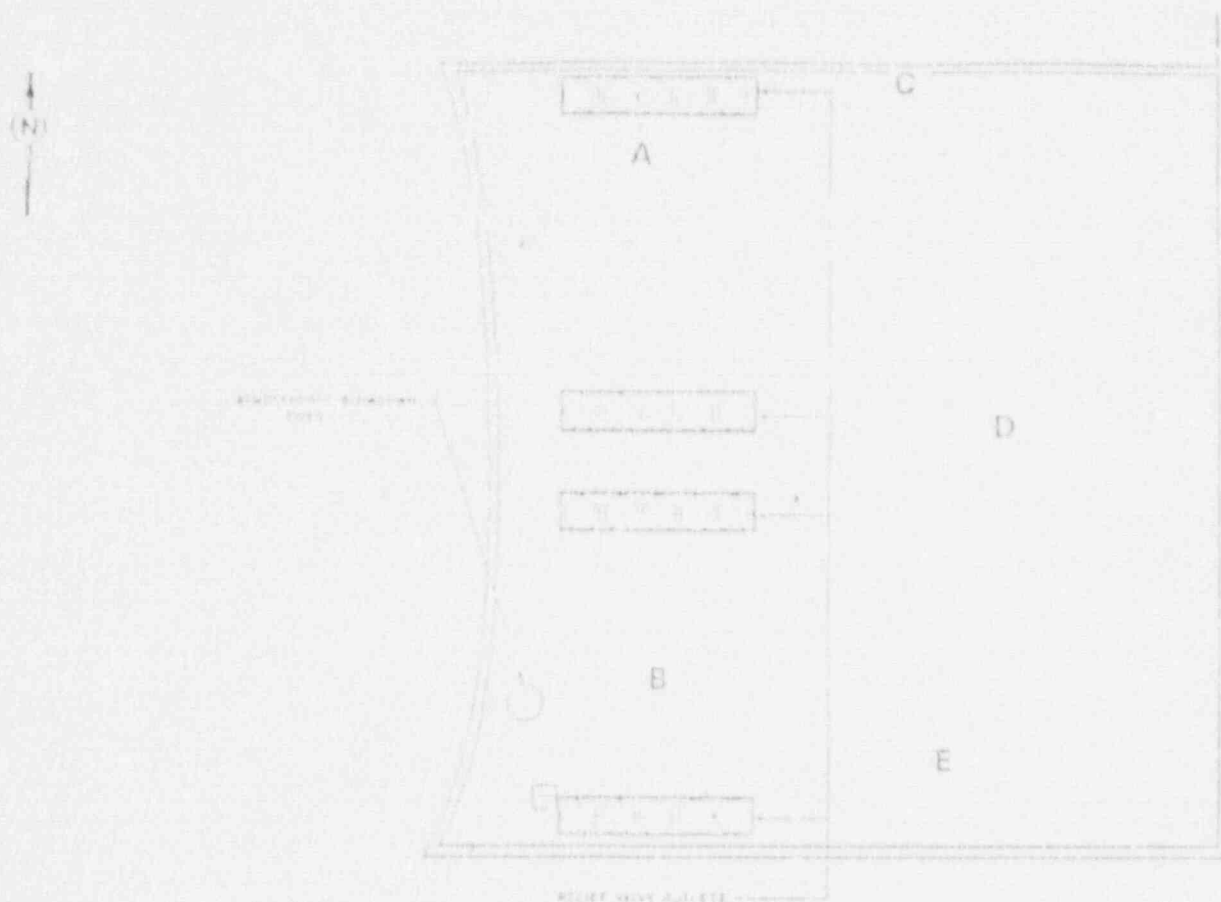
1. DOSE RATE INFORMATION

TIME	mR/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTED
800	AS READ	AS READ	AS READ	AS READ	AS READ	N/A	
900	2	1	1	2	AS READ	N/A	
1030	79	59	59	71	AS READ	N/A	
1040	14 R/hr	10 R/hr	14 R/hr	10 R/hr	123	N/A	
1200	13 R/hr	10 R/hr	13 R/hr	10 R/hr	115	N/A	
1300 On	14 R/hr	9 R/hr	14 R/hr	8 R/hr	84	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC	CONTAMINATION	GENERAL
HRS	$\mu\text{Ci}/\text{cc}$	$\mu\text{Ci}/\text{cc}$	$\mu\text{Ci}/\text{cc}$	LEVELS IN CPM	NOTED
800	AS READ	AS READ	AS READ	AS READ	
900	9.74E-11	9.07E-11	9.04E-11	AS READ	
1030	4.21E-10	4.88E-10	5.34E-10	AS READ	
1040	6.11E-07	6.63E-07	1.03E-06	AS READ	
1200	8.01E-07	9.61E-07	1.02E-06	AS READ	
1300 On	7.92E-07	8.58E-07	1.00E-06	AS READ	

167 M.S.S.S.
ROOF



1. DOSE RATE INFORMATION

TIME	R/hr UNLESS NOTED						GENERAL
HRS	A	B	C	D	E	F	NOTES
800-1140	AS READ	AS READ	WT READ	AS READ	AS READ	N/A	
1145	1734	129	1287	69	55	N/A	
1300 On	1347	107	1070	54	43	N/A	

2. AIRBORNE CONCENTRATIONS AND CONTAMINATION LEVELS

TIME	GAS	IODINE	PARTIC.	CONTAMINATION	GENERAL
HRS	uCi/cc	uCi/cc	uCi/cc	LEVELS IN CPM	NOTES
800-1140	AS READ	AS READ	AS READ	AS READ	
1145	2.19E+02	9.40E+00	1.17E+02	7.56E+07	
1300 On	2.14E+02	8.69E+00	1.44E+02	7.15E+07	

CHEMISTRY DATA

Type of Sample: RCS
 Sample Time: 09:00 - 10:40

Nuclide Type: fission gas

Nuclide	Half-life	Decay Corr uCi/ML
Kr-87	1.27 H	4.06E-02
Xe-131	12.00 D	1.86E-03
Xe-133	5.25 D	<u>3.40E-01</u>
Total Activity:		0.82E-01

Nuclide Type: fission

Nuclide	Half-life	Decay Corr uCi/ML
Te-132	3.25 D	<u>7.99E-04</u>
Total Activity:		7.99E-04

Nuclide Type: FP

Nuclide	Half-life	Decay Corr uCi/ML
Te-129	1.12 H	<u>8.52E-05</u>
Total Activity:		8.52E-05

Nuclide Type: halogen

Nuclide	Half-life	Decay Corr uCi/ML
I-131	8.04 D	1.14E-01
I-132	2.29 H	1.13E-01
I-133	20.8 H	2.19E-01
I-135	6.59 H	<u>1.93E-01</u>
Total Activity:		6.40E-01

Grand Total Activity: 1.02E+00

CHEMISTRY DATA

Type of Sample: Condenser Exhaust
Sample Time: 09:00 - 10:40

Nuclide Type: fission gas

Nuclide	Half-life	Decay Corr. uCi/ML
Kr-87	1.27 H	2.77E-04
Xe-131	12.00 D	1.26E-05
Xe-133	5.25 D	<u>2.32E-03</u>
Total Activity:		2.61E-03

CHEMISTRY DATA

Type of Sample: Steam Blowdown
 Sample Time: 10:40 11:20

Nuclide Type: fission		
Nuclide	Half-life	Decay Corr uCi/ML
I-131	8.04 D	5.44E-01
I-132	2.29 H	3.09E-01
I-133	20.80 H	5.93E-01
I-135	6.59 H	7.64E-01
Total Activity:		2.61E-02

Nuclide Type: fission		
Nuclide	Half-life	Decay Corr uCi/ML
Te-132	3.25 D	<u>1.93E-01</u>
Total Activity:		1.93E-01

Nuclide Type: FF		
Nuclide	Half-life	Decay Corr uCi/ML
Te-129	1.12 H	<u>0.006587</u>
Total Activity:		0.006587

Grand Total Activity: 2.61E+00

CHEMISTRY DATA

Type of Sample: Steam Blowdown
 Sample Time: After 11:20

Nuclide Type: halogen

Nuclide	Half-life	Decay Corr uCi/ML
I-131	8.04 D	5.42E-01
I-132	2.29 H	2.40E+01
I-133	20.80 H	9.66E+01
I-135	6.59 H	6.99E+01
Total Activity:		2.45E+02

Nuclide Type: fission

Nuclide	Half-life	Decay Corr uCi/ML
Te-132	3.25 D	3.76E-01
Total Activity:		3.76E-01

Nuclide Type: FP

Nuclide	Half-life	Decay Corr uCi/ML
Te-129	1.12 H	7.69E-03
Total Activity:		7.69E-03

Grand Total Activity: 2.45E+02