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**RCRA PART B PERMIT APPLICATION MARCH
1993 SECTION A: PART A PERMIT APPLICATION
MODIFIED; SECTION B FACILITY DESCRIPTION**

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**DOE-FN/EPA
175
PERMIT**

RCRA PART B PERMIT APPLICATION



March 1993

SECTION A: PART A PERMIT APPLICATION (MODIFIED)

SECTION B: FACILITY DESCRIPTION

Fernald Environmental Management Project

U.S. EPA Identification No. 0H6890008976
Ohio EPA Permit No. 05-31-0681

PART B REVIEW COMMENTS
U.S. DOE-FEMP
OH 6890008976

COMPLETENESS COMMENTS

A. PART A APPLICATION CHECKLIST

1. A Part A Application:

OAC 3745-50-43(A)(3); 3745-50-43(A)(5);

- a. The Part A Application has not been signed by the owner and/or facility operator. Submit a signed copy of page 7 of EPA Form 8700-23.
- b. Provide a photograph of the CP Storage Warehouse (Bldg. 56). This photograph was missing from the set of HWMU photographs included with the Part A Application.
- c. The reproduced copies of Item XVI of the Part A Application are not legible. Provide legible copies of this section.

B. FACILITY DESCRIPTION CHECKLIST

General Comments:

- a. The permit application requires clarification with respect to the issue of on-site vs. off-site facility operations. Statements within section B-1 of the application do not accurately describe the scope of future hazardous waste activity at the facility. Examples are;
 - "The FEMP is seeking a permit for on-site container storage units. The units are to be used for the storage of hazardous waste generated when the facility was in production and for the storage of currently generated hazardous waste."
 - "Hazardous waste generated by other DOE programs has been and may be received and stored at the FEMP."
 - "...the FEMP's primary function officially changed from uranium metal production to environmental restoration and site clean-up activities."

The application is quite vague concerning specific information on the subject of waste acceptance from other DOE programs. In addition, during recent DOE/OEPA meetings, DOE representatives have verbally indicated that the FEMP facility would not be accepting future DOE waste shipments for storage. Given the present lack of sufficient mixed waste treatment capacity, and in light of site contamination concerns and CERCLA activity, this decision is critical to the hazardous waste permitting process. It is advisable that DOE respond directly to this issue.

- b. U.S. DOE-FEMP has applied for a permit to store hazardous waste, and the application addresses these (active) RCRA storage units. There are several additional land based units (in wastewater treatment) which the facility has identified as HWMU's, but is not seeking to permit. These units are necessary for facility operations and will remain active throughout portions of the CERCLA process. The facility is investigating the applicability of the wastewater treatment exemption with regard to these units. The RCRA status of these units is yet to be determined.

2. B-1 General Description:
OAC 3745-50-44(A)(1);

- a. The Consent Decree between U.S. DOE-FEMP and OEPA is referenced throughout the application. Include a summary of the Consent Decree as it applies to storage of hazardous waste at the facility.
- b. This section states that hazardous waste from other DOE programs, (or from "off-site") may be received and stored at the FEMP. Expand information on this subject to include off-site waste types and the amount of waste anticipated on an annual basis. (Please note Section B general comment).
- c. Describe in general terms, the operational processes and waste streams which generated hazardous waste ~~now in~~ storage at the FEMP.

3. B-4 Traffic Information:
OAC 3745-50-44(10);

Identify on Figure B-8, the primary and secondary access points referred to on page B-10. Also identify the location of the third, currently unused, entrance point.

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C. WASTE CHARACTERISTICS CHECKLIST

General Comments:

- a. This section is very general and could benefit from improved organization. The text does not provide a clear description of the procedures to be used to meet the required (and stated) objectives of the waste analysis plan.
4. C-1 Chemical and physical analyses:
OAC 3745-50-44(A)(2); 3745-54-13(A);
- a. The text infers that the Waste Determination Plan is the primary facility guidance document for the waste characterization process. This document should be included as an attachment to the permit application.
 - b. The last paragraph of section C-1 states that "Table C-1 identifies the hazardous wastes stored at the FEMP ... Table C-2 summarizes the results of the hazardous waste determinations that have been completed at the FEMP based on analytical data or process knowledge." It is not clear how these two tables relate to each other. Table C-1 contains an alphabetical listing of wastes (under the heading of "Waste Name") which have been identified as hazardous. This list does not correspond with the listing of apparent waste streams (under the heading "Waste Description") identified in Table C-2. Please provide additional information to clarify the relationship between these two tables.
 - c. Table C-2 associates "Sample Plans" with "Waste Descriptions", and begins with Sample Plan #19. Various numerical Sample Plans are associated with specific Waste Descriptions. Please explain the waste determination process in terms of the information presented in Table C-2, in greater detail.
 - d. Table C-1 or C-2 should show what analysis was conducted for each waste/waste stream in order to make a hazardous determination.
 - e. Within Table C-1, indicate those waste streams that are routinely generated by the facility (as opposed to wastes stored as a result of production activities and CERCLA remediation).
 - f. As part of the permit application, include Consent Decree waste determination compliance schedules.

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C-2 Waste Analysis Plan:

5. C-2b Test methods:
OAC 3745-54-13(B)(2);

Within Section C-2b, describe what audit methods DOE-FEMP will employ to provide assurance that off-site laboratory QA/QC goals, as established in SW-846, are being met.

6. C-2c Sampling methods:
OAC 3745-54-13(B)(3);

Briefly describe the actual chain-of-custody procedure employed by DOE-FEMP, as outlined on page C-17, and include a sample chain-of-custody form.

D. PROCESS INFORMATION CHECKLIST

General Comments:

- a. The organizational format of this section is confusing. Rather than document the required information in Part B application format, for each storage area, it might be clearer to provide information on all the storage units, under a common Part B format heading. This decision is left to the discretion of U.S. DOE-FEMP.
- b. Information for each container storage area begins with a "general description" which includes the maximum storage capacity in gallons and 55-gallon drum equivalents. Include information which will indicate the current quantity of waste in each container storage area. This can be estimated and expressed as a percentage of the maximum capacity. If projections are available as to when maximum capacity will be attained, include this information as well.
- c. Correct the ambiguity existing between the statement in section D-1a of the permit application which states that "Containers with free liquids may be stored in the Plant 1 Pad structures which will be constructed with secondary containment systems. The remaining portion of the Plant 1 Pad will be used for storage of containers without free liquids."; and the statement in section D-1b of the permit application which states that "The Plant 1 Pad will be used primarily for storage of containers without free liquids after completion of the upgrade activities."

D-1 Containers:

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D-1a Containers with free liquids:

7. D-1a(1) Description of containers:
OAC 3745-55-71; 3745-55-72;

- a. Provide a description of the DOT specifications for containers referenced for the Plant 1 Pad, KC-2 Warehouse, Plant 9 Warehouse, and Plant 6 Warehouse. In addition, explain the reference to "DOT equivalent" containers, and provide specifications.
- b. Indicate construction materials used for containers (eg. whether steel, plastic, etc.) and whether new, used, or reconditioned. Also provide information on container liners used in standard operating procedures for containerizing waste.

8. D-1a(2) Container Management Practices:
OAC 3745-55-73;

- a. Elaborate on the information provided relating to container transport. Describe the "various equipment used to transport containers throughout the facility." The application states that "containers moved by truck or trailer are loaded and unloaded by forklift." Is this the only routine method of transport? What other methods are employed for this operation?
- b. This section indicates that containers are inspected prior to transport, and are then "transported to the storage unit once safe conditions for movement are verified." What control measures ensure that the pre-transport inspection/safe condition verification procedures are consistently maintained?
- c. Indicate the aisle space maintained (in accordance with the Consent Decree and its proposed amendments) on the Plant 1 Pad.
- d. Specify the container stacking height maintained at each storage unit.

9. D-1a(3)(a) Requirement for the base or liner to contain liquids: OAC 3745-55-75(B)(1);

- a. Elaborate on those procedures utilized to detect and repair cracks or gaps in the base. Identify inspection frequency and criteria utilized to determine if a repair is necessary.

- b. This section states that the container storage unit bases are scheduled for re-coating. Identify the time-frame when base re-coating is to be accomplished. In addition, for each storage unit demonstrate that current base coatings are compatible with the waste.

10. D-1a(3)(c) Containment System Capacity:
OAC 3745-50-44(C)(1)(a)(iii); OAC 3745-55-75(B)(3);

Demonstrate that the referenced secondary containment capacities reflect volumes displaced by containers, pallets, and other structures in the containment system. (Attachment D-2 indicates that the total displacement per pallet is 3 cubic feet, however, it is not clear that the containment capacities account for displacement).

D-1b Containers Without Free Liquids:

11. D-1b(1) Test for Free Liquids:
OAC 3745-50-44(C)(1)(b)(i);

Stipulate that wastes stored in these container storage units do not contain free liquids, and identify the test procedure or other documentation or information to show that wastes placed in these storage areas do not contain free liquids.

12. D-1b(2) Description of Containers:
OAC 3745-55-71; 3745-55-72;

- a. Same as Comment #8 a., for the additional storage units.
b. Same as Comment #8 b., for the additional storage units.

13. D-1b(3) Container Management Practices:
OAC 3745-55-73;

- a. Same as Comment #9 a.
b. Same as Comment #9 b.

E. GROUNDWATER MONITORING

General Comments:

As the permit application indicates, the facility groundwater monitoring plan for land based units has been submitted in accordance with the Consent Decree and its proposed amendments. Once this plan becomes finalized, it will become an element of the Part B permit application.

F. PROCEDURES TO PREVENT HAZARDS CHECKLIST

General Comments:

- 14. F-2a General Inspection Requirements:
OAC 3745-50-44(A)(5); 3745-54-15; 3745-54-33;

This section refers to Attachments F-2 and F-3 for examples of Inspection Log Forms currently in use. Attachment F-3 (Inspection Logs) lists six container storage areas. The seventh container storage area (CP Storage Warehouse) is missing from the list. Additionally, Attachment F-3 does not contain examples of inspection logs for the CP Storage Warehouse. Please make the appropriate additions to Attachment F-3 to correct this oversight.

- 15. F-2b(1) Container Inspection:
OAC 3745-50-44(A)(5); 3745-54-15(B)(4); 3745-55-74;

Paragraph two in this section refers to Attachment F-3 for examples of Area Inspection Logs (for RCRA storage areas). Please clarify whether the "Area Inspection Log" is the same as the "Inspection Log Form" mentioned in section F-2a, which also references Attachment F-3. If the logs are the same, please identify them with the same name in the text; if they are not, include an example of the Area Inspection Log in Attachment F-3.

- 16. F-3a(3) Emergency Equipment:
OAC 3745-50-44(A); 3745-54-32(C);

Information under "Fire Control Equipment", (p. F-14) states that "buildings storing ignitable hazardous waste are protected with a sprinkler system ..." Please clarify this statement to indicate if all of the container storage buildings storing ignitable waste are equipped with sprinkler systems. If the covered structures on the Plant 1 Pad are designated for storage of ignitable waste, indicate if they are equipped with sprinkler systems.

- 17. F-5b General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste:
OAC 3745-50-44(A)(9); 3745-54-17(B);

This section of the permit application indicates that some containers are equipped with pressure relief devices. Expand the discussion of this subject to include information on criteria for selecting containers or waste

types for the device and the scope of the installation program.

G. CONTINGENCY PLAN CHECKLIST

General Comments:

- a. In accordance with regulations governing the hazardous waste permit process, a facility must demonstrate the development of adequate procedural controls designed to protect the environment and the public health in the event of a release of hazardous waste. Operational controls developed as "Procedures to Prevent Hazards" are designed to detect and prevent expected threats resulting from hazardous waste activity. The contingency plan however, must be a management system designed to respond to un-expected and catastrophic events which could impact facility operations.

It is recognized that U.S. DOE-FEMP operates management safety systems designed for such events, however, the contingency plan should better reflect the framework of planning necessary to effectively prepare for emergencies of this scale. In response to information required under section G-4i, ("Container Spills and Leakage; page G-25 of the permit application) U.S. DOE-FEMP states that "Very large spills involving hazardous waste are unlikely. If an "unlikely" event does occur, and results in a large magnitude spill, how will the facility respond? Section G-4g of the application, ("Incompatible Wastes; page G-24) indicates that container markings and storage inventory records are control measures designed to prevent incompatibility problems in emergency-affected areas. If container markings are obliterated, and record systems unavailable, how will the facility respond?

It is suggested that the facility review, and where appropriate, revise information in this section in order to document a larger view of emergency preparedness.

- b. This section is formatted to provide some information on units outside the scope of the stated permit application, (eg. tanks, surface impoundments; Sections G-4j, G-4k). Elsewhere in the application U.S. DOE has indicated that information on these units is non-applicable, (ie. the facility is not seeking to permit the units). Please explain the reasons to include information on these units within the contingency plan.

18. G-1 General Information:

OAC 3745-50-44(A)(7); 3745-54-52;

The contingency plan does not provide a sufficient description of facility operations. Expand the narrative with a brief description of the types of hazardous wastes that were generated at U.S. DOE-FEMP and the method of generation. Provide an overview of waste storage operations, to include locations, approximate quantities, and a general description of the character of the waste in regard to potential hazards associated with a specific storage unit.

19. G-2 Emergency Coordinators:

OAC 3745-50-44(A)(7); 3745-54-52(D); 3745-54-55;

- a. Table G-1 includes a list of the primary and alternate emergency coordinators, however it does not indicate the order in which the alternates would assume responsibility if the primary emergency coordinator were not available. Please list the alternates in the order in which they will assume responsibility.
- b. Section G-2 of the contingency plan lists duties and responsibilities of members of the emergency staff. These descriptions do not describe the qualifications for all individuals who will act in these positions. The qualifications presented must demonstrate that all individuals who assume the role of Emergency Coordinator (AEDO), Emergency Duty Officer or Emergency Chief, have the knowledge and experience to respond to all emergencies which may occur at the facility.

20. G-3 Implementation:

OAC 3745-54-52(A); 3745-54-56(D); 3745-50-44(A)(7);

- a. Figure G-4 summarizes the contingency plan implementation and notification action. Please provide further clarification of this flow diagram in the text. The flow chart states that the Emergency Coordinator categorizes the event as Alert, Site Area Emergency or, General Emergency associated with hazardous waste; however, Figure G-5 (Event Categorization/Notification Guide) lists these other event categories; Loggable, Off-Normal and, Unusual Occurrence.
- b. Figure G-5 is labeled Event Categorization/Notification Guide. The Section G Table of Contents and the text refer to Figure G-5 as the Emergency Action Level Guide. Please make the appropriate change to remain consistent.

- c. Figure G-5 summarizes the implementation requirements and response action required for varying levels of site emergencies. Within the narrative, provide an explanation of how event boundaries or parameters are established. For example;
- i) "Chemical/Radiological releases with significant onsite impact." What criteria will be used to determine significant impact?
 - ii) "Spill/release of hazardous waste that threatens human health or the environment." What criteria will be used to determine that a threat exists?
- d. The contingency plan does not clearly state how and when the plan will be implemented. As an example, the first paragraph on page 4 of Attachment G-1 states, "Even events that involve response by the Emergency Response Team may, if the Emergency Coordinator (AEDO) so determines, not require implementation of this Contingency Plan." Please provide the specific criteria that will be used to determine whether or not the Contingency Plan will be implemented in response to an explosion, fire, or hazardous waste spill.
21. G-4a Notification:
OAC 3745-54-56(A); 3745-50-44(A)(7);
- Page G-14 provides a list of agencies/individuals that would be notified in the event of an emergency, but fails to specify what the appropriate local organizations are, or which Federal and State regulatory agencies will be notified. Please include in the contingency plan a list of the appropriate local organizations, and the Federal and State regulatory agencies who would be notified.
22. G-4d Control Procedures:
OAC 3745-54-52(A); 3745-50-44-(A)(7);
- The plan does not specify the type of Emergency Equipment that will be used in response to an explosion, fire, or spills/material release. Include in this section, a list of emergency equipment that will be used, including personal protective equipment.
23. G-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases: OAC 3745-50-44(A)(7); 3745-54-56(E);
- The plan does not state that processes and operations will be stopped, where applicable, to prevent the

recurrence or spread of fires, explosions, or releases. Include in the contingency plan provision for ceasing processes and operations, where applicable.

24. G-4g Incompatible Waste:

OAC 3745-50-44-(A)(7); 3745-54-56(H)(1);

- a. The plan does not specify how the AEDO will ensure that material that is incompatible with the released material will not be introduced into the affected area. Please provide details specifying procedures and/or equipment that will ensure that no mixing of incompatible materials will occur.
- b. The contingency plan refers to Reactivity Group Codes in this section. Expand the narrative briefly to emphasize the significance of the codes, and indicate where additional information on the subject is located within the permit application.

25. G-4h Post-Emergency Equipment Maintenance:

OAC 3745-50-44(A)(7); 3745-54-56(H)(2);

Within the narrative, indicate that decontamination procedures will apply to any contaminated equipment.

26. G-4i Container Spills and Leakage:

OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-71;

The section does not adequately address the subject of container spills and leakage, (See Section G general comments). Expand this section to describe contingent plans to be implemented in the event of a large spill.

G-4j Tank Spills and Leakage

27. G-4j(1) Stopping Waste Addition:

OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-96(A);

The permit does not clearly state that the flow of hazardous waste into the tank system must be stopped immediately. Revise this section to indicate that hazardous waste flow into tanks or secondary containment systems will be stopped once a leak or spill is detected in a tank system.

28. G-4j(2) Removing Waste:

OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-96(B);

The contingency plan does not explain what "tank area"

refers to. Please specify in this section that wastes will be removed from the tank or secondary containment system, as necessary.

29. G-4j(4) Notifications, Reports:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-96(D);

Revise the language to specify that any release to the environment (except a leak or spill that is less than or equal to one pound and immediately contained and cleaned up) will be reported to the Director within 24 hours of its detection.

30. G-4j(5) Provision of Secondary Containment, Repair or Closure:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-96(E);

- a. The fourth paragraph of this section (p. G-27) is confusing. Please reword to indicate that if the source of the release is a leak from a tank without secondary containment, secondary containment will be provided, unless the component from which the leak occurred is on an aboveground portion of the tank that can be visually inspected.
- b. The last paragraph of this section refers to 40 CFR 264.192 and 264.196. Please add the Ohio Administrative Codes that correspond (OAC 3745-55-92 and OAC 3745-55-93) with the Federal Regulations.

G-4k Surface Impoundment Spills and Leakage:

- G-4k(1) Emergency Repairs:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27

31. This section (and its sub-sections) does not address the contingent procedures for removing a surface impoundment from service in the event of an apparent emergency affecting the integrity of the impoundment. Revise as appropriate. Describe the procedures used for removing a surface impoundment from service to address G-4k(1)(a) through G4k(1)(e).

32. G-4k(1)(a) Stopping Waste Addition:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(1);

The meaning of the sentence in this section is not completely clear. Revise to describe procedures to stop waste addition in the event of an emergency repair.

33. G-4k(1)(b) Containing Leaks:

OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(2);

The meaning of the sentence in this section is not completely clear, and does not adequately describe the procedures to contain leakage. Revise and expand in order to describe procedures to contain leaks as the result of an emergency repair.

34. G-4k(1)(c) Stopping Leaks:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(3);

The sentence in this section is not sufficient to adequately describe contingent procedures for stopping leaks in the event of emergency repairs. Revise as appropriate.

35. G-4k(1)(d) Preventing Catastrophic Failure:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(4);

The sentence in this section is not sufficient to adequately describe contingent procedures for preventing catastrophic failure of an impoundment as a result of an emergency. Revise as appropriate.

36. G-4k(1)(e) Emptying the Impoundment:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(5);

This section of the contingency plan should discuss the procedures for emptying the surface impoundment during an emergency when a leak cannot be stopped. The permit application addresses CERCLA closure activities for surface impoundments. This information is not relevant to the contingency plan. Revise as appropriate.

37. G-4k(3) Repairs as a Result of Sudden Drop:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(D)(2);

This section (and its sub-sections) would benefit by a revision to describe contingent repair procedures when the impoundment has been removed from service. These procedures should be viewed as follow-on to those described within Section G-4k(1). Revise the language of the first sentence of this section to indicate that the impoundment is out-of-service, (ie., empty). The section should then contain a discussion of appropriate procedures necessary to repair the unit and return it to service.

38. G-4k(3)(a) Existing Portions of the Surface Impoundment:
OAC 3745-50-44(A)(7); 3745-54-52;

OAC 3745-56-27(D)(2)(a);

Delete the first sentence of this section. U.S. DOE-FEMP may wish to indicate that a liner would be installed in compliance with OAC 3745-56-27(D)(2), as an alternative to the response actions mentioned.

39. G-4k(3)(b) Other Portions of the Surface Impoundment:
OAC 3745-50-44(A)(7); 3745-54-52;
OAC 3745-56-27(D)(2)(6);

Delete the sentence in this section and indicate that for other portions of the surface impoundment, a repaired liner must be certified by a qualified engineer as meeting the design specifications approved in the permit.

40. G-5 Emergency Equipment:
OAC 3745-50-44(A)(7); 3745-54-52(E);

- a. The contingency plan states under Facility Alarm System (p. G-34) that each alarm system is tested periodically. Specify the testing frequency of the alarm systems.
- b. The last paragraph on p. G-37 incorrectly references Attachment G-1. The reference should be Attachment G-2.

41. G-6 Coordination Agreements:
OAC 3745-50-44(A)(7); 3745-54-52(C); 3745-54-37;

- a. This section states that "Off-site emergency organizations have signed mutual aid agreements and/or have agreed to provide needed assistance to the FEMP at local, county, state and federal levels...A list of participants in mutual aid agreements and updated communication links is provided in Table G-1." This table contains several lists of personnel and organizations. Revise Table G-1 to clarify which organizations are participants in mutual aid agreements.
- b. Other than those items indicated in the third paragraph, Expand this section to describe any agreements or efforts to familiarize local emergency responders with both the facility and actions needed in case of an emergency.

42. G-7 Evacuation Plan:
OAC 3745-50-44(A)(7); 3745-54-52(F);

Figures G-7 and G-8 apparently refer to components of the Evacuation Plan, however, they are neither referenced nor explained in the text.

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43. G-8 Reports:
OAC 3745-50-44(A)(7); 3745-54-56(J);

a. In Section G-8a, please indicate that Form B is shown on Figure G-10, and that Form C is shown on Figure G-11.

H. PERSONNEL TRAINING CHECKLIST

44. H-1 Outline of Training Program:
OAC 3745-50-44(A)(12); 3745-54-16(A)(1);

Attachment H-1 supplies the Training Outline for the various categories of workers on-site. For several of the training programs the frequency in years column states "only if required". Please specify who will determine whether or not this training is applicable for the employee.

45. H-1c Training Director:
OAC 3745-50-44(A)(12); 3745-54-16(A)(2);

This section fails to demonstrate that the Training Director is a person trained in hazardous waste management. Please supply supplemental information that will indicate the Training Director's level of expertise in hazardous waste management.

I. CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS:

46. I-1e(2) Disposal or Decontamination of Equipment, Structures, and Soils:
OAC 3745-50-44(A)(12); 3745-55-12(B)(4); 3745-55-14;
OAC 3745-55-11;

a) Within Section I-1e(2)(c) of the permit application, describe or list the types of equipment used for closure activities which may undergo decontamination procedures.

b) Within Section I-1e(2)(c) of the permit application, describe the material and construction of temporary dikes used to contain runoff during decontamination procedures.

47. I-1e(4) Closure of Containers:
OAC 3745-55-78; 3745-55-12(B)(3); 3745-50-44(A)(13);
OAC 3745-55-11;

Within Section I-1e(4)(g) of the permit application, (subheading Hazardous Waste Management Description, fourth paragraph, fourth bullet), clarify whether the

storm sewer inlets/catch basins are in active operation on the Plant 1 Pad (after the up-grade).

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TECHNICAL ADEQUACY COMMENTS

48. B-2 Topographic Map:
OAC 3745-50-44(A)(19);

In order to improve the readability of the topographic map of the facility and surrounding area, it is requested that this map be replaced by a topographic map with either a 2 or 5 foot contour interval. The numerical elevations should be clearly legible.

49. B-4 Traffic Information:
OAC 3745-50-44(10);

The last paragraph of this section describes off-site shipments transported by tractor trailer trucks. Elaborate on the types and quantities of hazardous waste shipments. Estimate the volume (number of trucks per unit time) of transport traffic. Identify transporters routinely utilized by the facility, and indicate the type of containers loaded onto such transport vehicles.

C. WASTE CHARACTERISTICS CHECKLIST

50. C-1 Chemical and physical analyses:
OAC 3745-50-44(A)(2); 3745-54-13(A);

- a. Expand this section to provide a more detailed description of the various waste streams from the three administrative categories indicated (Backlog waste, Newly Generated Waste, Newly Identified Backlog Waste).
- b. Revise the Land Ban Status Column of Table C-1 to reflect the expiration of the National Capacity Variance for third-third wastes.

C-2 Waste analysis plan:

51. C-2a Parameters and rationale:
OAC 3745-54-13(B)(1);

- a. Although DOE-FEMP has provided a list of parameters and rationale for waste analysis, (Table C-3) it is not clear that those parameters listed correspond to all applicable waste codes listed in the Part A Application.
- b. In Table C-3, rather than simply describe the parameter, the information presented as rationale should specify how these parameters will provide sufficient information on waste properties in order to properly store the waste.

52. C-2c Sampling methods:
OAC 3745-54-13(B)(3);

Information in this section (under subheading "Number of Samples", page C-13 and C-14) needs to be clarified with respect to the issue of representative sampling. Reword the last sentence of the second paragraph under "Number of Samples", to indicate that the guideline shows the number of containers to be sampled for the purpose of collecting a representative sample of that particular (homogenous) waste. Are these discrete samples that are then composited for analysis? The second sentence of the sixth paragraph under the same subheading states that "Composite samples are also used for large populations of containers with capacities of 55 gallons or less. Indicate what constitutes a "large population" in this context. Within this section U.S. DOE-FEMP should distinguish between collecting composites for the purposes of representative sampling, as opposed to compositing for analytical cost considerations.

53. C-2d Frequency of Analyses:
OAC 3745-54-13(B)(4); 3745-50-44(A)(3);

In the second paragraph of this section, delete the word "usually" and commit to a specific frequency for re-analysis of wastes generated by continuous processes.

54. C-2e Additional Requirements for Wastes Generated Off-Site:
OAC 3745-54-13(C); 3745-50-44(A)(3);

- a. This section states "No hazardous waste from off-site facilities is accepted and/or stored at the FEMP unless the conditions of the Consent Decree and its proposed amendments are met." Include this information as part of

the permit application (Reference Completeness Comment #2. a.).

- b. Within this section, specify the types of hazardous wastes to be accepted from off-site.
- c. The first sentence of the second paragraph of this section reads "Generators may provide...waste characterization data for each waste stream shipped to the FEMP from an off-site facility..." Later in the same paragraph the application reads "This data usually precedes actual shipment of the waste so that FEMP personnel can review the data and confirm that the waste can be stored at the FEMP." The generator is requested to furnish information for each waste stream..." Delete the words "may", "usually", and "requested" from the text and revise this language to reflect established consistent criteria for the preacceptance of off-site waste.
- d. The third paragraph in this section states "In some cases, the FEMP may request a sample for preacceptance analysis prior to shipment." Elaborate on this information to describe the criteria for requesting, or not requesting a sample.
- e. Paragraph eight of this section indicates that U.S. DOE-FEMP would complete a new uniform hazardous waste manifest for return shipment in the event a shipment is rejected by the facility. This is inconsistent with the hazardous waste manifest system. The original manifest should be used to indicate the reasons for rejecting the shipment, and would accompany the returned shipment to the generator. Revise the text as appropriate.

use
C-3 heading
→

55. C-3b Notification and Certification Requirements:
OAC 3745-50-44(A)(3); 3745-54-13(A)(1); .

Revise the language within this section, (under the subheading of "Treatment of Characteristically Hazardous Waste", page C-30) which refers to the FEMP treatment of a characteristic hazardous waste. The wording is inappropriate since U.S. DOE-FEMP is not applying for a permit to treat hazardous waste.

56. C-3c Additional Requirements Pertaining to Storage of Restricted Wastes:
OAC 3745-50-44(A)(3); 3745-54-13(A)(1); 3745-59-50;

The National Capacity Variance for mixed waste LDR effective dates expired May 8, 1992. Reword information

in this section to reflect the current LDR status for storage of restricted waste at U.S. DOE-FEMP.

57. C-3f Exemptions From and Extensions To Land Disposal Restrictions:
OAC 3745-54-13(A)(1); 3745-50-44(A)(3);
3745-50-44-(A)(21); 3745-59-05;

Update information in this section (and subsections to C-3f) to account for U.S. DOE applications for case-by-case extensions/exemptions from LDR restrictions.

PART 9 PERMIT REVIEW

SIGN-OFF SHEET

Facility: U.S. DOE - FEMP
Ohio I.D. # _____
U.S. ID# OH 6890008976
Date: JULY 27 1992

Reviewers: PHIL HARRIS / ROBIN FISHER

Section	Date	Complete	Technically Adequate	Primary Reviewer
A. Part A Application	7-27-92	N	N	Phillip C. Harris John H. Fisher
B. Facility Description	7-27-92	N	N	Phillip C. Harris John H. Fisher
C. Waste Description	7-27-92	N	N	Phillip C. Harris John H. Fisher
D. Process Information	7-27-92	N	N	Phillip C. Harris John H. Fisher
E. Ground Water	7-27-92	N	N	Phillip C. Harris John H. Fisher
F. Procedures to Prevent Hazards	7-27-92	N	N	Phillip C. Harris John H. Fisher
G. Contingency Plan	7-27-92	N	N	Phillip C. Harris John H. Fisher
H. Personnel Training	7-27-92	N	N	Phillip C. Harris John H. Fisher
I. Closure Plan (Including Financial Assurance)	7-27-92	N	N	Phillip C. Harris John H. Fisher
J. Corrective Action		N/A	N/A	
K. Other Federal Laws	7-27-92	Y	Y	Phillip C. Harris John H. Fisher
L. Part 9 Certification	7-27-92	Y	Y	Phillip C. Harris John H. Fisher
Financial Assurance		N/A	N/A	

District Office to determine adequacy on Sections A through L. Enforcement Group, CO to determine adequacy on Financial Assurance. Engineering Section, CO to make a determination if application is ready for transmittal to HWFB or the Director.

Application approved for transmittal: _____ C.O. Reviewer _____ Date 7/27/92

D.O. Supervisor: Paul R. O'Connell C.O. Supervisor: _____

Facility Name U.S. DOE-FEMP
 RD No. OH 0890028976
 Date Part B Received APR 1, 1991
 Date Review Due _____

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

A. PART A APPLICATION		Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
B. FACILITY DESCRIPTION						
B-1	General description	<u>N</u>	<u>N</u>	<u>#2</u>		<u>Sec B-1 p. B-2 + B-3</u>
B-2	Topographic map	<u>Y</u>	<u>N</u>	<u>#4B</u>		<u>Sec B-2 p. B-4 + B-7</u>
B-2a	General requirements	<u>Y</u>	<u>Y</u>			<u>" p. B-4 + B-7</u>
B-2b	Additional requirements for land disposal facilities	<u>N/A</u>	<u>N/A</u>			
B-3	Location information					
B-3a	Seismic standard	<u>N/A</u>	<u>N/A</u>			
B-3b	Floodplain standard	<u>Y</u>	<u>Y</u>			<u>Sec B-3 p. B-8 + B-9</u>
B-3b(1)	Demonstration of compliance	<u>N/A</u>	<u>N/A</u>			
B-3b(1)(a)	Flood proofing and flood protection measures: 2C	<u>N/A</u>	<u>N/A</u>			
B-3b(1)(b)	Flood plan	<u>N/A</u>	<u>N/A</u>			
B-3b(2)	Plan for future compliance with floodplain standard	<u>N/A</u>	<u>N/A</u>			
B-3b(3)	Waiver for Land Storage and Disposal Facilities	<u>N/A</u>	<u>N/A</u>			
B-4	Traffic information	<u>N</u>	<u>N</u>	<u>#3</u>	<u>#49</u>	<u>Sec B-4 p. B-10 + B-11</u>

0009C-AM (MASTER)
 3744E-AM
 0213A-AA
 0101S-RK

VOL 2

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

C. WASTE CHARACTERISTICS

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
C-1	N	N	#4 + #50		Sec C-1 p. C-3 → C-8
C-1a	Y	Y			" p. C-4 + C-5
C-1b	NA	NA			
C-1c	NA	NA			
C-1d	NA	NA			
C-1e	NA	NA			
C-1f	NA	NA			
C-1g	NA	NA			
C-2	N	N	H-1		Sec C-2 p. C-9 → C-21
C-2a	Y	N	#51		" p. C-11
C-2b	N	N	#5		" p. C-11 + C-12
C-2c	N	N	#6 + #52		" p. C-12 + C-17
C-2d	Y	N	#53		" p. C-17 + C-18
C-2e	Y	N	#54		" p. C-18 + C-21
C-2f	Y	Y			" p. C-21

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

		Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
C-3	Waste analysis requirements pertaining to land disposal restrictions	Y	N	H		Sec C-3 p. C-22 → C-35
C-3a	Waste characterization	Y	Y			P.C-22 → C-28
C-3a(1)	Waste characteristics: solvent wastes and dioxin containing wastes	Y	Y			" P.C-23 + C-24
C-3a(2)	Waste characteristics: California list wastes	Y	Y			" P.C-24 → C-26
C-3a(3)	Waste characteristics: First third wastes with treatment standards	Y	Y			" P.C-27
C-3a(4)	Waste characteristics: second third wastes with treatment standards	Y	Y			" P.C-27
C-3a(5)	Waste characteristics: Soft hammer wastes	Y	Y			" P.C-28
C-3a(5)(a)	Soft hammer wastes: California list wastes with treatment standards	NA	NA			
C-3a(5)(b)	Soft hammer wastes: California list wastes without treatment standards	NA	NA			
C-3b	Notification and certification requirements	Y	N	#55		" P.C-28 → C-31
C-3b(1)	Retention of generator notices and certifications	Y	Y			" P.C-31

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
C-3b(2) Notification and certification for wastes to be further managed	Y	Y			P.C-31
C-3b(3) Notification and certification for soft hammer wastes not subject to California list prohibitions	NA	NA			
C-3b(4) Additional notification and certification requirements for treatment facilities	NA	NA			
C-3b(4)(a) Wastes with treatment standards expressed as concentrations	NA	NA			
C-3b(4)(b) Wastes with treatment standards expressed as technologies	NA	NA			
C-3b(4)(c) California list wastes not subject to treatment standards	NA	NA			
C-3b(4)(d) Recyclable materials used in a manner constituting disposal	NA	NA			
C-3b(5) Additional notification and certification requirements for disposal facilities	NA	NA			
C-3b(6) Notification and certification requirements pertaining to landfill and surface impoundment disposal restrictions	NA	NA			

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

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	Complete (V/N)	Technically Adequate (V/N)	See Attached Comment	See Attached Exhibit	Location of Information
C-3b(6)(a) Requirements for treatment storage, and recovery facilities	<u>N/A</u>	<u>N/A</u>			
C-3b(6)(b) Requirements for treatment and recovery facilities	<u>N/A</u>	<u>N/A</u>			
C-3b(6)(c) Requirements for disposal facilities	<u>N/A</u>	<u>N/A</u>			
C-3c Additional requirements pertaining to storage of restricted wastes	<u>Y</u>	<u>N</u>	#56		" p. C-32 + C-33
C-3c(1) Restricted wastes stored in containers	<u>Y</u>	<u>Y</u>			" p. C-33 + C-34
C-3c(2) Restricted wastes stored in tanks	<u>N/A</u>	<u>N/A</u>			" p. C-34
C-3c(3) Storage of liquid PCB wastes	<u>Y</u>	<u>Y</u>			
C-3d Additional requirements for treatment facilities	<u>N/A</u>	<u>N/A</u>			
C-3d(1) Wastes with treatment standards expressed as concentrations in the waste	<u>N/A</u>	<u>N/A</u>			

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
C-3d(2)	Wastes with treatment standards expressed as concentrations in the waste extract	NA	NA		
C-3d(3)	California list wastes not subject to treatment standards	NA	NA		
C-3e	Additional requirements for land disposal facilities	NA	NA		
C-3f	Exemptions from and extensions to land disposal restrictions	Y	N	#57	" p. C-34 & C-35
C-3f(1)	Case-by-case extensions to an effective date	Y	N	#57	" p. C-35
C-3f(2)	Exemption from a prohibition	NA	NA		
C-3f(3)	Variance from a treatment standard	NA	NA		
C-3f(4)	Additional requirements for surface impoundments exempted from land disposal restrictions	NA	NA		
C-3f(4)(a)	Treatment of wastes	NA	NA		
C-3f(4)(b)	Sampling and testing	NA	NA		
C-3f(4)(c)	Annual removal of residues	NA	NA		
C-3f(4)(d)	Design requirements	NA	NA		
C-3g	Requirements for land disposal facilities with an approved exemption or extension	Y	Y		" p. C-35 * section subject to change

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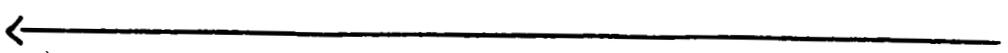
COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

D. PROCESS INFORMATION

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-1 Containers					
D-1a Containers with free liquids					
D-1a(1) Description of container	N	N	#7		" " "
D-1a(2) Container management practices	N	N	#8		" " "
D-1a(3) Secondary containment system design and operation	N	N	H1		" " "
D-1a(3)(a) Requirement for the base or liner to contain liquids	N	N	#9		" " "
D-1a(3)(b) Containment system drainage	Y	Y			" " "
D-1a(3)(c) Containment system capacity	N	N	#10		" " "
D-1a(3)(d) Control of run-on	Y	Y			" " "
D-1a(3)(e) Removal of liquids from containment systems	Y	Y			" " "
D-1b Containers without free liquid					
D-1b(1) Test for free liquids	N	N	#11		" " "
D-1b(2) Description of containers	N	N	#12		" " "
D-1b(3) Container management practices	N	N	#13		" " "
D-1b(4) Container storage area drainage	Y	Y			" " "
D-2 Tank systems					
D-2a Tank systems descriptions	N/A	N/A			
D-2a(1) Dimensions and capacity	N/A	N/A			

Sec D P. D-1 → D-49

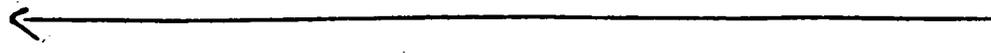
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COMPLETENESS/TECHNICAL INFORMATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-2a(2) Description of feed systems, safety cutoff, bypass systems, and pressure controls	N/A	N/A			
D-2a(3) Diagram of piping, instrumentation and process-flow	N/A	N/A			
D-2a(4) Ignitable, reactive and incompatible wastes	N/A	N/A			
D-2b Existing tank system					
D-2b(1) Assessment of existing tank systems integrity	N/A	N/A			
D-2c New tank systems	N/A	N/A			
D-2c(1) Assessment of new tank system integrity	N/A	N/A			
D-2c(2) Description of tank system installation and testing plans and procedures	N/A	N/A			
D-2d Containment and detection of releases	N/A	N/A			
D-2d(1) Plans and description of the design, construction, and operation of the secondary containment system	N/A	N/A			
D-2d(1)(a) Tank age determination	N/A	N/A			
D-2d(1)(b) Requirements for secondary containment and leak detection	N/A	N/A			
D-2d(1)(c) Requirements for an external liner, vault, double-walled tank or equivalent device	N/A	N/A			

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
4 D-2d(1)(d) Secondary containment and leak detection requirements for ancillary equipment	N/A	N/A			
4 D-2d(2) Requirements for tank systems until secondary containment is implemented	N/A	N/A			
D-2d(3) Variance from secondary containment requirements	N/A	N/A			
D-2d(3)(a) Variance based on a demonstration of equivalent protection of groundwater and surface water	N/A	N/A			
D-2d(3)(b) Variance based on a demonstration of no substantial present or potential hazard	N/A	N/A			
D-2d(3)(c) Exemption based on no free liquids and location inside a building	N/A	N/A			
D-2e Controls and practices to prevent spills and overflow	N/A	N/A			
D-3 Waste piles	N/A	N/A			
D-3a List of wastes	N/A	N/A			
D-3b Liner exemption	N/A	N/A			
D-3b(1) Enclosed dry piles	N/A	N/A			
D-3b(1)(a) Protection from precipitation	N/A	N/A			
D-3b(1)(b) Free liquids	N/A	N/A			
D-3b(1)(c) Run-on protection	N/A	N/A			

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-3b(1)(d) Wind dispersal control	N/A	N/A			
D-3b(1)(e) Leachate generation	N/A	N/A			
D-3b(2) Alternate design/no migration	N/A	N/A			
D-3c Liner engineering report	N/A	N/A			
D-3c(1) Liner description	N/A	N/A			
D-3c(2) Liner location relative to high water table	N/A	N/A			
D-3c(3) Calculation of required soil liner thickness	N/A	N/A			
D-3c(4) Liner strength requirements	N/A	N/A			
D-3c(5) Liner strength demonstration	N/A	N/A			
D-3c(6) Liner/waste compatibility testing results	N/A	N/A			
D-3c(7) Liner installation	N/A	N/A			
D-3c(7)(a) Synthetic liner seaming	N/A	N/A			
D-3c(7)(b) Soil liner compaction	N/A	N/A			
D-3c(7)(c) Installation inspection/testing programs	N/A	N/A			
D-3c(8) Liner coverage	N/A	N/A			
D-3c(9) Liner exposure prevention	N/A	N/A			
D-3c(10) Synthetic-liner bedding	N/A	N/A			
D-3d Liner foundation report	N/A	N/A			
D-3d(1) Liner foundation design description	N/A	N/A			

VOL 2



	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-3d(2) Subsurface exploration data	N/A	N/A			
D-3d(3) Laboratory testing data	N/A	N/A			
D-3d(4) Engineering analyses	N/A	N/A			
D-3d(4)(a) Settlement potential	N/A	N/A			
D-3d(4)(b) Bearing capacity and stability	N/A	N/A			
D-3d(4)(c) Potential for bottom heave or blow-out	N/A	N/A			
D-3d(4)(d) Construction and operational loadings	N/A	N/A			
D-3d(5) Foundation installation procedures	N/A	N/A			
D-3d(6) Foundation installation inspection program	N/A	N/A			
D-3e Leachate collection and removal system	N/A	N/A			
D-3e(1) System design and operation	N/A	N/A			
D-3e(2) Chemical resistance	N/A	N/A			
D-3e(3) Strength of materials	N/A	N/A			
D-3e(4) Prevention of clogging	N/A	N/A			
D-3e(5) Installation	N/A	N/A			
D-3e(6) Maintenance	N/A	N/A			
D-3f Run-on control system	N/A	N/A			
D-3f(1) Calculation of peak flow	N/A	N/A			
D-3f(2) Design and performance	N/A	N/A			
D-3f(3) Construction	N/A	N/A			

VOL 4

		Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-3f(4)	Maintenance	NA	NA			
D-3g	Run-off control system					
D-3g(1)	Calculation of peak flow	NA	NA			
D-3g(2)	Design and performance	NA	NA			
D-3g(3)	Construction	NA	NA			
D-3g(4)	Maintenance	NA	NA			
D-3h	Management of collection and holding units	NA	NA			
D-3i	Control of wind dispersal	NA	NA			
D-3j	Groundwater monitoring exemption					
D-3j(1)	Engineered structure	NA	NA			
D-3j(2)	No liquid waste	NA	NA			
D-3j(3)	Exclusion of liquids	NA	NA			
D-3j(4)	Containment system	NA	NA			
D-3j(5)	Leak detection system	NA	NA			
D-3j(6)	Operation of leak detection system	NA	NA			
D-3j(7)	No migration	NA	NA			
D-3k	Treatment within the pile					
D-3k(1)	Treatment process description	NA	NA			
D-3k(2)	Equipment used	NA	NA			
D-3k(3)	Residuals description	NA	NA			

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

Complete (Y/N) Technically Adequate (Y/N) See Attached Comment See Attached Exhibit Location of Information

Special management plan for piles containing wastes F020, F021, F022, F023, F026, and F027

D-31	Waste description	NA	NA			
D-31(1)	Soil description	NA	NA			
D-31(2)	Mobilizing properties					
D-31(3)	Additional management techniques					
D-31(4)	Surface Impoundments					
D-4a	List of wastes					
D-4b	Liner system exemption requests					
D-4b(1)	Exemption based on existing portion					
D-4b(2)	Exemption based on alternative design and location					
D-4c	Liner system, general items					
D-4c(1)	Liner system description					
D-4c(2)	Liner system location relative to high water table					
D-4c(3)	Loads on liner system					
D-4c(4)	Liner system coverage					
D-4c(5)	Liner system exposure prevention					
D-4d	Liner system foundation					
D-4d(1)	Foundation description	✓	✓			

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-4d(2) Subsurface exploration data	NA	NA			
D-4d(3) Laboratory testing data					
D-4d(4) Engineering analyses					
D-4d(4)(a) Settlement potential					
D-4d(4)(b) Bearing capacity					
D-4d(4)(c) Potential for excess hydrostatic or gas pressure					
D-4e Liner systems, liners					
D-4e(1) Synthetic liners					
D-4e(1)(a) Synthetic liner compatibility data					
D-4e(1)(b) Synthetic liner strength					
D-4e(1)(c) Synthetic liner bedding					
D-4e(2) Soil liners					
D-4e(2)(a) Material testing data					
D-4e(2)(b) Soil liner compatibility data					
D-4e(2)(c) Soil liner thickness					
D-4e(2)(d) Soil liner strength					
D-4f Liner system, leachate detection system					
D-4f(1) System operation and design					
D-4f(2) Equivalent capacity					
D-4f(3) Grading and drainage					

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-4f(4) System compatibility	NA	NA			
D-4f(5) System strength					
D-4f(5)(a) Stability of drainage layers					
D-4f(5)(b) Strength of piping					
D-4f(6) Prevention of clogging					
D-4g Liner system, construction and maintenance					
D-4g(1) Material specifications					
D-4g(1)(e) Synthetic liners					
D-4g(1)(b) Soil liners					
D-4g(1)(c) Leachate detection system					
D-4g(2) Construction specifications					
D-4g(2)(a) Liner system foundation					
D-4g(2)(b) Soil liner					
D-4g(2)(c) Synthetic liners					
D-4g(2)(d) Leachate detection system					
D-4g(3) Construction quality control program					
D-4g(4) Maintenance procedures for leachate detection system					
D-4g(5) Liner repairs during operations					
D-4h Prevention of overtopping					
D-4h(1) Design features					

vol 4

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-4h(2) Operating procedure	NA	NA			
D-4h(3) Overtopping prevention					
D-4h(4) Freeboard requirements					
D-4h(5) Outflow destination					
D-4i Dike stability					
D-4i(1) Engineer's certification					
D-4i(2) Dike design description					
D-4i(3) Erosion and piping protection					
D-4i(4) Subsurface soil conditions					
D-4i(5) Stability analysis					
D-4i(6) Strength and compressibility test results					
D-4i(7) Dike construction procedures					
D-4i(8) Dike construction inspection program					
D-4j Special waste management plan for surface impoundments containing wastes FO20, FO21, FO22, FO23, FO26, and FO27					
D-4j(1) Waste description					
D-4j(2) Soil description					
D-4j(3) Mobilizing properties					
D-4j(4) Additional management techniques					

VOL 4



COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-5 Incinerators	N/A	N/A			
D-5a Justification for exemption					
D-5b Trial burn					
D-5b(1) New incinerator start-up/shutdown conditions (reserved)					
D-5b(2) Trial burn plan					
D-5b(2)(a) Engineering description of incinerator					
D-5b(2)(b) Sampling, analysis and monitoring procedures including QA/QC plan					
D-5b(2)(c) Trial burn schedule					
D-5b(2)(d) Test protocols					
D-5b(2)(e) Pollution control equipment operation					
D-5b(2)(f) Shutdown procedures					
D-5b(2)(g) New incinerator post-trial burn operation (reserved)					
D-5c Data in lieu of trial burn					
D-5c(1) Engineering description of incinerator					
D-5c(2) Expected incinerator operation					
D-5c(3) Design and operating condition comparisons					
D-5c(4) Results of previous trial burns					

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-5c(4)(a) Sampling and analysis techniques	NA	NA			
D-5c(4)(b) Methods and results					
D-5d Determinations					
D-6 Landfills					
D-6a List of wastes					
D-6b Liner system exemption requests					
D-6b(1) Exemption based on existing portion					
D-6b(2) Exemption based on alternative design and location					
D-6b(3) Exemption for monofills					
D-6b(4) Groundwater monitoring exemption					
D-6b(4)(a) Engineered structure					
D-6b(4)(b) No liquid waste					
D-6b(4)(c) Exclusion of liquids					
D-6b(4)(d) Containment system					
D-6b(4)(e) Leak detection system					
D-6b(4)(f) Operation of leak detection system					
D-6b(4)(g) No migration					
D-6c Liner system, general items					
D-6c(1) Liner system description					

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

		Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
4	D-6c(2) Liner system location relative to high water table	NA	NA			
4	D-6c(3) Loads on liner system					
5	D-6c(4) Liner system coverage					
	D-6c(5) Liner system exposure prevention					
	D-6d Liner system, foundation					
	D-6d(1) Foundation description					
	D-6d(2) Subsurface exploration data					
	D-6d(3) Laboratory testing data					
	D-6d(4) Engineering analysis					
	D-6d(4)(a) Settlement potential					
	D-6d(4)(b) Bearing capacity					
	D-6d(4)(c) Stability of landfill slopes					
	D-6d(4)(d) Potential for excess hydrostatic or gas pressure					
	D-6e Liner system, liners					
	D-6e(1) Synthetic liners					
	D-6e(1)(a) Synthetic liner compatibility data					
	D-6e(1)(b) Synthetic liner strength					
	D-6e(1)(c) Synthetic liner bedding					
	D-6e(2) Soil liners					
	D-6e(2)(a) Material testing data					

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-6e(2)(b) Soil liner compatibility data	NA	NA			
D-6e(2)(c) Soil liner thickness					
D-6e(2)(d) Soil liner strength					
D-6f Liner system, leachate collection/detection systems					
D-6f(1) System operation and design					
D-6f(2) Equivalent capacity					
D-6f(3) Grading and drainage					
D-6f(4) Maximum leachate head					
D-6f(5) System compatibility					
D-6f(6) System strength					
D-6f(6)(a) Stability of drainage layers					
D-6f(6)(b) Strength of piping					
D-6f(7) Prevention of clogging					
D-6g Liner system, construction and maintenance					
D-6g(1) Material specifications					
D-6g(1)(a) Synthetic liners					
D-6g(1)(b) Soil liners					
D-6g(1)(c) Leachate collection/detection systems					
D-6g(2) Construction specifications					
D-6g(2)(a) Liner system foundation					

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

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	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-6g(2)(b) Soil liner	NA	NA			
D-6g(2)(c) Synthetic liners					
D-6g(2)(d) Leachate collection/detection systems					
D-6g(3) Construction quality control program					
D-6g(4) Maintenance procedures for leachate collection/detection system					
D-6g(5) Liner repairs during operations					
D-6h Run-on and run-off control systems					
D-6h(1) Run-on control system					
D-6h(1)(a) Design and performance					
D-6h(1)(b) Calculation of peak flow					
D-6h(2) Runoff control system					
D-6h(2)(a) Design and performance					
D-6h(2)(b) Calculation of peak flow					
D-6h(3) Management of collection and holding units					
D-6h(4) Construction					
D-6h(5) Maintenance					
D-6i Control of wind dispersal					
D-6j Liquids in landfills					
D-6j(1) Bulk or noncontaminated free liquids					

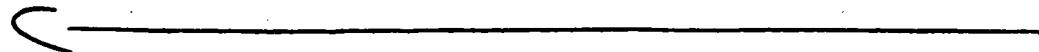
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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
D-6j(2) Containers holding free liquids	NA	NA			
D-6j(3) Restriction to small containers					
D-6j(4) Nonstorage containers					
D-6j(5) Labpacks					
D-6j(5)(a) Inside containers					
D-6j(5)(b) Overpack					
D-6j(5)(c) Absorbent material					
D-6j(5)(d) Incompatible wastes					
D-6j(5)(e) Reactive wastes					
D-6k Containerized wastes					
D-6l Special waste management plan for landfills containing wastes F020, F021, F022, F023, F026, and F027					
D-6i(1) Waste description					
D-6i(2) Soil description					
D-6i(3) Mobilizing properties					
D-6i(4) Additional management techniques					
D-7 Land treatment					
D-7a Treatment demonstration					
D-7a(1) Demonstration wastes					

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

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E. 4

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
GROUNDWATER MONITORING					
E-1 Exception from groundwater protection requirements	Y	Y	SEE SECTION E GENERAL COMMENT		
E-1a Waste piles					
E-1b Landfill					
E-1c No migration					
E-2 Interim status groundwater monitoring data					
E-2a Description of wells					
E-2b Description of sampling/analysis procedures					
E-2c Monitoring data					
E-2d Statistical procedures					
E-2e Groundwater assessment plan					
E-3 General hydrogeologic information					
E-4 Topographic map requirements					
E-5 Contaminant plume description					
E-6 General monitoring program requirements					
E-6a Description of wells					
E-6b Description of sampling analysis procedures					

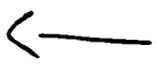
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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

D-8a(1) Elements of a monitoring program
D-8a(2) Air monitoring alternatives

Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
NA	NA	==	==	_____
↓	↓	==	==	_____

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
E-8 Compliance monitoring program					
E-8a Description of the monitoring program					
E-8a(1) Waste description					
E-8a(2) Characterization of contaminated groundwater					
E-8a(3) Hazardous constituents to be monitored in compliance program					
E-8a(4) Concentration limits					
E-8a(5) Alternate concentration limits					
E-8a(5)(i) Adverse effects on groundwater quality					
E-8a(5) Potential adverse effects (ii)					
E-8a(6) Engineering report describing groundwater monitoring system					
E-8a(7) Proposed sampling and statistical analysis procedures for groundwater data					
E-8a(8) Groundwater protection standard exceeded at compliance point monitoring well					
E-9 Corrective action program					
E-9a Characterization of contaminated groundwater					

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
E-6c					
E-6d					
E-6d(1)					
E-6d(2)					
E-6d(3)					
E-6d(4)					
E-6d(5)					
E-7					
E-7a					
E-7b					
E-7c					
E-7d					
E-7e					

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

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F. PROCEDURES TO PREVENT HAZARDS

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
F-1 Security					Sec. F. P. F-1 → F-4
F-1a Security procedures and equipment					" P. F-1 → F-4
F-1a(1) 24-hour surveillance system	Y	Y			" P. F-2
F-1a(2) Barrier and means to control entry	Y	Y			" P. F-2
F-1a(2)(a) Barrier	Y	Y			" P. F-2
F-1a(2)(b) Means to control entry	Y	Y			" P. F-3
F-1a(3) Warning signs	Y	Y			" P. F-3
F-1b Waiver	N/A	N/A			
F-1b(1) Injury to intruder	N/A	N/A			
F-1b(2) Violation caused by intruder	N/A	N/A			" P. F-5 → F-10
F-2 Inspection schedule					
F-2a General inspection requirements	N	N	4/4		" P. F-5
F-2a(1) Types of problems	Y	Y			" P. F-6
F-2a(2) Frequency of inspections	Y	Y			" P. F-6
F-2b Specific process inspection requirements					
F-2b(1) Container inspection	N	N	4/5		" P. F-7
F-2b(2) Tank system inspection					
F-2b(2)(a) Tank system external corrosion and releases	N/A	N/A			

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
E-9b Concentration limits	_____	_____	_____	_____	_____
E-9c Alternate concentration limits	_____	_____	_____	_____	_____
E-9c(1) Adverse effects on groundwater quality	_____	_____	_____	_____	_____
E-9c(2) Potential adverse effects	_____	_____	_____	_____	_____
E-9d Corrective action plan	_____	_____	_____	_____	_____
E-9d(1) Location	_____	_____	_____	_____	_____
E-9d(2) Construction detail	_____	_____	_____	_____	_____
E-9d(3) Plans for removing wastes	_____	_____	_____	_____	_____
E-9d(4) Treatment technologies	_____	_____	_____	_____	_____
E-9d(5) Effectiveness of correction program	_____	_____	_____	_____	_____
E-9d(6) Reinjection system	_____	_____	_____	_____	_____
E-9d(7) Additional hydrogeologic data	_____	_____	_____	_____	_____
E-9d(8) Operation and maintenance	_____	_____	_____	_____	_____
E-9d(9) Closure and post-closure plans	_____	_____	_____	_____	_____
E-9e Groundwater monitoring program	_____	_____	_____	_____	_____
E-9e(1) Description of monitoring system	_____	_____	_____	_____	_____
E-9e(2) Description of sampling and analysis procedures	_____	_____	_____	_____	_____
E-9e(3) Monitoring data and statistical analysis procedures	_____	_____	_____	_____	_____
E-9e(4) Reporting requirements	_____	_____	_____	_____	_____

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
F-2b(5)(b) Incinerator waste feed cut-off system and associated alarms	N/A	N/A			
F-2b(6) Landfill inspection					
F-2b(6)(a) Run-on and run-off control system					
F-2b(6)(b) Wind dispersal control system					
F-2b(6)(c) Leachate collection and removal system					
F-2b(7) Land treatment facility inspection					
F-2b(7)(a) Run-on and run-off control system					
F-2b(7)(b) Wind dispersal control system					
F-2b(8) Miscellaneous unit inspections					
F-3 Waiver of documentation of preparedness and prevention requirements	NA	NA			Sec. F p. F-11 → F-17
F-3a Equipment requirements					
F-3a(1) Internal communications	Y	Y			" p. F-11 + F-12
F-3a(2) External communications	Y	Y			" p. F-12 + F-13
F-3a(3) Emergency equipment	N/A	N/A	#/6		" p. F-13 → F-15
F-3a(4) Water for fire control	Y	Y			" p. F-15 + F-16
F-3b Aisle space requirement	Y	Y			" p. F-16 + F-17

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
F-2b(2)(b) Tank system construction materials and surrounding area	N/A	N/A			
F-2b(2)(c) Tank system overfilling control equipment					
F-2b(2)(d) Tank system monitoring and leak detection equipment					
F-2b(2)(e) Tank system cathodic protection					
F-2b(3) Waste pile inspection					
F-2b(3)(a) Run-on and run-off control system					
F-2b(3)(b) Wind dispersal system					
F-2b(3)(c) Leachate collection and removal system					
F-2b(4) Surface impoundment inspection					
F-2b(4)(a) Condition assessment					
F-2b(4)(a)(1) Overtopping control system					
F-2b(4)(a)(2) Impoundment contents					
F-2b(4)(b) Structural integrity					
F-2b(5) Inclinator inspection					
F-2b(5)(a) Inclinator and associated equipment					

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
F-5h Management of incompatible wastes placed in waste piles	NA	NA			
F-5i Management of ignitable or reactive wastes placed in surface impoundments					
F-5j Management of incompatible wastes placed in surface impoundments					
F-5k Management of ignitable or reactive wastes placed in landfills					
F-5l Management of incompatible wastes placed in landfills					
F-5m Management of ignitable or reactive wastes placed in land treatment units					
F-5n Management of incompatible wastes placed in land treatment units	Y	Y			

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
F-4					
F-4a	Y	Y			Sec. F-4 p. F-18 → F-21 VOL 5
F-4b	Y	Y			" p. F-18
F-4c	Y	Y			" p. F-19 + F-20
F-4d	Y	Y			" p. F-20
F-4e	Y	Y			" p. F-20 + F-21
F-5					
F-5a	Y	Y			" p. F-21
F-5b	Y	Y			Sec. F-5 p. F-22 → F-27
F-5c	N	N	#17		" p. F-22 → F-24
F-5d	Y	Y			" p. F-24
F-5e	Y	Y			" p. F-25
F-5f	N/A	N/A			" p. F-25 + F-26
F-5g	N/A	N/A			



COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

		Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
G-4(5)	Provision of secondary containment, repair or closure	N	N	#32		" P. G-27 + G-28
G-4k	Surface impoundments spills and leakage					" P. G-28 → G-30
G-4k(1)	Emergency repairs	N	N	#31		" P. G-28
G-4k(1)(a)	Stopping waste addition	N	N	#32		" P. G-29
G-4k(1)(b)	Containing leaks	N	N	#33		" P. G-29
G-4k(1)(c)	Stopping leaks	N	N	#34		" P. G-29
G-4k(1)(d)	Preventing catastrophic failure	N	N	#35		" P. G-29
G-4k(1)(e)	Emptying the impoundment	N	N	#36		" P. G-29
G-4k(2)	Certification	Y	Y			" P. G-30
G-4k(3)	Repairs as a result of sudden drop	N	N	#37		" P. G-30
G-4k(3)(a)	Existing portions of surface impoundment	N	N	#38		" P. G-30
G-4k(3)(b)	Other portions of surface impoundment	N	N	#39		" P. G-30
G-5	Emergency equipment	N	N	#40		Sec. G-5 p. G-81 → G-47
G-6	Coordination agreements	N	N	#41		" G-6 p. G-48
G-7	Evacuation plan	N	N	#42		" G-7 p. G-49 + G-50
G-8	Required reports	N	N	#43		" G-8 p. G-50 + G-51

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

G. CONTINGENCY PLAN		Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
G-1	General information	✓	✓	#18		Sec. G-1 p. G-1 → G-7
G-2	Emergency coordinators	✓	✓	#19		" G-2 p. G-8 → G-10
G-3	Implementation	✓	✓	#20		" G-3 p. G-11 + G-12
G-4	Emergency response procedures	✓	✓	#21		" G-4 p. G-13 → G-30
G-4a	Notification	✓	✓	#21		" p. G-13 → G-16
G-4b	Identification of hazardous materials	✓	✓	#22		" p. G-16 + G-17
G-4c	Assessment	✓	✓			" p. G-17 → G-20
G-4d	Control procedures	✓	✓			" p. G-20 → G-23
G-4e	Prevention of recurrence or spread of fires, explosions, or releases	✓	✓	#23		" p. G-24
G-4f	Storage and treatment of released material	✓	✓			" p. G-24
G-4g	Incompatible waste	✓	✓	#24		" p. G-24 + G-25
G-4h	Post-emergency equipment maintenance	✓	✓	#25		" p. G-25
G-4i	Container spills and leakage	✓	✓	#26		" p. G-25
G-4j	Tank spills and leakage	✓	✓			" p. G-26 → G-28
G-4j(1)	Stopping waste addition	✓	✓	#27		" p. G-26
G-4j(2)	Removing waste	✓	✓	#28		" p. G-26
G-4j(3)	Containment of visible releases	✓	✓			" p. G-26
G-4j(4)	Notifications; reports	✓	✓	#29		" p. G-27

VOL 6



COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

* FACILITY IS
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4453

1. CLOSURE PLANS, POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

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	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
I-1 Closure plans	Y	Y			Sec. I P.I-1 + I-63
I-1a Closure performance standard	Y	Y			Sec. I-1 P.I-1 → I-61
I-1b Partial closure and final closure activities	Y	Y			" P.I-3 → I-5
I-1c Maximum waste inventory	Y	Y			" P.I-5 + I-6
I-1d Schedule for closure	Y	Y			" P.I-6
I-1d(1) Time allowed for closure	Y	Y			" P.I-6 → I-8
I-1d(1)(a) Extension for closure time	Y	Y			" P.I-8
I-1e Closure procedures	N	N	H		" P.I-8 + I-9
I-1e(1) Inventory removal	Y	Y			" P.I-9
I-1e(2) Disposal or decontamination of equipment, structures and soils	N	N			" P.I-9 + I-10
I-1e(3) Closure of disposal units/contingent closures	NA	NA			" P.I-10 → I-16
I-1e(3)(a) Disposal impoundments					
I-1e(3)(a)(i) Elimination of liquids					
I-1e(3)(a)(ii) Waste stabilization					
I-1e(3)(b) Cover design					
I-1e(3)(c) Minimization of liquid migration					
I-1e(3)(d) Maintenance needs					
I-1e(3)(e) Drainage and erosion					



COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

H. PERSONNEL TRAINING

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
H-1	Outline of the training program	Y	Y	—	Sec. H-1 p. H-2 → H-11
H-1a	Job title/job description	Y	Y	—	" p. H-3 → H-5
H-1b	Training content, frequency, and techniques	Y	Y	—	" p. H-5 + H-6
H-1c	Training director	Y	Y	—	" p. H-7
H-1d	Relevance of training to job position	Y	Y	—	" p. H-7 → H-9
H-1e	Training for emergency response	Y	Y	—	" p. H-9 → H-11
H-2	Implementation of training program	Y	Y	—	Sec. H-2 p. H-12 + H-13

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
I-2g	NA	NA			
I-3	NA	NA			
I-3a	NA	NA			
I-3b	NA	NA			
I-3c	NA	NA			
I-3d	NA	NA			
I-4	Y	Y			Sec. I-4 p. I-62
I-5	Y	Y			Sec. I-5 p. I-62
I-5a	NA	NA			
I-5b	NA	NA			
I-5b(1)	NA	NA			
I-5b(2)	NA	NA			
I-5c	NA	NA			
I-5d	NA	NA			
I-5e	NA	NA			
I-5f	NA	NA			
I-5g	NA	NA			
I-6	NA	NA			Sec. I-6 p. I-63

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
I-1e(3)(f) Settlement and subsidence	NA	NA			
I-1e(3)(g) Cover permeability	Y	Y			
I-1e(3)(h) Freeze/thaw effects	Y	Y			
I-1e(4) Closure of containers	Y	Y			Sec. I-1, p. I-16 → I-60
I-1e(5) Closure of tanks	NA	NA			
I-1e(6) Closure of waste piles	Y	Y			
I-1e(7) Closure of surface impoundments	Y	Y			
I-1e(8) Closure of incinerators	Y	Y			
I-1e(9) Closure of landfills	Y	Y			
I-1e(10) Closure of land treatment facilities	Y	Y			
I-1e(10)(a) Continuance of treatment	Y	Y			
I-1e(10)(b) Vegetative cover	Y	Y			
I-1e(11) Closure of miscellaneous units	Y	Y			
I-2 Post-closure plan/contingent post-closure	NA	NA			Sec. I-2, p. I-62
I-2a Inspection plan	Y	Y			
I-2b Monitoring plan	Y	Y			
I-2c Maintenance plan	Y	Y			
I-2d Land treatment	Y	Y			
I-2e Miscellaneous units	Y	Y			
I-2f Post-closure security	Y	Y			

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COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
I-8a(3) Use of multiple insurance mechanisms	NA	NA			
I-8b Coverage for nonsudden accidental occurrences					
I-8b(1) Endorsement or certification					
I-8b(2) Financial test or corporate guarantee for liability coverage					
I-8b(3) Use of multiple insurance mechanisms					
I-8c Request for variance					
I-9 State mechanisms	Y	Y			Sec. I-9 p. I-63
I-9a Use of state-required mechanism	NA	NA			
I-9b State assumption of responsibility	NA	NA			



COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
I-7	NA	NA			Sec. I-7 p. I-63
I-7a					
I-7b					
I-7b(1)					
I-7b(2)					
I-7c					
I-7d					
I-7e					
I-7f					
I-7g					
I-8	Y	Y			Sec. I-8 p. I-63
I-8a					
I-8a(1)	NA	NA			
I-8a(2)	Y	Y			

VOL 8



RECEIVED AUG 10 1992

COMPLETENESS/TECHNICAL EVALUATION CHECKLIST

J. CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

	Complete (Y/N)	Technically Adequate (Y/N)	See Attached Comment	See Attached Exhibit	Location of Information
J-1 Solid waste management units	NR	NR			VOL 9-71
J-1a Characterize the solid waste management unit					
J-1b No solid waste management units					
J-2 Releases					
J-2a Characterize releases					
J-2b No releases					
K. OTHER FEDERAL LAWS					Sec. K p. K-1 + K-2 VOL 13
L. PART B CERTIFICATION					Sec. L VOL 13

ATTACHMENT 3

PART B REVIEW COMMENTS
U.S. DOE-FEMP
OH 6890008976

- 4455 7

COMPLETENESS COMMENTS

A. PART A APPLICATION CHECKLIST

1. A Part A Application:
OAC 3745-50-43(A)(3); 3745-50-43(A)(5):

- a. The Part A Application has not been signed by the owner and/or facility operator. Submit a signed copy of page 7 of EPA Form 8700-23.

RESPONSE: Certifications were completed for the October 1991 Part A Permit Application, but evidently were not included in the review copy. The Part A Permit Application Certification for this revision has also been signed by both co-operators (DOE-FN and FERMC0) and is enclosed.

- b. Provide a photograph of the CP Storage Warehouse (Bldg. 56). This photograph was missing from the set of HWMU photographs included with the Part A Application.

RESPONSE: A photograph of the CP Storage Warehouse was included with the October 31, 1991 submittal to OEPA; however, it was not clearly evident. The CP Storage Warehouse and the Plant 1 Pad both appeared on the same photograph. The CP Storage Warehouse was identified and labeled in the lower left-hand corner. Since the photograph was focused more on the Plant 1 Pad, a separate photograph of the CP Storage Warehouse is submitted with this revision.

- c. The reproduced copies of Item XVI of the Part A Application are not legible. Provide legible copies of this section.

RESPONSE: Legible copies of Item XVI of the Part A Permit Application are enclosed.

B. FACILITY DESCRIPTION CHECKLIST

1. General Comments:

a. The permit application requires clarification with respect to the issue of on-site vs. off-site facility operations. Statements within section B-1 of the application do not accurately describe the scope of future hazardous waste activity at the facility. Examples are:

- "The FEMP is seeking a permit for on-site container storage units. The units are to be used for the storage of hazardous waste generated when the facility was in production and for the storage of currently generated hazardous waste."
- "Hazardous waste generated by other DOE programs has been and may be received and stored at the FEMP."
- "...the FEMP's primary function officially changed from uranium metal production to environmental restoration and site clean-up activities."

The application is quite vague concerning specific information on the subject of waste acceptance from other DOE programs. In addition, during recent DOE/OEPA meetings, DOE representatives have verbally indicated that the FEMP facility would not be accepting future DOE waste shipments for storage. Given the present lack of sufficient mixed waste treatment capacity, and in light of site contamination concerns and CERCLA activity, this decision is critical to the hazardous waste permitting process. It is advisable that DOE respond directly to this issue.

RESPONSE: As stated in the transmittal letter and section B-1, the FEMP has taken the position that only offsite wastes with a radionuclide content that originated at the FEMP will be accepted from offsite. Any variation from this position will be in accordance with the Consent Decree and its Stipulated Amendment.

b. U.S. DOE-FEMP has applied for a permit to store hazardous waste, and the application addresses these (active) RCRA storage units. There are several additional land based units (in wastewater treatment) which the facility has identified as HWMUs, but is not seeking to permit. These units are necessary for facility operations and will remain active throughout portions of the CERCLA process. The facility is investigating the applicability of the wastewater treatment exemption with regard to these units. The RCRA status of these units is yet to be determined.

RESPONSE: The status of these units are still being discussed with OEPA.

2. B-1 General Description:
OAC 3745-50-44(A)(1);

- a. The Consent Decree between U.S. DOE-FEMP and OEPA is referenced throughout the application. Include a summary of the Consent Decree as it applies to storage of hazardous waste at the facility.

RESPONSE: A brief summary of the Consent Decree and its Stipulated Amendment as it applies to the storage of hazardous waste at the FEMP has been included in section B-1.

- b. This section states that hazardous waste from other DOE programs, (or from "off-site") may be received and stored at the FEMP. Expand information on this subject to include off-site waste types and the amount of waste anticipated on an annual basis. (Please note Section B general comment).

RESPONSE: Only waste with a radionuclide content that originated at the FEMP will be accepted from offsite. See response to comment 1a.

- c. Describe in general terms, the operational processes and waste streams which generated hazardous waste now in storage at the FEMP.

RESPONSE: A brief general description of the process and operations generating hazardous waste is included in section B-1.

3. B-4 Traffic Information:
OAC 3745-50-44(10);

Identify on Figure B-8, the primary and secondary access points referred to on page B-10. Also identify the location of the third, currently unused, entrance point.

RESPONSE: Figure B-8 has been revised to include the referenced access points.

C. WASTE CHARACTERISTICS CHECKLIST

General Comments:

- a. This section is very general and could benefit from improved organization. The text does not provide a clear description of the procedures to be used to meet the required (and stated) objectives of the waste analysis plan.

RESPONSE: This section was rewritten to provide a clearer description of the characterization process. This section does not follow the format of the EPA checklist typically used to review Part

B Permit Applications because the checklist format made it difficult to explain the characterization process in an understandable manner.

4. C-1 Chemical and physical analyses:
OAC 3745-50-44(A)(2); 3745-54-13(A);

- a. The text infers that the Waste Determination Plan is the primary facility guidance document for the waste characterization process. This document should be included as an attachment to the permit application.

RESPONSE: The Waste Determination Plan has been included as Attachment C-1 with this revision.

- b. The last paragraph of section C-1 states that "Table C-1 identifies the hazardous wastes stored at the FEMP...Table C-2 summarizes the results of the hazardous waste determinations that have been completed at the FEMP based on analytical data or process knowledge." It is not clear how these two tables relate to each other. Table C-1 contains an alphabetical listing of wastes (under the heading of "Waste Name") which have been identified as hazardous. This list does not correspond with the listing of apparent waste streams (under the heading "Waste Description") identified in Table C-2. Please provide additional information to clarify the relationship between these two tables.

RESPONSE: The tables were changed to provide a clearer description of the characterization process. Table C-1 was retitled Table C-4. Table C-2 was replaced with a new categorical listing of wastestreams. Detailed analytical information was removed from this revision due to the large volume of information. This information is available onsite at the FEMP. Table C-5 provides examples of analytical results, Material Evaluation Forms and material safety data sheets.

- c. Table C-2 associates "Sample Plans" with "Waste Descriptions", and begins with Sample Plan #19. Various numerical Sample Plans are associated with specific Waste Descriptions. Please explain the waste determination process in terms of the information presented in Table C-2, in greater detail.

RESPONSE: Table C-2 was replaced with a new categorical listing of wastestreams. Detailed analytical information was removed from this revision due to the large volume of information. This information is available onsite at the FEMP.

- d. Table C-1 or C-2 should show what analysis was conducted for each waste/waste stream in order to make a hazardous determination.

RESPONSE: This information is now contained in Table C-3. Table C-4 defines the analytical basis for each of the completed

determinations.

- e. Within Table C-1, indicate those waste streams that are routinely generated by the facility (as opposed to wastes stored as a result of production activities and CERCLA remediation).

RESPONSE: Routinely generated wastestreams are identified on Table C-4 with an asterisk.

- f. As part of the permit application, include Consent Decree waste determination compliance schedules.

RESPONSE: The Consent Decree waste determination compliance schedules are included with this revision in Attachment C-3.

C-2 Waste Analysis Plan:

5. C-2b Test methods:
OAC 3745-54-13(B)(2);

Within Section C-2b, describe what audit methods DOE-FEMP will employ to provide assurance that off-site laboratory QA/QC goals, as established in SW-846, are being met.

RESPONSE: As indicated in Section C-2.4, analyses performed by off-site laboratories must be in compliance with the applicable provisions of the latest edition of the Sitewide CERCLA Quality Assurance Project Plan (SCQ; currently September 22, 1992). As described in the SCQ, audits shall consist of an evaluation of the QA program and procedures, effectiveness of their implementation, and review of associated project documentation. Surveillances shall be scheduled, planned, and documented. Contracted laboratories shall be audited annually, at a minimum, by the designated FEMP QA organization and will only perform services for the FEMP in the areas audited at the facility. Before a laboratory handles samples from the FEMP, audit team documentation is required specifying that performance in areas related to analysis of FEMP samples is within pre-established specifications.

6. C-2c Sampling methods:
OAC 3745-54-13(B)(3);

Briefly describe the actual chain-of-custody procedure employed by DOE-FEMP, as outlined on page C-17, and include a sample chain-of-custody form.

RESPONSE: As described in Section C-2.4, the FEMP maintains a strict chain-of-custody procedure for all samples collected for RCRA determinations. A chain-of-custody tape or other tamper guard seal

is affixed to the shipping container in order to indicate potential container tampering. An example Chain-of-custody form is also provided as Figure C-7.

D. PROCESS INFORMATION CHECKLIST

General Comments:

- a. The organizational format of this section is confusing. Rather than document the required information in Part B application format, for each storage area, it might be clearer to provide information on all the storage units, under a common Part B format heading. This decision is left to the discretion of the U.S. DOE-FEMP.

RESPONSE: The organizational format of Section D has been revised to include information on all storage units under a common Part B format.

- b. Information for each container storage area begins with a "general description" which includes the maximum storage capacity in gallons and 55-gallon drum equivalents. Include information which will indicate the current quantity of waste in each container storage area. This can be estimated and expressed as a percentage of the maximum capacity. If projections are available as to when maximum capacity will be attained, include this information as well.

RESPONSE: Information indicating the current quantity of waste in each container storage area expressed as a percentage of the maximum capacity has been included in Table D-1. The RCRA inventory numbers used for the percentage calculation were current as of March 15, 1993.

- c. Correct the ambiguity existing between the statement in section D-1a of the permit application which states that "Containers with free liquids may be stored in the Plant 1 Pad structures which will be constructed with secondary containment systems. The remaining portion of the Plant 1 Pad will be used for storage of containers without free liquids."; and the statement in section D-1b of the permit application which states that "The Plant 1 Pad will be used primarily for storage of containers without free liquids after completion of the upgrade activities."

RESPONSE: Plant 1 Pad will store containers with and without free liquids. Tension support structures can store containers with and without free liquids. Other areas can store containers without free liquids. This is described further in sections D-1a(3), D-1a(3)(c) and D-1b(3).

D-1 Containers:

D-1a Containers with free liquids:

7. D-1a(1) Description of containers:
OAC 3745-55-71; 3745-55-72;

- a. Provide a description of the DOE specifications for containers referenced for the Plant 1 Pad, KC-2 Warehouse, Plant 9 Warehouse, and Plant 6 Warehouse. In addition, explain the reference to "DOT equivalent" containers, and provide specifications.

RESPONSE: Further information is provided in section D-1a(1) and Table D-2.

- b. Indicate construction materials used for containers (eg. whether steel, plastic, etc.) and whether new, used, or reconditioned. Also provide information on container liners used in standard operating procedures for containerizing waste.

RESPONSE: Further information is provided in section D-1a(1).

8. D-1a(2) Container Management Practices:
OAC 3745-55-73;

- a. Elaborate on the information provided relating to container transport. Describe the "various equipment used to transport containers throughout the facility." The application states that "containers moved by truck or trailer are loaded and unloaded by forklift." Is this the only routine method of transport? What other methods are employed for this operation?

RESPONSE: Information relating to container transport and the various equipment used has been incorporated into the text at Section D-1a(2).

- b. This section indicates that containers are inspected prior to transport, and are then "transported to the storage unit once safe conditions for movement are verified." What control measures ensure that the pre-transport inspection/safe condition verification procedures are consistently maintained?

RESPONSE: Information regarding the control measures to ensure that the pre-transport verification procedures are maintained at the facility are included under Section D-1a(2). Figures D-2 and D-3 are included to provide copies of the checklists used for pre-transport and pre-inspection.

- c. Indicate the aisle space maintained (in accordance with the Consent Decree and its proposed amendments) on the Plant 1 Pad.

RESPONSE: Aisle spacing requirements per the Consent Decree and its Stipulated Amendment has been indicated in the text under Section D-1a(2).

- d. Specify the container stacking height maintained at each storage unit.

RESPONSE: The container stacking height for each RCRA unit is specified in Table D-1.

9. D-1a(3)(a) Requirement for the base or liner to contain liquids:
OAC 3745-55-75(B)(1);

- a. Elaborate on those procedures utilized to detect and repair cracks or gaps in the base. Identify inspection frequency and criteria utilized to determine if a repair is necessary.

RESPONSE: Additional information is provided in section D-1a(3)(a).

- b. This section states that the container storage unit bases are scheduled for re-coating. Identify the time-frame when base re-coating is to be accomplished. In addition, for each storage unit demonstrate that current base coatings are compatible with the waste.

RESPONSE: Re-coating was accomplished and dates completed indicated in section D-1a(3)(a). Additional specification information for applicable coatings were added in Attachment D-1.

10. D-1a(3)(c) Containment System Capacity:
OAC 3745-50-44(C)(1)(a)(iii); OAC 3745-55-75(B)(3);

Demonstrate that the referenced secondary containment capacities reflect volumes displaced by containers, pallets, and other structures in the containment system. (Attachment D-2 indicates that the total displacement per pallet is 3 cubic feet, however, it is not clear that the containment capacities account for displacement).

RESPONSE: Displacement is reflected in the calculations included in Attachment D-2.

D-1b Containers Without Free Liquids:

11. D-1b(1) Test for Free Liquids:
OAC 3745-50-44(C)(1)(b)(1);

Stipulate that wastes stored in these container storage units do not contain free liquids, and identify the test procedure or other documentation or information to show that wastes placed in these storage areas do not contain free liquids.

RESPONSE: Additional information is provided in section D-16.

12. D-1b(2) Description of Containers:
OAC 3745-55-71; 3745-55-72;

- a. Same as Comment #8 a., for the additional storage units.

RESPONSE: Information relating to container transport and the various equipment used has been incorporated into the text at section D-1a.

- b. Same as Comment #8 b., for the additional storage units.

RESPONSE: Information regarding the control measures to ensure that the pre-transport verification procedures are maintained at the facility are included under section D-1a(2). Figures D-2 and D-3 are included to provide copies of the checklists used for pre-transport and pre-inspection.

13. D-1b(3) Container Management Practices:
OAC 3745-55-73;

- a. Same as Comment #9 a.

RESPONSE: Additional information is provided in section D-1a(3)(a).

- b. Same as Comment #9 b.

RESPONSE: Re-coating was accomplished and dates completed indicated in section D-1a(3)(a). Additional specification information for applicable coatings were added in Attachment D-1.

E. GROUNDWATER MONITORING

General Comments:

As the permit application indicates, the facility groundwater monitoring plan for land based units has been submitted in accordance with the Consent Decree and its proposed amendments.

Once this plan becomes finalized, it will become an element of the Part B permit application.

F. PROCEDURES TO PREVENT HAZARDS CHECKLIST

General Comments:

14. F-2a General Inspection Requirements:
OAC 3745-50-44(A)(5); 3745-54-15; 3745-54-33;

This section refers to Attachments F-2 and F-3 for examples of Inspection Log Forms currently in use. Attachment F-3 (Inspection Logs) lists six container storage areas. The seventh container storage area (CP Storage Warehouse) is missing from the list. Additionally, Attachment F-3 does not contain examples of inspection logs for the CP Storage Warehouse. Please make the appropriate additions to Attachment F-3 to correct this oversight.

RESPONSE: CP Storage Warehouse (Building 56) has been added to the list of container storage areas in Attachment F-2 (which has been combined with Attachment F-3) and the inspection log for this building has been included in the attachment.

5. F-2b(1) Container Inspection:
OAC 3745-50-44(A)(5); 3745-54-15(B)(4); 3745-55-74;

Paragraph two in this section refers to Attachment F-3 for examples of Area Inspection Logs (for RCRA storage areas). Please clarify whether the "Area Inspection Log" is the same as the "Inspection Log Form" mentioned in section F-2a, which also references Attachment F-3. If the logs are the same, please identify them with the same name in the text; if they are not, include an example of the Area Inspection Log in Attachment F-3.

RESPONSE: "Area Inspection Logs" and "Inspection Log Forms" are the same form and the text has been revised to consistently reference the forms in Attachment F-2 (which has been combined with Attachment F-3) as "Inspection Forms".

16. F-3a(3) Emergency Equipment:
OAC 3745-50-44(A); 3745-54-32(C);

Information under "Fire Control Equipment", (p. F-14) states that "buildings storing ignitable hazardous waste are protected with a sprinkler system..." Please clarify this statement to indicate if all of the container storage buildings storing ignitable waste are equipped with sprinkler systems. If the covered structures on the Plant 1 Pad are designated for storage of ignitable waste, indicate if they are equipped with sprinkler systems.

RESPONSE: Text has been revised to indicate that all of the container storage buildings storing ignitable wastes are equipped with sprinkler systems and that only the KC-2 Warehouse - Building 63 and CP Storage Warehouse - Building 56 are used to store ignitable wastes.

17. F-5b General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste:
OAC 3745-50-44(A)(9); 3745-54-17(B);

This section of the permit application indicates that some containers are equipped with pressure relief devices. Expand the discussion of this subject to include information on criteria for selecting containers or waste types for the device and the scope of the installation program.

RESPONSE: This section has been expanded to include additional information on the FEMP's drum venting program. The 3/4 inch filter vent plugs are installed to provide ventilation to drums of wastes containing free reactive uranium metals that have the potential to generate hydrogen gas. Approximately 3% of the FEMP's current inventory of RCRA drums are equipped with vent plugs.

6. CONTINGENCY PLAN CHECKLIST

General Comments:

- a. In accordance with regulations governing the hazardous waste permit process, a facility must demonstrate the development of adequate procedural controls designed to protect the environment and the public health in the event of a release of hazardous waste. Operational controls developed as "Procedures to Prevent Hazards" are designed to detect and prevent expected threats resulting from hazardous waste activity. The contingency plan however, must be a management system designed to respond to unexpected and catastrophic events which could impact facility operations.

It is recognized that U.S. DOE-FEMP operates management safety systems designed for such events, however, the contingency plan should better reflect the framework of planning necessary to effectively prepare for emergencies of this scale. In response to information required under section G-4i, ("Container Spills and Leakage; page G-25 of the permit application) U.S. DOE-FEMP states that "Very large spills involving hazardous waste are unlikely. If an "unlikely" event does occur, and results in a large magnitude spill, how will the facility respond? Section G-4g of the application, ("Incompatible Wastes"; page G-24) indicates that containers markings and storage inventory records are control measures designed to prevent incompatibility problems in emergency-affected areas. If container markings are obliterated, and record systems unavailable, how will the facility respond?

It is suggested that the facility review, and where appropriate, revise information in this section in order to document a larger view of emergency preparedness.

RESPONSE: As indicated in Section G-4i, containment structures in areas storing containers of hazardous wastes with free liquids are capable of holding at least 10% of the maximum volume of waste stored in that area. In the event of a large spill, the spilled material will be pumped from the containment area and re-containerized to prevent overflow of the containment area before attempting to use absorbent materials. Spilled hazardous waste will be treated, stored, and disposed of in accordance with the appropriate regulatory requirements. Reactivity Group Codes (RGC) signs are posted in each storage area or bay and may be used to identify the types of waste stored in that area if container markings are obliterated and record systems are unavailable. In addition, facility owners can be contacted to identify released material and samples of the spilled material can be taken, if necessary. Further detail on management of large volume spills has been added to Sections G-4g and G-4i.

- b. This section is formatted to provide some information on units outside the scope of the stated permit application, (eg. tanks, surface impoundments; Sections G-4j, G-4k). Elsewhere in the application U.S. DOE has indicated that information on these units is non-applicable, (i.e., the facility is not seeking to permit the units). Please explain the reasons to include information on these units within the contingency plan.

RESPONSE: An explanation is provided in the introduction to Section G stating that this plan applies to all areas of the facility where hazardous waste is being handled or stored. Therefore, in addition to the seven storage units the FEMP is seeking to permit, all hazardous waste management units are discussed in this plan.

18. G-1 General Information:
OAC 3745-50-44(A)(7); 3745-54-52;

The contingency plan does not provide a sufficient description of facility operations. Expand the narrative with a brief description of the types of hazardous wastes that were generated at U.S. DOE-FEMP and the method of generation. Provide an overview of waste storage operations, to include locations, approximate quantities, and a general description of the character of the waste in regard to potential hazards associated with a specific storage unit.

RESPONSE: Section G-1, General Information, has been expanded to include information on the types of hazardous wastes that were generated at the FEMP and their method of generation. Information on locations, quantities and types of hazardous wastes stored in each storage unit

are also provided in this section.

19. G-2 Emergency Coordinators:
OAC 3745-50-44(A)(7); 3745-54-52(D); 3745-54-55;

- a. Table G-1 includes a list of the primary and alternate emergency coordinators, however it does not indicate the order in which the alternates would assume responsibility if the primary coordinator were not available. Please list the alternates in the order in which they will assume responsibility.

RESPONSE: At the FEMP, the primary emergency coordinator is the Assistant Emergency Duty Officer (AEDO), a role assigned to the Utility Engineer on shift. The Emergency Chief is the Safety and Fire Inspector on shift. At least one AEDO and one Emergency Chief are on site at all times. Section G-2 has been revised to indicate that if the shift AEDO is unavailable for duty, the Emergency Chief will act as the AEDO until an alternate AEDO can be summoned.

- b. Section G-2 of the contingency plan lists duties and responsibilities of members of the emergency staff. These descriptions do not describe the qualifications for all individuals who will act in these positions. The qualifications presented must demonstrate that all individuals who assume the role of Emergency Coordinator (AEDO), Emergency Duty Officer or Emergency Chief, have the knowledge and experience to respond to all emergencies which may occur at the facility.

RESPONSE: Figure G-3.1, as referenced in Section G-2, has been added describing the qualifications for Emergency Coordinator (AEDO), Emergency Duty Officer, and Emergency Chief.

20. G-3 Implementation:
OAC 3745-54-52(A); 3745-54-56(D); 3745-50-44(A)(7);

- a. Figure G-4 summarizes the contingency plan implementation and notification action. Please provide further clarification of this flow diagram in the text. The flow chart states that the Emergency Coordinator categorizes the event as Alert, Site Area Emergency or, General Emergency associated with hazardous waste; however, Figure G-5 (Event Categorization/Notification Guide) lists these other event categories; Loggable, Off-Normal and, Unusual Occurrence.

RESPONSE: As described in Section G-3, Loggable Event, Off-Normal Occurrence, Unusual Occurrence, and Emergency, as listed in increasing order of severity, are general categories of events. The AEDO assigns a level based on the criteria listed in the Event Categorization Level Guide

(Figure G-5.1). Categorization of an event as an Emergency implements the Contingency Plan. Alert (least severe), Site Area Emergency and General Emergency (most severe) are the three levels of Emergency. The criteria for assigning these levels are contained in the Emergency Action Level Guide which is included as Figure G-5.2. These levels are used to define the magnitude of response to a hazardous waste emergency.

- b. Figure G-5 is labeled Event Categorization/Notification Guide. The Section G Table of Contents and the text refer to Figure G-5 as the Emergency Action Level Guide. Please make the appropriate change to remain consistent.

RESPONSE: The Table of Contents and the text in Section G-3 have been revised to indicate that Figure G-5.1 is the "Event Categorization Level Guide" and Figure G-5.2 is the "Emergency Action Level Guide".

- c. Figure G-5 summarizes the implementation requirements and response action required for varying levels of site emergencies. Within the narrative, provide an explanation of how event boundaries or parameters are established. For example:

- i) "Chemical/Radiological releases with significant on-site impact." What criteria will be used to determine significant impact?

RESPONSE: An updated version of Figure G-5 (now defined as Figures G-5.1 and G-5.2) has been added. This version establishes numerical values for defining chemical/radiological releases with significant on-site impact.

- ii) "Spill/release of hazardous waste that threatens human health or the environment." What criteria will be used to determine that a threat exists?

RESPONSE: Figures G-5.1 and G-5.2 now include numerical values to assist the AEDO in categorizing an event and in determining the proper level of response.

- d. The contingency plan does not clearly state how and when the plan will be implemented. As an example, the first paragraph on page 4 of Attachment G-1 states, "Even events that involve response by the Emergency Response Team may, if the Emergency Coordinator (AEDO) so determines, not require implementation of this Contingency Plan." Please provide the specific criteria that will be used to determine whether or not the Contingency Plan will be implemented in response to an explosion, fire, or hazardous waste spill.

RESPONSE: Section G-3 has been revised to indicate that the categorization of a hazardous waste incident as an Emergency activates the Emergency Operations Center (EOC), thereby implementing the RCRA Contingency Plan.

21. G-4a Notification:
OAC 3745-54-56(A); 3745-50-44(A)(7);

Page G-14 provides a list of agencies/individuals that would be notified in the event of an emergency, but fails to specify what the appropriate local organizations are, or which Federal and State regulatory agencies will be notified. Please include in the contingency plan a list of the appropriate local organizations, and the Federal and State regulatory agencies who would be notified.

RESPONSE: Item #8 under section G-4a "General Notification Activities", has been revised to indicate the lead role of the Ohio Emergency Management Agency (OEMA) in contacting offsite emergency organizations. A similar reference has been incorporated into the list of emergency operation organizations provided in Table G-1.

22. G-4d Control Procedures:
OAC 3745-54-52(A); 3745-50-44(A)(7);

The plan does not specify the type of Emergency Equipment that will be used in response to an explosion, fire, or spills/material release. Include in this section, a list of emergency equipment that will be used, including personal protective equipment.

RESPONSE: Section G-4(d) has been revised to reference the lists of emergency equipment types used in responding to a hazardous waste emergency in Section G-5 - personnel protective clothing, pumps, generators and respiratory equipment, Section G-5(b) - Containment supplies and procedures, and Section G-5(a)(4) - heavy equipment.

23. G-4e Prevention of Recurrence or Spread of Fires, Explosions, or Releases:
OAC 3745-50-44(A)(7); 3745-54-56(E);

The plan does not state that processes and operations will be stopped, where applicable, to prevent the recurrence or spread of fires, explosions, or releases. Include in the contingency plan provision for ceasing processes and operations, where applicable.

RESPONSE: Section G-4e has been revised to indicate that processes and operations will be stopped, where applicable, to prevent the recurrence or spread of fires, explosions,

or releases.

24. G-4g Incompatible Waste:
OAC 3745-50-44(A)(7); 3745-54-56(H)(1);

- a. The plan does not specify how the AEDO will ensure that material that is incompatible with the released material will not be introduced into the affected area. Please provide details specifying procedures and/or equipment that will ensure that no mixing of incompatible materials will occur.

RESPONSE: Section 6-4g has been expanded to include additional detail on procedures and equipment for preventing the mixing of incompatible materials. Containers and storage bays are marked with Reactivity Group Codes (RGCs) based upon the results of Waste Characterization. The RGC chart is readily available in all RCRA storage units. Adherence to the codes provides a convenient, reliable system to assure that incompatible wastes will be stored in separately bermed areas or in separate buildings, to prevent mixing in the event of a spill or leak. This section also discusses the diversion of firewater and other emergency measures such as the establishment of temporary diking, to prevent the mixing of incompatible materials.

- b. The contingency plan refers to Reactivity Group Codes in this section. Expand the narrative briefly to emphasize the significance of the codes, and indicate where additional information on the subject is located within the permit application.

RESPONSE: Section 6-4g has been revised as follows: "Containers and storage bays are marked with Reactivity Group Codes (RGCs) based upon the results of waste characterizations. The RGC chart is readily available in all RCRA storage units and is provided as Figure F-2 in Section F, Procedures to Prevent Hazards. Adherence to the codes provides a convenient, reliable system to assure that incompatible wastes will be stored in separately bermed areas or in separate buildings, to prevent mixing in the event of a spill or leak."

25. G-4h Post-Emergency Equipment Maintenance:
OAC 3745-50-44(A)(7); 3745-54-56(H)(2);

Within the narrative, indicate that decontamination procedures will apply to any contaminated equipment.

RESPONSE: Section 6-4h has been revised to indicate that emergency equipment which has been used will be decontaminated, as necessary.

26. G-4i Container Spills and Leakage:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-71;

The section does not adequately address the subject of container spills and leakage, (See Section G general comments). Expand this section to describe contingent plans to be implemented in the event of a large spill.

RESPONSE: As indicated in Section G-4i, containment structures in areas storing containers of hazardous wastes with free liquids are capable of holding at least 10% of the maximum volume of waste stored in that area. In the event of a large spill, the spilled material will be pumped from the containment area and re-containerized to prevent overflow of the containment area before attempting to use absorbent materials. Spilled hazardous waste will be treated, stored, and disposed of in accordance with the appropriate regulatory requirements. Reactivity Group Code (RGC) signs are posted in each storage area or bay and may be used to identify the types of waste stored in that area if container markings are obliterated and record systems are unavailable. In addition, facility owners can be contacted to identify released material and samples of the spilled material can be taken, if necessary. Further detail on management of large volume spills has been added to Sections G-4g and G-4i.

G-4j Tank Spills and Leakage

27. G-4j(1) Stopping Waste Addition:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-96(A);

The permit does not clearly state that the flow of hazardous waste into the tank system must be stopped immediately. Revise this section to indicate that hazardous waste flow into tanks or secondary containment systems will be stopped once a leak or spill is detected in a tank system.

RESPONSE: Section G-4j(1) has been revised to state that the addition of hazardous waste into a tank or secondary containment system will be stopped immediately as soon as a leak or spill is detected in that system.

28. G-4j(2) Removing Waste:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-96(B);

The contingency plan does not explain what "tank area" refers to. Please specify in this section that wastes will be removed from the tank or secondary containment system, as necessary.

RESPONSE: The words "Tank area" have been changed in Section G-

4j(2) to reference "tank systems".

29. G-4j(4) Notifications, Reports:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-96(D);

Revise the language to specify that any release to the environment (except a leak or spill that is less than or equal to one pound and immediately contained and cleaned up) will be reported to the Director within 24 hours of its detection.

RESPONSE: Section G-4j(4) has been revised to state that any release (except a leak or spill that is less than or equal to one pound and is immediately contained or cleaned up) will be reported to the Regional Administrator within 24 hours of detection.

30. G-4j(5) Provision of Secondary Containment, Repair or Closure:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-55-96(E);

- a. The fourth paragraph of this section (p. G-27) is confusing. Please reword to indicate that if the source of the release is a leak from a tank without secondary containment, secondary containment will be provided, unless the component from which the leak occurred is on an aboveground portion of the tank that can be visually inspected.

RESPONSE: Paragraph 4 of Section G-4j(5) has been revised as indicated.

- b. The last paragraph of this section refers to 40 CFR 264.192 and 264.196. Please add the Ohio Administrative Codes that correspond (OAC 3745-55-92 and OAC 3745-55-93) with the Federal Regulations.

RESPONSE: References to OAC 3745-55-92 and OAC 3745-55-93 have been added to this section.

G-4k Surface Impoundment Spills and Leakage:

G-4k(1) Emergency Repairs:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27

31. This section (and its sub-sections) does not address the contingent procedures for removing a surface impoundment from service in the event of an apparent emergency affecting the integrity of the impoundment. Revise as appropriate. Describe the procedures used for removing a surface impoundment from service to address G-4k(1)(a) through G-4k(1)(e).

RESPONSE: More detail has been provided in the subsections to Section G-4k(1) for handling emergency situations at FEMP surface impoundments. Specific procedures for

stopping the addition of wastes, containing leaks, stopping leaks, preventing catastrophic failure, and emptying the impoundment have been added to these subsections.

32. G-4k(1)(a) Stopping Waste Addition:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(1);

The meaning of the sentence in this section is not completely clear. Revise to describe procedures to stop waste addition in the event of an emergency repair.

RESPONSE: Section G-4k(1)(a) has been revised to include the following information on stopping waste addition: "In the event of impoundment liner-leakage or wall deterioration, activities which generate wastes to that impoundment will be stopped or those wastes will be diverted to another holding facility."

33. G-4k(1)(b) Containing Leaks:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(2);

The meaning of the sentence in this section is not completely clear, and does not adequately describe the procedures to contain leakage. Revise and expand in order to describe procedures to contain leaks as the result of an emergency repair.

RESPONSE: The following text has been added to Section G-4k(1)(b): to address containment of leaks: "Large leaks, from surface impoundments or from overrunning berms surrounding large tank systems, can be pumped to intact surface impoundments or portable tanks, respectively, or through the stormwater drains, directly to the general sump or biosurge lagoon. In extreme cases, including during periods of heavy rainfall, the spill can flow into the stormwater drains and be routed to the dual stormwater retention basins (capacity of greater than 10 million gallons), where further appropriate action can be taken."

34. G-4k(1)(c) Stopping Leaks:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(3);

The sentence in this section is not sufficient to adequately describe contingent procedures for stopping leaks in the event of emergency repairs. Revise as appropriate.

RESPONSE: The following information on procedures for stopping leaks has been added to Section G-4k(1)(c): "Appropriate earth-moving equipment and/or construction materials will be used to repair leaks from impoundments; in many

cases, the wastes within the impoundment will be reduced to a level below the failure point, prior to the repair. All repairs of a permanent nature will be certified by a professional engineer as meeting the appropriate design specifications."

35. G-4k(1)(d) Preventing Catastrophic Failure:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(4);

The sentence in this section is not sufficient to adequately describe contingent procedures for preventing catastrophic failure of an impoundment as a result of an emergency. Revise as appropriate.

RESPONSE: The following text has been added to Section G-4k(1)(d) to address the prevention of catastrophic failure to impoundments: "The performance of periodic inspections, followed by appropriate maintenance or repair are the control methods used to prevent the possibility of catastrophic failure of the hazardous waste surface impoundment. All repairs of a permanent nature will be certified by a professional engineer as meeting the appropriate design specifications."

36. G-4k(1)(e) Emptying the Impoundment:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(B)(5);

This section of the contingency plan should discuss the procedures for emptying the surface impoundment during an emergency when a leak cannot be stopped. The permit application addresses CERCLA closure activities for surface impoundments. This information is not relevant to the contingency plan. Revise as appropriate.

RESPONSE: Section G-4(1)(e) has been revised as follows to address procedures for emptying the surface impoundment: "If situations arise such as a leak, an impending repair, or heavy rains, the contents of the impaired surface impoundment can be pumped through a large diameter hose or pipe to another holding facility; the stormwater retention basin can then be emptied via bottom drains."

37. G-4k(3) Repairs as a Result of Sudden Drop:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(D)(2);

This section (and its sub-sections) would benefit by a revision to describe contingent repair procedures when the impoundment has been removed from service. These procedures should be viewed as follow-on to those described within Section G-4k(1). Revise the language of the first sentence of this section to indicate that the impoundment is out-of-service, (i.e., empty). The section should then contain a discussion of appropriate procedures necessary to

repair the unit and return it to service.

RESPONSE: Section G-4k(3), G-4k(3)(a) and G-4k(3)(b) have been modified to indicate that the contingent repair procedures apply once the unit has been removed from service. As indicated in Section G-4k(3), an immediate structural remedial investigation will be conducted to determine the appropriate remedial action. Response actions will be conducted consistent with the provisions of the CERCLA Consent Agreement and the Consent Decree and its Stipulated Amendment.

38. G-4k(3)(a) Existing Portions of the Surface Impoundment:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(D)(2)(a);

Delete the first sentence of this section. U.S. DOE-FEMP may wish to indicate that a liner would be installed in compliance with OAC 3745-56-27(D)(2), as an alternative to the response actions mentioned.

RESPONSE: This sentence has been deleted.

39. G-4k(3)(b) Other Portions of the Surface Impoundment:
OAC 3745-50-44(A)(7); 3745-54-52; 3745-56-27(D)(2)(6);

Delete the sentence in this section and indicate that for other portions of the surface impoundment, a repaired liner must be certified by a qualified engineer as meeting the design specifications approved in the permit.

RESPONSE: This sentence has been deleted. A sentence has been added indicating that the repaired liner will be certified by a qualified engineer as meeting the appropriate design specifications.

40. G-5 Emergency Equipment:
OAC 3745-50-44(A)(7); 3745-54-52(E);

- a. The contingency plan states under Facility Alarm System (p. G-34) that each alarm system is tested periodically. Specify the testing frequency of the alarm systems.

RESPONSE: Section G-5 has been revised to include a schedule for testing the components of the Facility Alarm System.

- b. The last paragraph on p. G-37 incorrectly references Attachment G-1. The reference should be Attachment G-2.

RESPONSE: This reference has been corrected.

41. G-6 Coordination Agreements:
OAC 3745-50-44(A)(7); 3745-54-52(C); 3745-54-37;

- a. This section states that "Off-site emergency organizations have signed mutual aid agreements and/or have agreed to provide needed assistance to the FEMP at local, county, state, and federal levels...A list of participants in mutual aid agreements and updated communication links is provided in Table G-1." This table contains several lists of personnel and organizations. Revise Table G-1 to clarify which organizations are participants in mutual aid agreements.

RESPONSE: The acronym "MuAid" has been added in front of the names of mutual aid participants, and an explanation has been added to Section G-6 which references this table.

42. G-7 Evacuation Plan:
OAC 3745-50-44(A)(7); 3745-54-52(F);

Figures G-7 and G-8 apparently refer to components of the Evacuation Plan, however, they are neither referenced nor explained in the text.

RESPONSE: A reference to Figure G-7 has been added to the last paragraph of Section G-6 and Figure G-8 is now referenced in the second paragraph of Section G-7.

43. G-8 Reports:
OAC 3745-50-44(A)(7); 3745-54-56(J);

- a. In Section G-8a, please indicate that Form B is shown on Figure G-10, and that Form C is shown on Figure G-11.

RESPONSE: References to Forms A and B have been added to Section G-8a.

H. PERSONNEL TRAINING CHECKLIST

44. H-1 Outline of Training Program:
OAC 3745-50-44(A)(12); 3745-54-16(A)(1);

Attachment H-1 supplies the Training Outline for the various categories of workers on-site. For several of the training programs, the frequency in years column states "only if required". Please specify who will determine whether or not this training is applicable for the employee.

RESPONSE: Section H has been totally revised. This information is now contained in Section H-1a, in the last two paragraphs describing the computerized Training Records Management System. Based on employee and manager input,

this software establishes the required training for the employee, as well as maintaining the employee's training records.

45. H-1c Training Director:
OAC 3745-50-44(A)(12); 3745-54-16(A)(2);

This section fails to demonstrate that the Training Director is a person trained in hazardous waste management. Please supply supplemental information that will indicate the Training Director's level of expertise in hazardous waste management.

RESPONSE: Section H-1c describes the qualifications of the Training Director. These qualifications include a bachelor's degree, or equivalent training and five years of applicable experience. The incumbent is required to be trained in hazardous waste management procedures and hold current certification in 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response, versed in hazardous waste regulations, orders, guidelines, and the specific training process employed at the FEMP.

I. CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS

46. I-1e(2) Disposal or Decontamination of Equipment, Structures, and Soils:
OAC 3745-50-44(A)(12); 3745-55-12(B)(4); 3745-55-14;
OAC 3745-55-11;

- a. Within Section I-1e(2)(c) of the permit application, describe or list the types of equipment used for closure activities which may undergo decontamination procedures.

RESPONSE: Section I-1e(2)(c) has been revised as follows: "Types of equipment to be used in performing closure activities which may be required to undergo decontamination include the following: wet and dry sweepers, scrubbers, and vacuums; heavy equipment such as forklifts used to remove inventory; and sampling equipment (including saws, drills, and coring devices used in sampling concrete). A list of equipment expected to be used during sampling is included in Attachment I-1."

- b. Within Section I-1e(2)(c) of the permit application, describe the material and construction of temporary dikes used to contain runoff during decontamination procedures.

RESPONSE: Section I-1e(2)(c) has been revised as follows: "Decontamination of equipment used during closure activities will be conducted either in a temporary decontamination unit constructed adjacent to the unit

undergoing closure, or in another approved decontamination unit or area. The temporary decontamination unit will consist of impervious sheeting placed over prepared soils or concrete in close proximity to the unit. The impervious sheeting will consist of Herculite or other suitable compatible material, and will extend up and over a boundary dike network consisting of four-inch PVC piping with slip-fitted joints to form a non-leaking decontamination basin. Any seams in the plastic sheeting will be either taped or heat sealed to prevent any migration of liquids out of the unit."

47. I-1e(4) Closure of Containers:
OAC 3745-55-78; 3745-55-12(B)(3); 3745-50-44(A)(13);
OAC 3745-55-11;

Within Section I-1e(4)(g) of the permit application, (subheading Hazardous Waste Management Description, fourth paragraph, fourth bullet), clarify whether the storm sewer inlets/catch basins are in active operation on the Plant 1 Pad (after the up-grade).

RESPONSE: Section I-1e(4)(g) has been revised to indicate that the storm sewer inlets/catch basins on the Plant 1 Pad will remain in operation following the upgrades. However, only containers of hazardous waste without free liquids will be stored on the Plant 1 pad area outside of the tension support structures.

PART B REVIEW COMMENTS
U.S. DOE-FEMP
OH 6890008976

TECHNICAL ADEQUACY COMMENTS

48. B-2 Topographic Map:
OAC 3745-50-44(A)(19);

In order to improve the readability of the topographic map of the facility and surrounding area, it is requested that this map be replaced by a topographic map with either a 2 or 5 foot contour interval. The numerical elevations should be clearly legible.

RESPONSE: A clearer copy of the topographic map with updated information is included with this revision. As stated in section B-2, a new topographic map with updated contour information is being prepared that is not available at the time of this submittal. The new topographic map will include five foot contours to improve the clarity of the map.

49. B-4 Traffic Information:
OAC 3745-50-44(10);

The last paragraph of this section describes off-site shipments transported by tractor trailer trucks. Elaborate on the types and quantities of hazardous waste shipments. Estimate the volume (number of trucks per unit time) of transport traffic. Identify transporters routinely utilized by the facility, and indicate the type of containers loaded onto such transport vehicles.

RESPONSE: The types and quantities of hazardous waste shipments have been elaborated in section B-4. Types of containers and transporters are also identified in section B-4.

C. WASTE CHARACTERISTICS CHECKLIST

50. C-1 Chemical and Physical Analyses:
OAC 3745-50-44(A)(2); 3745-54-13(A);

- a. Expand this section to provide a more detailed description of the various waste streams from the three administrative categories indicated (Backlog Waste, Newly Generated Waste, Newly Identified Backlog Waste).

RESPONSE: There are now only two administrative categories of wastestreams: Backlog Waste and Newly Generated waste. Section C-1.3 has been revised to include examples of wastestreams covered

under these categories. In addition, Table C-4 identifies the administrative category associated with individual wastestreams identified at the FEMP.

- b. Revise the Land Ban Status Column of Table C-1 to reflect the expiration of the National Capacity Variance for third-third wastes.

RESPONSE: Table C-1 (now C-4) no longer contains information regarding LDR classifications. These classifications are maintained at the FEMP and are available for review.

C-2 Waste Analysis Plan:

51. C-2a Parameters and Rationale:
OAC 3745-54-13(B)(1);

- a. Although DOE-FEMP has provided a list of parameters and rationale for waste analysis (Table C-3), it is not clear that those parameters listed correspond to all applicable waste codes listed in the Part A Application.

RESPONSE: Table C-3 has been reorganized for clarification. Waste codes have been reorganized into wastestream categories which are specifically addressed in this table.

- b. In Table C-3, rather than simply describe the parameter, the information presented as rationale should specify how these parameters will provide sufficient information on waste properties in order to properly store the waste.

RESPONSE: Information on the rationale for selecting waste parameters has been added to Table C-3 with this revision.

52. C-2c Sampling Methods:
OAC 3745-54-13(B)(3);

Information in this section (under subheading "Number of Samples", page C-13 and C-14) needs to be clarified with respect to the issue of representative sampling. Reword the last sentence of the second paragraph under "Number of Samples", to indicate that the guideline shows the number of containers to be sampled for the purpose of collecting a representative sample of that particular (homogenous) waste. Are these discrete samples that are then composited for analysis? The second sentence of the sixth paragraph under the same subheading states that "Composite samples are also used for large populations of containers with capacities of 55 gallons or less". Indicate what constitutes a "large population" in this context. Within this section U.S. DOE-FEMP should distinguish between collecting composites for the purposes of representative sampling, as opposed to compositing for analytical cost considerations.

RESPONSE: Text has been added to Section C-2.2 indicating that the guidelines given for the number of containers applies to individual samples for small drum populations and composite sampling for large drum populations. ~~Large populations are defined as more than 20 drums or containers with capacities of 55 gallons or less.~~ The text has been revised to state that sampling procedures for waste characterizations are designed to ensure that representative samples of the wastestream are obtained.

53. C-2d Frequency of Analyses:
OAC 3745-54-13(B)(4); 3745-50-44(A)(3);

In the second paragraph of this section, delete the word "usually" and commit to a specific frequency for re-analysis of wastes generated by continuous processes.

RESPONSE: The majority of waste generating activities at the FEMP has changed from continuous process sources to project and/or location-specific sources. Wastes generated by unique activities, such as closure/remedial wastes, are sampled and analyzed as they are generated. Wastes that are generated by continuous processes are sampled and analyzed annually, unless there is reason to believe that the waste has changed. If there is reason to believe the waste has changed, the waste is sampled and analyzed immediately.

54. C-2E Additional Requirements for Wastes Generated Off-Site:
OAC 3745-54-13(C); 3745-50-44(A)(3);

- a. This section states "No hazardous waste from off-site facilities is accepted and/or stored at the FEMP unless the conditions of the Consent Decree and its proposed amendments are met." Include this information as part of the permit application (Reference Completeness Comment #2. a.).

RESPONSE: The following text has been added to Section C-3.0 in accordance with the Consent Decree and its Stipulated Amendment: "No hazardous or mixed waste from an off-site source not already listed in the [FEMP] Part B Permit Application, or a revisions as of the date of entry of this Consent Decree, shall be stored, disposed or treated at the [FEMP] without the prior approval of the State of Ohio."

- b. Within this section, specify the types of hazardous wastes to be accepted from off-site.

RESPONSE: As described in Section C-3.0, the State of Ohio has been notified that the FEMP will accept mixed wastes (with a radionuclide content that originated from the FEMP) from laboratories that are performing chemical and geotechnical analysis of samples collected from the FEMP. This notice includes waste samples sent to laboratories for treatability studies.

- c. The first sentence of the second paragraph of this section reads "Generators may provide...waste characterization data for each waste stream shipped to the FEMP from an off-site facility..." Later in the same paragraph the application reads "This data usually precedes actual shipment of the waste so that FEMP personnel can review the data and confirm that the waste can be stored at the FEMP. The generator is requested to furnish information for each waste stream..." Delete the words "may", "usually", and "requested" from the text and revise this language to reflect established consistent criteria for the preacceptance of off-site waste.

RESPONSE: The first sentence in the first paragraph in Section C-3.1 has been revised as follows: "Generators will provide the FEMP with waste characterization data for each waste stream shipped to the FEMP from an offsite facility...." The fourth and fifth sentences of this paragraph have been revised as follows: "This data precedes actual shipment of the waste so that FEMP personnel can review the data and confirm that the waste can be stored at the FEMP. The generator will furnish information for each waste stream..."

- d. The third paragraph in this section states "In some cases, the FEMP may request a sample for preacceptance analysis prior to shipment." Elaborate on this information to describe the criteria for requesting, or not requesting a sample.

RESPONSE: The first sentence in the first paragraph in Section C-3.1 has been revised as follows: "Generators will provide the FEMP with waste characterization data for each waste stream shipped to the FEMP from an offsite facility...." The fourth and fifth sentences of this paragraph have been revised as follows: "This data precedes actual shipment of the waste so that FEMP personnel can review the data and confirm that the waste can be stored at the FEMP. The generator will furnish information for each waste stream..."

- e. Paragraph eight of this section indicates that U.S. DOE-FEMP would complete a new uniform hazardous waste manifest for return shipment in the event a shipment is rejected by the facility. This is inconsistent with the hazardous waste manifest system. The original manifest should be used to indicate the reasons for rejecting the shipment, and would accompany the returned shipment to the generator. Revise the text as appropriate.

RESPONSE: Section C-3.1 discusses waste acceptance procedures: The generator is contacted immediately by phone if any discrepancies or other problems are discovered in documentation, condition of containers, or identification of the hazardous waste. If discrepancies cannot be resolved, the generator is informed that the hazardous waste shipment has been rejected. The FEMP will send a letter describing the discrepancy and the attempts to resolve the

discrepancy to OEPA and USEPA if the discrepancy is not resolved within 15 days of hazardous waste receipt.

55. C-3b Notification and Certification Requirements:
OAC 3745-50-44(A)(3); 3745-54-13(A)(1);

Revise the language within this section, (under the subheading of "Treatment of Characteristically Hazardous Waste", p. C-30) which refers to the FEMP treatment of a characteristic hazardous waste. The wording is inappropriate since U.S. DOE-FEMP is not applying for a permit to treat hazardous waste.

RESPONSE: Notification and certification information has been changed and provided in various sections, including sections C-2.3, C-4.0 and C-5.0.

56. C-3c Additional Requirements Pertaining to Storage of Restricted Wastes:
OAC 3745-50-44(A)(3); 3745-54-13(A)(1); 3745-59-50;

The National Capacity Variance for mixed waste LDR effective dates expired May 8, 1992. Reword information in this section to reflect the current LDR status for storage of restricted waste at U.S. DOE-FEMP.

RESPONSE: Section C-2.3 discusses land disposal restrictions. The FEMP is required to determine whether its hazardous waste is restricted from land disposal and to properly manage the hazardous waste in accordance with the Federal Facility Compliance Act. The FFCA has provided relief to the U.S. DOE from the requirements of 40 CFR 268.7, which specifies that hazardous wastes will not be stored more than one year. The current USEPA enforcement policy is discussed in section C-4.0.

57. C-3f Exemptions From and Extensions To Land Disposal Restrictions:
OAC 3745-54-13(A)(1); 3745-50-44(A)(3); 3745-50-44(A)(21);
OAC 3745-59-05;

Update information in this section (and subsections to C-3f) to account for U.S. DOE applications for case-by-case extensions/exemptions from LDR restrictions.

RESPONSE: Section C-2.3 discusses land disposal restrictions. The FEMP is required to determine whether its hazardous waste is restricted from land disposal and to properly manage the hazardous waste in accordance with the Federal Facility Compliance Act. The FFCA has provided relief to the U.S. DOE from the requirements of 40 CFR 268.7, which specifies that hazardous wastes will not be stored more than one year. The current USEPA enforcement policy is discussed in section C-4.0.

ATTACHMENT 4



- 4455 -

Department of Energy
Fernald Environmental Management Project
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6357

MAY 0 8 1992

DOE-1537-92

Mr. Donald G. Schregardus
Ohio Environmental Protection Agency
P.O. Box 1049
1800 WaterMark Drive
Columbus, Ohio 43266-0149

Dear Mr. Schregardus:

STORAGE OF THORIUM RESIDUES CHARACTERIZED AS RCRA HAZARDOUS WASTE

Reference: DOE letter, G. W. Westerbeck to G. G. Ionnides, "FMPC Thorium Management Strategy and Consent Decree Schedule," dated February 28, 1991

The Fernald Environmental Management Project (FEMP) is in the process of characterizing, overpacking, and relocating thorium materials in accordance with the schedule submitted in the above reference.

Storage for the thorium materials designated as RCRA hazardous (35 containers) is being completed in storage units identified in the FEMP Part A Permit Application. However, due to the health and safety concerns regarding radiation dose rates, the overpacked thorium designated as RCRA hazardous has been stored in Building 68. The FEMP's RCRA Part B Permit Application does not identify Building 68 as an appropriate RCRA storage facility for this material due to compatibility issues and the physical nature (liquid) of a portion of the residues (9 of 35 containers). To comply with this requirement, incompatible wastes are stored in separate diked areas lined with herculite to provide an impermeable surface. Containers with free liquids were overpacked in white metal boxes to provide secondary containment to permit further segregation from incompatible wastes. Storage of thorium mixed waste containers in Building 68 will deviate from the FEMP's Part B Permit Application as allowed by Section 3.1 of the 1988 Consent Decree, which states:

"However, DOE is not required to comply with the above requirements, with regard to mixed waste, where compliance will increase the risk to human safety and health of the environment, or, with respect to hazardous or mixed waste, where the requirements will be inapplicable due to the restrictions of 42 U. S. C. § 6905(A). Should DOE not be required to comply with hazardous waste requirements due to any of the circumstances described in the preceding sentence, DOE in consultation with OEPA shall instead handle the hazardous or mixed waste in a manner as protective of human safety and health in the environment as if the hazardous waste requirement has been applied."

Storage of this material in a building occupied daily by FEMP personnel would constitute an unacceptable health risk. To address this ALARA concern, the thorium containers designated as mixed waste will be stored within the designated RCRA storage area in Building 68.

The containers are stored within a permanently diked area in Building 68. Storage is being accomplished in this unit to protect the health and safety of FEMP employees. Building 68 currently houses a large quantity of thorium material and the background radiation levels in this area are already high. Radiological controls restrict building access to personnel under direct supervision of radiation monitoring personnel and only after completion of a radiation work permit. Access time is limited and dose rates are maintained as low as reasonably achievable. Work within the building does not occur on a daily basis and the safety precautions taken to protect personnel from radiological hazards are more appropriate for the storage of thorium material.

In keeping with Ohio Environmental Protection Agency (Ohio EPA) and Department of Energy (DOE) policies regarding the protection of personnel health and safety, thorium material designated as RCRA hazardous will be stored in a manner that protects the health and safety of FEMP employees and the environment to the greatest extent possible. A modification to the Part B Permit Application, to include the procedures to prevent incompatible hazards and containers with free liquids stored in Building 68, will be submitted under separate cover.

If you or your staff have any questions, please contact Wally J. Quaider at (513) 738-6160.

Sincerely,


R. E. Tiller
Manager

FN:Rast

cc:

K. A. Hayes, EM-424, TREV
J. A. Saric, U. S. EPA
G. E. Mitchell, Ohio EPA
H. F. Daugherty, WEMCO
L. S. Farmer, WEMCO
E. D. Savage, WEMCO
AR Coordinator, WEMCO

For EPA Regional Use Only



For State Use Only

United States Environmental Protection Agency
Washington, DC 20460

Hazardous Waste Permit Application Part A

4455

Date Received
Month Day Year

(Read the Instructions before starting)

I. ID Number(s)

A. EPA ID Number

B. Secondary ID Number (if applicable)

OH 6890008976

II. Name of Facility

US DOE FERNALD ENV MGT PROJECT

III. Facility Location (Physical address not P.O. Box or Route Number)

A. Street

7400 WILLEY ROAD

Street (continued)

City or Town

State

ZIP Code

FERNALD

OH 45030

County Code (if known)

County Name

031 HAMILTON

B. Land Type

C. Geographic Location

D. Facility Existence Date

(order code)

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

Month Day Year

F 391800N 0844100W 11191980

IV. Facility Mailing Address

Street or P.O. Box

PO BOX 398705

City or Town

State

ZIP Code

CINCINNATI OH 45239-8705

V. Facility Contact (Person to be contacted regarding waste activities at facility)

Name (last)

(first)

RAST

DAVID

Job Title

Phone Number (area code and number)

ENV ENGINEER

513-738-6322

VI. Facility Contact Address (See Instructions)

Contact Address
Region Mailing

B. Street or P.O. Box

XX

City or Town

State

ZIP Code

EPA I.D. Number (enter from page 1)

Secondary ID Number (enter from page 1)

0 H 6 8 9 0 0 0 8 9 7 6

4 4 5 5

VII. Operator Information (see instructions)

Name of Operator

U S D E P A R T M E N T O F E N E R G Y

Street or P.O. Box

P O B O X 3 9 8 7 0 5

City or Town

State

ZIP Code

C I N C I N N A T I O H 4 5 2 3 9 - 8 7 0 5

Phone Number (area code and number)

5 1 3 - 7 3 8 - 6 2 0 0

B. Operator Type

F

C. Change of Operator Indicator

Yes

No

XX

Date Changed

Month

Day

Year

VIII. Facility Owner (see instructions)

A. Name of Facility's Legal Owner

U S D E P A R T M E N T O F E N E R G Y

Street or P.O. Box

P O B O X 3 9 8 7 0 5

City or Town

State

ZIP Code

C I N C I N N A T I O H 4 5 2 3 9 - 8 7 0 5

Phone Number (area code and number)

5 1 3 - 7 3 8 - 6 2 0 0

B. Owner Type

F

C. Change of Owner Indicator

Yes

No

XX

Date Changed

Month

Day

Year

IX. SIC Codes (4-digit, in order of significance)

Primary

Secondary

4 9 5 3 (description) HAZARDOUS WASTE

(description)

Secondary

Secondary

(description)

(description)

X. Other Environmental Permits (see instructions)

A. Permit Type (enter code)

B. Permit Number

C. Description

N
E

1 I O O O O O 4 * C D
O T H E R

SEE ATTACHMENT #1

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO
EPA ID NO. OH6890008976
SECTION A: RCRA PART A PERMIT

-4455
RCRA PART B PERMIT APPLICATION
FEMP REVISION 1.0 0393

ITEM VII: OPERATOR INFORMATION (Continued)

NAME OF CO-OPERATOR

Fernald Environmental Restoration Management Corporation (FERMCO)

STREET OR P.O. BOX

P.O. BOX 398704

CITY OR TOWN

Cincinnati

STATE

Ohio

ZIP CODE

45239-8704

TELEPHONE NUMBER

(513) 738-6200

EPA I.D. Number (enter from page 1)	Secondary ID Number (enter from page 1)																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%;">O</td><td style="width: 12.5%;">H</td><td style="width: 12.5%;">6</td><td style="width: 12.5%;">8</td><td style="width: 12.5%;">9</td><td style="width: 12.5%;">0</td><td style="width: 12.5%;">0</td><td style="width: 12.5%;">0</td><td style="width: 12.5%;">8</td><td style="width: 12.5%;">9</td><td style="width: 12.5%;">7</td><td style="width: 12.5%;">6</td> </tr> </table>	O	H	6	8	9	0	0	0	8	9	7	6	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 12.5%; height: 20px;"></td><td style="width: 12.5%;"></td><td style="width: 12.5%;"></td> </tr> </table>												
O	H	6	8	9	0	0	0	8	9	7	6														

XI. Nature of Business (provide a brief description)

The Fernald Environmental Management Project (FEMP) is a large scale integrated production facility which formerly produced uranium metal used in the fabrication of fuel cores for nuclear reactors operated by the United States Department of Energy. Current activities include waste management operations, remedial investigation, environmental response actions, nuclear materials disposition, new construction (primarily to support CERCLA response/RCRA - HSWA corrective actions), and miscellaneous operations (e.g., wastewater treatment).

XII. Process - Codes and Design Capacities

- A. **PROCESS CODE** - Enter the code from the list of process codes below that best describes each process to be used at the facility. Twelve lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided in Item XII.
- B. **PROCESS DESIGN CAPACITY** - For each code entered in column A, enter the capacity of the process.
 1. **AMOUNT** - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process unit.
 2. **UNIT OF MEASURE** - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.
- C. **PROCESS TOTAL NUMBER OF UNITS** - Enter the total number of units used with the corresponding process code.

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	UNIT OF MEASURE CODE
	DISPOSAL:		
D79	INJECTION WELL	GALLONS; LITERS; GALLONS PER DAY; OR LITERS PER DAY	GALLONS G GALLONS PER HOUR E
D80	LANDFILL	ACRE- FEET OR HECTARE-METER	GALLONS PER DAY U
D81	LAND APPLICATION	ACRES OR HECTARES	LITERS L
D82	OCEAN DISPOSAL	GALLONS PER DAY OR LITERS PER DAY	LITERS PER HOUR H
D83	SURFACE IMPOUNDMENT	GALLONS OR LITERS	LITERS PER DAY V SHORT TONS PER HOUR D
S01	STORAGE: CONTAINER (barrel, drum, etc.)	GALLONS OR LITERS	METRIC TONS PER HOUR W
S02	TANK	GALLONS OR LITERS	SHORT TONS PER DAY N
S03	WASTE PILE	CUBIC YARDS OR CUBIC METERS	METRIC TONS PER DAY S
S04	SURFACE IMPOUNDMENT	GALLONS OR LITERS	POUNDS PER HOUR J
	TREATMENT:		
T01	TANK	GALLONS PER DAY OR LITERS PER DAY	KILOGRAMS PER HOUR R
T02	SURFACE IMPOUNDMENT	GALLONS PER DAY OR LITERS PER DAY	CUBIC YARDS Y
T03	INCINERATOR	SHORT TONS PER HOUR; METRIC TONS PER HOUR; GALLONS PER HOUR; LITERS PER HOUR; OR BTU'S PER HOUR	CUBIC METERS C
T04	OTHER TREATMENT	GALLONS PER DAY; LITERS PER DAY; POUNDS PER HOUR; SHORT TONS PER HOUR; KILOGRAMS PER HOUR; METRIC TONS PER DAY; METRIC TONS PER HOUR; OR SHORT TONS PER DAY	ACRES B ACRE- FEET A HECTARES O HECTARE-METER F BTU'S PER HOUR K

(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundment or incinerators. Describe the processes in the space provided in Item XII.)

0 H 6 8 9 0 0 0 8 9 7 6

XII. Process - Codes and Design Capacities (continued)

EXAMPLE FOR COMPLETING ITEM XII (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

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Line Number	A. PROCESS CODE (from list above)			B. PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	FOR OFFICIAL USE ONLY					
				1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)							
X 1	S	0	2	600	G	0	0	2				
X 2	T	0	3	20	E	0	0	1				
1	S	0	1	11,678,480	G	0	0	7				
2												
3												
4												
5												
6												
7												
8												
9												
1 0												
1 1												
1 2												

NOTE: If you need to list more than 12 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for additional treatment processes in Item XIII.

XIII. Additional Treatment Processes (follow instructions from Item XII)

Line Number (enter numbers in sequence with Item XII)	A. PROCESS CODE			B. TREATMENT PROCESS DESIGN CAPACITY		C. PROCESS TOTAL NUMBER OF UNITS	D. DESCRIPTION OF PROCESS
				1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)		
	T	0	4				
	T	0	4				
	T	0	4				
	T	0	4				

EPA I.D. Number (enter from page 1)

Secondary ID Number (enter from page 1)

0 H 6 8 9 0 0 0 8 9 7 6

4 4 4 5

XIV. Description of Hazardous Wastes

- A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE - For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XII A on page 3 to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item XII A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that processes that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. Enter the first two as described above.
2. Enter "000" in the extreme right box of Item XIV-D(1).
3. Enter in the space provided on page 7, Item XIV-E, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "Included with above" and make no other entries on that line.
3. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	A. EPA HAZARD WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESS															
	(1) PROCESS CODES (enter)										(2) PROCESS DESCRIPTION (if a code is not entered in D(1))											
X 1	K	0	5	4	900	P	T	0	3	D	8	0										
X 2	D	0	0	2	400	P	T	0	3	D	8	0										
X 3	D	0	0	1	100	P	T	0	3	D	8	0										
X 4	D	0	0	2																		Included With Above

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

-4455

EPA I.D. Number (enter from page 1)										Secondary ID Number (enter from page 1)										
H	6	8	9	0	0	0	8	9	7	6										

Description of Hazardous Wastes (continued)

Line Number	A. EPA HAZARDOUS WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES														
							(1) PROCESS CODES (enter)					(2) PROCESS DESCRIPTION (if a code is not entered in D(1))									
1	U	1	0	7																	included with above
2	U	1	0	8																	included with above
3	U	1	1	7																	included with above
4	U	1	2	1																	included with above
5	U	1	3	4																	included with above
6	U	1	5	1																	included with above
7	U	1	5	9																	included with above
8	U	1	6	1																	included with above
9	U	2	1	0																	included with above
10	U	2	1	1																	included with above
11	U	2	1	3																	included with above
12	U	2	2	0																	included with above
13	U	2	2	6																	included with above
14	U	2	2	8																	included with above
15	U	2	3	9																	included with above
16	U	3	5	9																	included with above
17					Left Blank																
18					Left Blank																
19					Left Blank																
20					Left Blank																
21					Left Blank																
22					Left Blank																
23					Left Blank																
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31					Left Blank																
32					Left Blank																
33					Left Blank																

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO
EPA ID NO. OH6890008976
SECTION A: RCRA PART A PERMIT

RCRA PART B PERMIT APPLICATION
FEMP REVISION 1.0 0393

ITEM XV: MAPS

There are fifty-one (51) RCRA Hazardous Waste Management Units (HWMUs) at the Fernald Environmental Management Project (FEMP). Fifty-one (51) of those units are included with this submittal. The HWMU #2, Parts Cleaner in Welding Shop (Bldg 12), has been removed as requested in DOE letter # 997-92, dated 2-28-92. The Equipment Storage Area has been removed due to the correspondence from Ohio EPA to John Sattler, dated June 2, 1992. The HWMU's are identified on Figure A-1. The type of HWMU, process code, status, and dimensions are provided on Table A-1.

Drinking Water Wells

The only drinking water wells within one-quarter mile of the production area are those that supply the FEMP. They are shown on Figure A-1 as Production Wells #1 through #3. The drinking water wells within one-quarter mile of the property boundaries are shown on Figure A-2.

Outfall Locations

<u>Outfall No.</u>	<u>Latitude</u> (Deg Min Sec)			<u>Longitude</u> (Deg Min Sec)			<u>Receiving Water</u>
001	39	17	53	84	40	48	Great Miami River
002	39	17	36	84	41	21	Storm Sewer Outfall Ditch to Paddy's Run

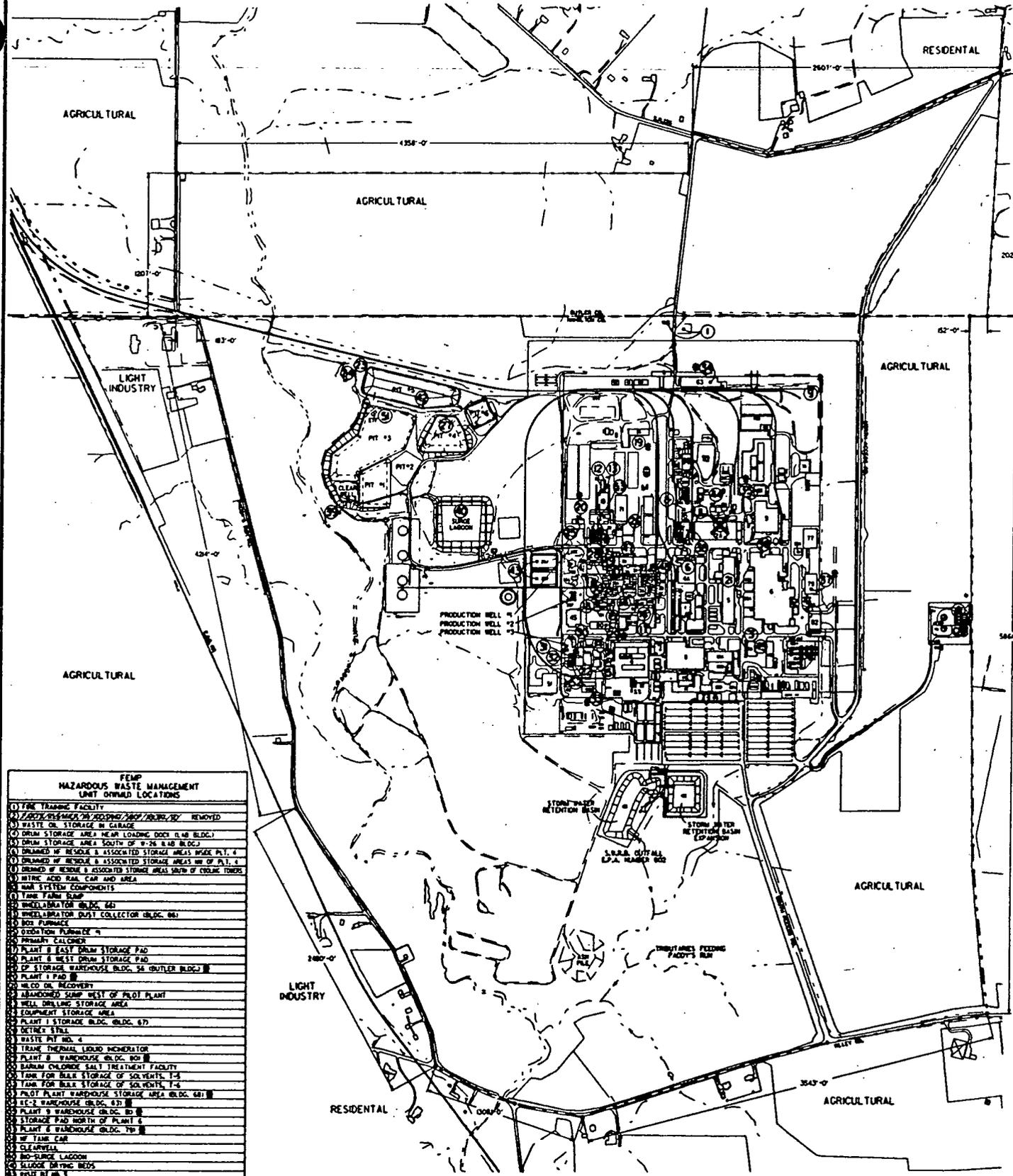
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO
EPA ID NO. OH6890008976
SECTION A: RCRA PART A PERMIT

RCRA PART B PERMIT APPLICATION
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XVI: FACILITY DRAWING

The Fernald Environmental Management Project is located on a 1,050 acre Federal Reservation in Hamilton and Butler Counties, Ohio. It is approximately 20 miles northwest of downtown Cincinnati, midway between Ross and Fernald, Ohio.

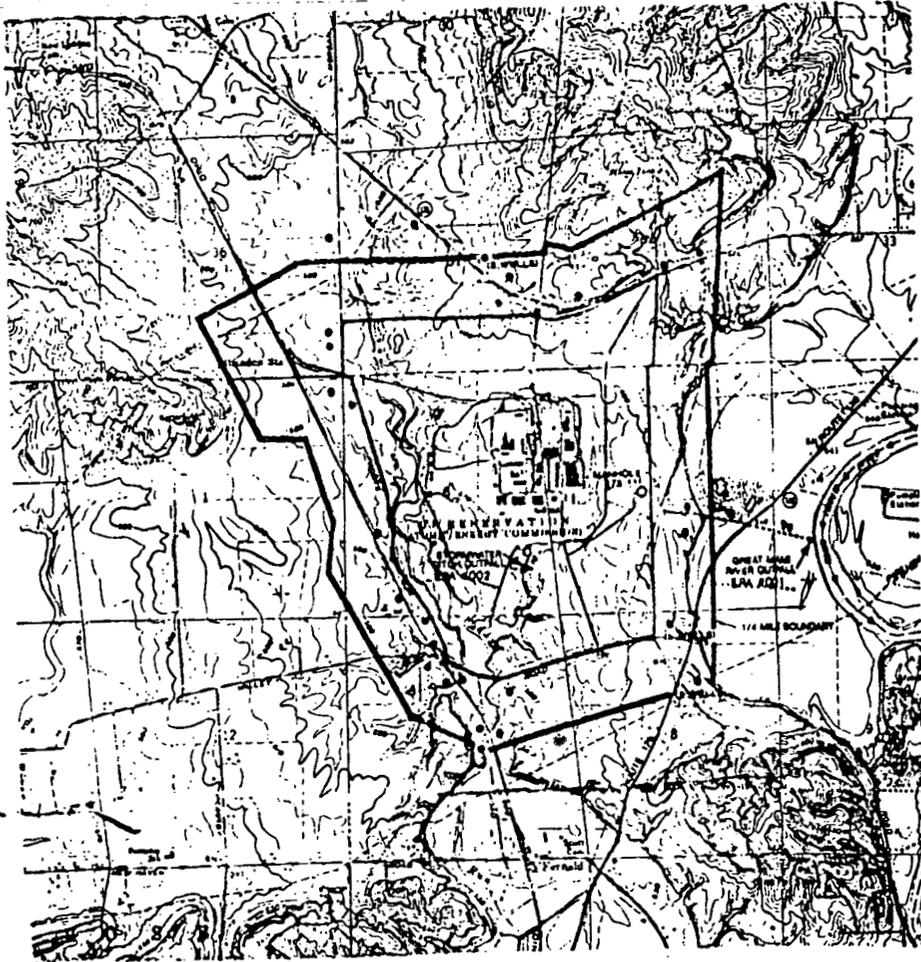
Due to the size of the FEMP, two maps have been provided to indicate the Hazardous Waste Management Units and their boundaries. Figure A-1 shows the location of each HWMU and Figure A-2 provides a general overview of the topographic region.



- FEMP
HAZARDOUS WASTE MANAGEMENT
UNIT ORINAL LOCATIONS**
- (1) FINE TRADING FACILITY
 - (2) FERTILIZER PLANT/ADSORBER/RECYCLER/RY REMOVED
 - (3) WASTE OIL STORAGE IN GARAGE
 - (4) DRUM STORAGE AREA NEAR LOADING DOOR (14B BLDG.)
 - (5) DRUM STORAGE AREA SOUTH OF 7'x8' 1/2 BLDG.
 - (6) DRAINAGE OF RESIDUE & ASSOCIATED STORAGE AREAS (SIDE PLY. 4)
 - (7) DRAINAGE OF RESIDUE & ASSOCIATED STORAGE AREAS (SIDE PLY. 1)
 - (8) DRAINAGE OF RESIDUE & ASSOCIATED STORAGE AREAS SOUTH OF COOLING TOWERS
 - (9) METRIC ACID BATH, CAN AND AREA
 - (10) RAIN SYSTEM COMPONENTS
 - (11) FINE FARM SLUMP
 - (12) WHEELABRATOR (BLDG. 64)
 - (13) WHEELABRATOR DUST COLLECTOR (BLDG. 66)
 - (14) BOY FURNACE
 - (15) COOLING FURNACE #1
 - (16) PRIMARY CALCINER
 - (17) PLANT 8 EAST DRUM STORAGE PAD
 - (18) PLANT 8 WEST DRUM STORAGE PAD
 - (19) SP. STORAGE WAREHOUSE (BLDG. 54 OUTER BLDG.)
 - (20) PLANT 1 PAD #1
 - (21) WELD OIL RECOVERY
 - (22) ABANDONED SLUMP WEST OF PILOT PLANT
 - (23) WELD DRILLING STORAGE AREA
 - (24) EQUIPMENT STORAGE AREA
 - (25) PLANT 1 STORAGE (BLDG. 67)
 - (26) METAL SHED
 - (27) WASTE PLY #1 & 2
 - (28) TIRANE THERMAL LIQUID INCINERATOR
 - (29) PLANT 3 WAREHOUSE (BLDG. 60)
 - (30) BARIUM CHLORIDE SALT TREATMENT FACILITY
 - (31) TANK FOR BULK STORAGE OF SOLVENTS 1-4
 - (32) TANK FOR BULK STORAGE OF SOLVENTS 1-4
 - (33) PILOT PLANT WAREHOUSE STORAGE AREA (BLDG. 64)
 - (34) 15'x2' WAREHOUSE (BLDG. 63)
 - (35) PLANT 9 WAREHOUSE (BLDG. 62)
 - (36) STORAGE PAD NORTH OF PLANT 6
 - (37) PLANT 6 WAREHOUSE (BLDG. 70)
 - (38) 10' TANK CAR
 - (39) CLEANERS
 - (40) 80-SURGE LAGOON
 - (41) SLAGGING DRYING BEDS
 - (42) FISH PIT #1
 - (43) LIME SLAGGING POND
 - (44) TONNAGE PILE PLANT/RY BASIN
 - (45) LIST #1
 - (46) URANIUM NITRATE TANKS (W/S STORAGE AREA)
 - (47) URANIUM NITRATE TANKS (NORTH OF PLANT 2)
 - (48) URANIUM NITRATE TANKS (SOUTHWEST OF PLANT 2)
 - (49) URANIUM NITRATE TANKS (DIGESTION AREA)
 - (50) URANIUM NITRATE TANKS (GRAFFIATE BLDG.)
 - (51) EXPERIMENTAL TREATMENT FACILITY (ETTF)
 - (52) NORTH & SOUTH SOLVENT TANKS (PILOT PLANT)
 - (53) SAFE GEOMETRY DIGESTION SLUMP

©-INDICATES THE FEMP IS SEEKING TO REPAIR

NOTES: WEMCO C.A.D. DRAWING NO. 108 TO BE RE-DESIGNED	WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PERNALD, OHIO	SITE PLAN FIGURE A-17 FACILITY LOCATION MAP SCALE: 1" = 300'	APPROVALS: [Signature] DATE: []/[]/[] [Signature] DATE: []/[]/[]	RCHA PART 4
--	---	---	--	-------------



RCMA PART A
TOPOGRAPHIC MAP

- LEGEND
- RESIDENTIAL WATER WELLS
 - WPOES DISCHARGE POINT
 - RIVER FLOW
 - PROPERTY BOUNDARY
 - - - INTERMITTENT STREAM
 - MANHOLE

NOTE
MICHIGAN GEOLOGICAL SURVEY, REV. 1974

FIGURE A-1

WESTINGHOUSE 44 PL. CO. OF OHIO		SCALE 1" = 400'	
FEDERAL BUREAU OF SURVEY CENTER WASHINGTON, D.C.			

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO
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ITEM XVII: PHOTOGRAPHS

Photographs of the fifty-one (51) RCRA Hazardous Waste Management Units are provided as Attachment #2.

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO
EPA ID NO. OH6890008976
SECTION A: PART A CERTIFICATIONS

RCRA PART B PERMIT APPLICATION
FEMP REVISION 1.0 0393
Page 1 of 2

ITEM XVIII. CERTIFICATION(S) (Page 1)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

U. S. Department of Energy
Owner and Operator

Raymond J. Hansen
Raymond J. Hansen, Acting Deputy Manager
Fernald Field Office

March 26, 1993
Date signed

CERTIFICATION(S) (Page 2)

The Department of Energy (DOE-FN) and its contractor, Fernald Environmental Restoration Management Corporation (FERMCO), have jointly signed this application as co-operators of the permitted facility. The Department has determined that dual signatures best reflect the actual appointment of responsibility under which the Department's Resource Conservation and Recovery Act (RCRA) responsibilities are for policy, programmatic, funding, and scheduling decisions, as well as, general oversight, and the contractor's RCRA responsibilities are for day-to-day operations, including but not limited to, the following responsibilities: waste analyses and handling, monitoring, record keeping, reporting, and contingency planning. Execution of this certification is not intended to nor does it waive or limit application of 42 U.S.C. §§9621(e)(1), 9621(f)(3), 9613(h), and 9622(e)(6).

Portions of this document and its attachments were prepared prior to December 1, 1992 by Westinghouse Environmental Management Company (WEMCO), the former co-operator, and as stated herein are undergoing reexamination and review by the personnel who are qualified to properly gather and evaluate such information. While such information may be revised in the future, based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information prepared prior to December 1, 1992, such information is, to the best of my knowledge and belief, true, accurate, and complete.

I certify under penalty of law that those portions of this document and all attachments that were developed since December 1, 1992, were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Fernald Environmental Restoration
Management Corporation, Co-Operator



N. C. Kaufman, President
Fernald Environmental Restoration
Management Corporation

3/25/93

Date signed

TABLE A-1

UNIT NO.	FEMP HAZARDOUS WASTE MANAGEMENT UNITS	Type of Unit (1)	Process Code (2)	Status (3)	Dimensions (4)
1A	Fire Training Facility*	D	D80	2	84'8" x 68'
1B	Fire Training Facility*	D	D80	2	105' x 134'
2	Pests-Cleaner in Welding Shop (Bldg-12)(Removed) - (in accordance with Letter DOE-997-92)	S	S01	2	238' x 711' x 510'
3	Waste Oil Storage in Garage	S	S01	2	10' x 10'
4	Drum Storage Area Near Loading Dock (Lab Bldg)	S	S01	2	40' x 76'
5	Drum Storage Area South of U-26 (Lab Bldg)	S	S01	2	31'8" x 41'
6	Drummed HF Residue/Associated Storage Areas Inside Plant 4	S	S01	2	4' x 17'
7	Drummed HF Residue/Associated Storage Areas MW of Plant 4	S	S01	2	25' x 30'
8	Drummed HF Residue/Associated Storage Areas S. of Cooling Towers	S	S01	2	14' x 40' x 15'
9	Nitric Acid Rail Car and Area	S	S01	2	10' x 40' x 15'
10	MAR System Components	T	S02	2	13,262 sq ft
11	Tank Farm Sump	T	T02	3	165' x 135'
12	Wheelabrator (Bldg 66)	S	S01	2	24' x 20'
13	Wheelabrator Dust Collector (Bldg 66)	S	S01	2	30' x 17'
14	Box Furnace	T	T03	2	14' x 18'
15	Oxidation Furnace #1	T	T03	2	85 sq ft
16	Primary Calciner	T	T03	2	13.5 ft diam x 40' high
17	Plant 8 East Drum Storage Pad	S	S01	2	18,330 sq ft
18	Plant 8 West Drum Storage Pad	S	S01	2	12,304 sq ft
19	CP Storage Warehouse - Bldg 56 (Butler Bldg)	S	S01	1	50' x 180'
20	Plant 1 Pad	S	S01	1	480,000 sq ft
21	Hilco Oil Recovery	S	S01	2	272 sq ft
22	Abandoned Sump West of Pilot Plant	S	S01	2	2' diam x 14' deep
23	Well Drilling Storage Area	S	S01	2	29' x 56'
24	Equipment Storage Area (Removed in accordance with OSPA letter of June 2, 1992)	S	S01	2	45' x 115'
25	Plant 1 Storage Bldg (Bldg 67)	S	S01	2	165' x 190'
26	Detrex Still	S	S02	2	32' x 76" x 7'6"

1) Treatment S=Storage D=Disposal
 2) Process Codes provided in Item XII of Hazardous Waste Permit Application Part A
 3) 1-HWMU to be permitted
 2-HWMU to be closed
 3-HWMU to be operated, not permitted, Closure to be integrated with remedial actions
 4-HWMU not to be operated, Closure to be integrated with remedial actions
 5-HWMU closed
 4) Dimensions: width x length x height - unless otherwise indicated
 5) Waste Pit No. 4 is irregularly shaped; dimensions provided are for each side
 Unit 1 remains one unit, but is split into 2 areas (A & B) because a road divides the unit

TABLE A-1(cont.)

UNIT NO.	FEMP HAZARDOUS WASTE MANAGEMENT UNITS	Type of Unit (1)	Process Code (2)	Status (3)	Dimensions (4)
27	Waste Pit No. 4	D	D80	5	170' x 320' x 400' x 320'
28	Trane Thermal Liquid Incinerator	T	T03	2	50' x 52'
29	Plant 8 Warehouse (Bldg 80)	S	S01	1	60' x 170'
30	Barium Chloride Salt Treatment Facility	T	T04	5	50' x 75'
31	Tank for Bulk Storage of Solvents, T-5	S	S02	2	10' diameter
32	Tank for Bulk Storage of Solvents, T-6	S	S02	2	10' diameter
33	Pilot Plant Warehouse (Bldg 68)	S	S01	1	69' x 7'
34	KC-2 Warehouse (Bldg 63)	S	S01	1	346'2-3/8" x 82'
35	Plant 9 Warehouse (Bldg 81)	S	S01	1	80' x 100'
36	Storage Pad North of Plant 6	S	S01	2	8' x 40'
37	Plant 6 Warehouse (Bldg 79)	S	S01	1	100' x 170'
38	HF Tank Car	S	S01	2	10' x 36' x 15'
39	Clearwell	T	T02	3	30,600 sq ft
40	Bio-Surge Lagoon	T	T02	3	160,000 sq ft
41	Sludge Drying Beds	T	T02	4	79' x 92'
42	Waste Pit No. 5	T	T02	4	184,000 sq ft
43	Lime Sludge Ponds	S	S04	3	40,000 sq ft
44	Coal Pile Runoff Basin	S	S04	3	5,778 sq ft
45	UST No. 5	S	S02	2	2'6" diameter
46	Uramyl Nitrate Tanks (NFS Storage Area)	S	S02	2	61'7" x 53'9"
47	Uramyl Nitrate Tanks (North of Plant 2)	S	S02	2	63'6" x 40'6"
48	Uramyl Nitrate Tanks (Southeast of Plant 2)	S	S02	2	54'7" x 45'4"
49	Uramyl Nitrate Tanks (Digestion Area (2 locations))	S	S02	2	127' x 20' (each loc.)
50	Uramyl Nitrate Tanks (Raffinate Building (2 locations))	S	S02	2	14' x 50' : 15' x 30'
51	Experimental Treatment Facility (ETF)	T	T04	4	20' x 48'
52	North and South Solvent Tanks (Pilot Plant)	S	S02	2	6'6" diameter each
53	Safe Geometry Digestion Sump (Plant 1)	S	S02	2	8" diameter x 12" deep

1) I-Treatment S-Storage D-Disposal
 2) Process Codes provided in Item XII of Hazardous Waste Permit Application Part A
 3) 1-HMMU to be permitted
 2-HMMU to be closed
 3-HMMU to be operated, not permitted, Closure to be integrated with remedial actions
 4-HMMU not to be operated, Closure to be integrated with remedial actions
 5-HMMU closed
 4) Dimensions: width x length x height - unless otherwise indicated
 5) Waste Pit No. 4 is irregularly shaped; dimensions provided are for each side
 * Unit 1 remains one unit, but is split into 2 areas (A & B) because a road divides the unit

ITEM X: OTHER ENVIRONMENTAL PERMITS

Pursuant to OAC 3745-50-41, the following is a list of all permits or construction approvals received or applied for under the specified programs:

1) Hazardous Waste Management Program under RCRA

Part A Permit Applications submitted to OEPA:

Original submittal	07/06/84	
Revision 1	05/15/85	
Revision 2	10/30/85	(Part B submittal)
Revision 3	03/19/86	
Revision 4	04/28/86	
Revision 5	03/27/87	
Revision 6	11/02/87	
Revision 7	02/04/88	
Revision 8	07/28/88	
Revision 9	03/22/89	
Revision 10	09/22/89	(Part B submittal)
Revision 11	09/25/90	
Revision 12	06/28/91	
Revision FEMP 0	10/31/91	(Part B submittal)
Revision FEMP 1	03/31/92	
Revision FEMP 1.1	08/31/92	
Revision FEMP 1.2	10/15/92	
Revision FEMP 1.3	03/01/93	
Revision FEMP 1.4	03/26/93	(Part B submittal)

Closure Plans (CP) previously submitted:

- a. Waste Pit No. 4
 - Barium Chloride Salt Treatment Facility
 - Storage Pad North of Plant 6
 - Trane Thermal Liquid Incinerator
 - Tank for Bulk Storage of Solvents, T-5 & T-6
 - UST #5
- Waste Pit No. 5
 - Equipment Storage Area
 - HF Tank Car
 - Waste Oil Storage in Garage
 - Drum Storage Area South of W-26 (Laboratory Building)
 - Drummed HF Residue Storage Inside Plant 4
 - Drummed HF Residue Storage Northwest of Plant 4
 - Nitric Acid Rail Car
 - CP Storage Warehouse - Bldg 56 (Butler Bldg)
 - Plant 1 Pad
 - Pilot Plant Warehouse (Bldg 68)
 - KC-2 Warehouse (Bldg 63)

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
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ITEM X: OTHER ENVIRONMENTAL PERMITS (continued)

Plant 9 Warehouse (Bldg 81)
Plant 6 Warehouse (Bldg 79)
Plant 8 Warehouse (Bldg 80)

b. Waste Pit No. 4 Post Closure Plan

2) Underground Injection Control Program (UIC) under SWDA

None

3) National Pollutant Discharge Elimination System (NPDES) Program under CWA

1I000004*cd (Former NPDES permit no. OH000004*CD)

4) Prevention of Significant Deterioration (PSD) Program under the Clean Air Act

None

5) Nonattainment Program under the Clean Air Act

None

6) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act

NESHAP approval of construction received from EPA for the following:

1. UF₆ to UF₄ Reduction Facility #2
2. Thorium Packaging

NESHAP approval of modification received for the following:

1. Plasma Spray Crucible Coating Station
2. Crucible Grit Blaster
3. West Wagner Cold Saw
4. Flat Ingot Model 4 Milling Machine
5. Flat Ingot Model 4A Milling Machine
6. Flat Ingot Model 4B Milling Machine
7. Flat Ingot 425-20 Milling Machine
8. Flat Ingot No. 6 Milling Machine
9. Flat Ingot K&T A Milling Machine
10. Flat Ingot K&T B Milling Machine

ITEM X: OTHER ENVIRONMENTAL PERMITS (continued)

11. Plant 6 Sump and Waste Treatment System
12. D&D Facility
13. Ingot Cooling Booth
14. Plant 8 Sump
15. Plant 8 Crusher
16. Plant 1 Material Handling

7) Ocean Dumping permits under the Marine Protection Research and Sanctuaries Act

None

8) Dredge or Fill permits under section 404 of the CWA

None

9) Other relevant environmental permits, including State Permits

State of Ohio Hazardous Waste Permit 05-31-0681

10) Wastewater Treatment Facility, Ohio EPA Permits-To-Install (PTI)

<u>Project</u>	<u>PTI No.</u>
1. Stormwater/Spill Retention Facility - FMPC	05-1043
2. Process Wastewater Bionitrification	05-3672
3. Bionitrification Surge Lagoon Facility - FMPC	05-2872
4. Plant 6 Sump Reconstruction	05-2405
5. Tank Farm Padwater Collection & Neutralization Sump	05-2873
6. General Sump/Lime Handling System	05-3368
7. Modification Plant 8 Sump	05-3518
8. Decontamination and Decommissioning (D&D) Facility	05-3390

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ITEM X: OTHER ENVIRONMENTAL PERMITS (continued)

- | | | |
|-----|--|---------|
| 9. | Biodenitrification Effluent Treatment System | 05-3879 |
| 10. | Coal Pile Runoff Collection Facility | 05-4172 |
| 11. | Manhole 34 Spill Control | 05-5127 |

11) Air Permit Status Source Report

See attached lists: FEMP Air Permit Report
FEMP Sources Submitted for Air Permits

Fernald Environmental Management Project
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Permit Number	Equipment Description
B001	100 MMBTU/HR COAL-FIRED BOILER:MULTICLONE-ESP
B003	100 MMBTU/HR COAL-FIRED BOILER:MULTICLONE-ESP
K002	MAINTENANCE SHOP PAINT SPRAY BOOTH
P006	AMMONIA STRIPPING PROCESS
P008	URANIUM INGOT COLD SAWS W/CARTRIDGE & HEPA FILTERS
P011	WEST CRUCIBLE BURNOUT STATION: FABRIC FILTER
P012	NORTH DUOMATIC LATHE W/FABRIC FILTER
P020	SEP. BOOTH, 2 REMELT FURNACES, BURNOUT, MOLD CLEAN
P022	MISCELLANEOUS MACHINING OPERATIONS
P032	FINISH CORE MACHINING - PLANT 6 W/FABRIC FILTER
P033	EAST SIDE JOLTERS, 8-F, PLANT 5: FABRIC FILTER
P038	SLAG CRUSHING & PACKAGING STATION - PLANT 5
P054	MOLD RECONDITIONING LINE AND SEPERATION BOOTH
P056	WEST SIDE JOLTERS, H-L, PLANT 5
P061	NO. 1 "F" MACHINE:DUST COLLECTOR G5-251
P062	NO. 3 "F" MACHINE & CAPPING STATION (EAST)
P065	CRUCIBLE BURNOUT & SEPARATION BOOTH: FABRIC FILTER
P067	CASTING FURNACES #15 THRU #28: FABRIC FILTER
P082	FLUID BED REACTOR AND TALCUM REACTOR BANK 9
P094	PLANT 5-EAST BREAKOUT STATION: FABRIC FILTER
P101	OVERSIZE SLAG MILLING
P108	SLAG BIN NO.'S 250 and 251
P110	PLANT 4-DRUMING STATION: FABRIC FILTER
P111	PLANT 4-DRUM DUMPER: FABRIC FILTER
P112	PLANT 4-REJECT GREEN SALT: FABRIC FILTER
P113	PLANT 2/3-SLAG LEACH DIGESTION:NAR TOWER & VENTURI
P116	PLANT 2/3-SLAG LEACH DIGESTION TANK D1-4: NAR TOWER
P119	PLANT 2/3-STS PROCESSING TANK D1-7: NAR TOWER
P121	PLANT 2/3 NEUT. OF SOLVENT F1-502: TANK VENT ONLY
P122	SLAG LEACH DUMPING STATION W/FABRIC FILTER
P152	DENITRATION POTS W/VENTURI SCRUBBER & NAR TOWER
P163	PINCUTTER AND MILL W/HEPA FILTER
P165	SAFE GEOMETRY FEED DUMPING STATION 2/HEPA FILTER
P167	TITAN MILL DUMPING STATION W/FABRIC FILTER
P168	TITAN MILL W/FABRIC FILTER
P174	CRUCIBLE GRIT BLASTER-PILOT PLANT
P177	TITAN MILL PACKAGING STATION W/FABRIC FILTER
P178	EAST PACKAGING STATION - PLANT
P179	SHOT BLASTER - PLANT 1
P180	ROTARY KILN - PLANT 8
P182	PRIMARY CALCINER- PLANT 8
P183	OXIDATION FURNACE #1 - PLANT 8
P184	OXIDATION FURNACE #2 - PLANT 8
P185	BOX FURNACE W/VENTURI SCRUBBER
P186	ROTEX SCREENING - PLANT 8
P194	C-2 COLUMN (D1-112) - PLANT 2/3
P197	NORTH OLIVER FILTER W/CAUSTIC SCRUBBER F1-323

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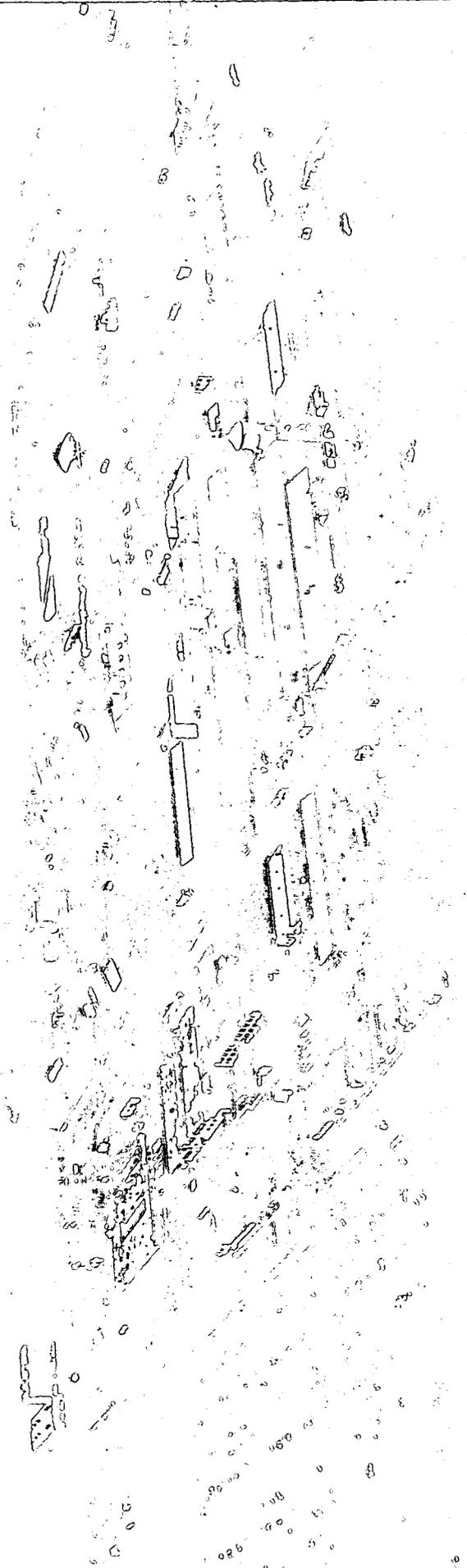
Permit Number	Equipment Description
P198	SOUTH OLIVER FILTER W/CAUSTIC SCRUBBER F1-322
P199	NEUTRALIZATION OF FILTER CAKE F1-313
P200	NEUTRALIZATION OF FILTER CAKE F1-318
P201	THICKENER TANK (PROCESS) F2E-602
P204	DRUM WASHER - PLANT 8
P227	PROCESS AREA TRASH COMPACTOR
P229	GRAPHITE BAND SAW & TOOL GRINDING W/FABRIC FILTER
P233	PILOT PLANT PLASMA SPRAY PROCESS: FABRIC FILTER
P237	GENERAL SUMP LIME HANDLING
P239	EAST OLIVER FILTER
P240	WEST EIMCO FILTER
P241	OIL TREATMENT TANK SYSTEM I
P242	OIL TREATMENT TANK SYSTEM II
P243	PRECIPITATION TANK SYSTEM I
P244	PRECIPITATION TANK SYSTEM II
P248	EAST EIMCO FILTER
P258	LARGE DRUM SAMPLING STATION
P261	GRIT BLAST SYSTEM
P263	HIGH PRESSURE WASH SYSTEM
P264	ULTRA HIGH PRESSURE WATER WASH SYSTEM
P270	EXISTING DECONTAMINATION AND DECOMMISSIONING FAC.
P272	LIME/ALUM DUMP STATIONS
P273	TEN GALLON DISTILLATION BASED SOLVENT RECOVERY
P276	PLANT 8 NEUTRALIZATION OF SUMP LIQUOR D-101
T001	500 GALLON NITRIC ACID STORAGE TANK
T002	PLANT 8 - CAUSTIC STORAGE TANK A
T003	PLANT 8 - CAUSTIC STORAGE TANK B
T004	CAUSTIC STORAGE TANK (F43-108)
T005	PLANT 2/3 - NITRIC ACID ST (F1-18)
T006	PLANT 2/3 - NITRIC ACID ST (F1-17)
T007	PLANT 2/3 - NITRIC ACID ST TK (F1-23)
T008	PLANT 2/3 - DIL NITRIC ST TK (F1-24)
T009	PLANT 2/3 - NITRIC ACID ST TK (F1-8)
T010	PLANT 2/3 - NITRIC ACID STOR (F2E-501)
T011	PLANT 2/3 - NITRIC ACID STOR (F2E-502)
T012	PLANT 2/3 - NITRIC ACID STOR (F3-2)
T013	PLANT 2/3 - NITRIC ACID STOR (D3-27)
T014	PLANT 2/3 - NITRIC ACID STOR (F3-12)
T015	PLANT 2/3 - NITRIC ACID STOR (F3-19)
T016	PLANT 2/3 - DIL NITRIC STOR (F3-22)
T017	PLANT 2/3 - DIL NITRIC STOR (F3-23)
T018	PLANT 2/3 - DIL NITRIC STOR (F3-24)
T019	PLANT 2/3 - DIL NITRIC STOR (F3-25)
T020	PLANT 2/3 - COND HOLD TK (F3E-7)
T021	3300 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T022	3300 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T023	3300 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK

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Permit Number	Equipment Description
T024	3300 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T025	23,500 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T026	23,500 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T027	2500 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T028	2500 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T029	25,265 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T030	25,265 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T031	25,265 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T032	25,265 GAL. FIXED ROOF URANYL NITRATE STORAGE TANK
T033	14,500 GAL FIXED ROOF SLOPWATER STORAGE TANK
T034	14,500 GAL. FIXED ROOF SLOPWATER STORAGE TANK
T035	PLANT 2/3 - SLOPWATER ST TK (D1-130)
T036	PLANT 2/3 - SLOPWATER ST TK (D1-129)
T039	PLANT 2/3 - URANYL NITR STOR TK(F2-608)
T040	PLANT 2/3 - URANYL NITR STOR TK(F2-607)
T041	PLANT 2/3 - URANYL NITR STOR TK(F2-606)
T042	PLANT 2/3 - URANYL NITR STOR TK(F2-605)
T044	PLANT 2/3 - SLOPWATER ST TK (D1-131)
T045	PLANT 2/3 - SLOP WATER STORAGE TANK F1-608
T046	PLANT 2/3-SLOP WATER STORAGE TANK F2E-601
T047	PLANT 2/3 - S.L. STOR TK (F1-301)
T048	PLANT 2/3 - S.L. STOR TK (F1-302)
T049	PLANT 2/3 - S.L. STOR TK (F1-303)
T050	PLANT 2/3 - CAUSTIC STORAGE (D1-174)
T051	PLANT 2/3 - SOLVENT ST TK (F1-506)
T052	PLANT 2/3 - CARBONATE ST TK (F1-500)
T053	PLANT 2/3 - CARBONATE ST TK (F1-501)
T056	PLANT 2/3 - RAFF STOR TK (F1-403)
T057	PLANT 2/3 - RAFF STOR TK (F1-401)
T058	PLANT 2/3 - RAFF STOR TK (F1-402)
T059	PLANT 2/3 - RAFF STOR TK (F1-400)
T061	PLANT 2/3 - RAFF THICKNER SLUR (F1-612)
T062	2,250 GAL. FIXED ROOF DIRTY SOLVENT STORAGE TANK
T063	2,250 GAL FIXED ROOF DIRTY SOLVENT STORAGE TANK
T064	2,250 GAL. FIXED ROOF DIRTY SOLVENT STORAGE TANK
T065	2,600 GAL. FIXED ROOF DIRTY SOLVENT STORAGE TANK
T066	2,600 GAL. FIXED ROOF DIRTY SOLVENT STORAGE TANK
T067	PLANT 2/3 - SULFURIC ACID STORAGE
T068	25,600 GAL. FIXED ROOF DIRTY SOLVENT STORAGE TANK
T069	30,000 GAL. FIXED ROOF OK LIQUOR STORAGE TANK
T070	30,000 GAL. FIXED ROOF OK LIQUOR STORAGE TANK
T071	30,000 GAL. FIXED ROOF OK LIQUOR STORAGE TANK
T072	PLANT 2/3 - OK LIQ STOR TK (F3E-225)
T073	PLANT 2/3 - Filtrate stor tk (F1-308)
T074	PLANT 2/3 - Filtrate stor tk (F1-309)
T075	PLANT 2/3 - LIME STORAGE TANK F1-314
T077	PLANT 2/3 - Filtrate stor (SL) (F1-310)

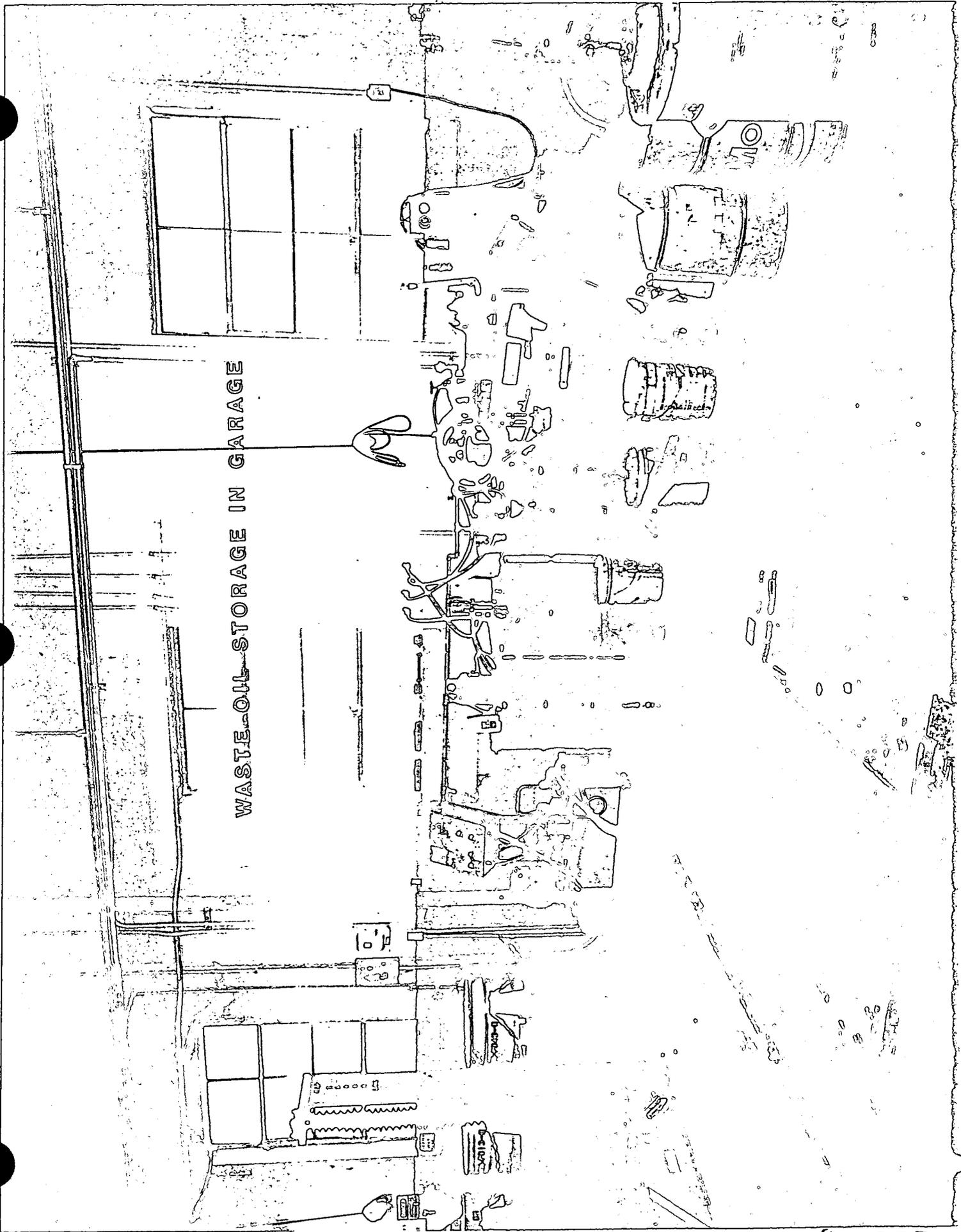
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Permit Number	Equipment Description
T078	PLANT 2/3 - Condensate stor tk (F1-208)
T079	PLANT 2/3 - Filtrate stor (SL) (F1-311)
T080	PLANT 2/3 - Filtrate stor (SL) (F1-312)
T081	PLANT 2/3 - Filtrate stor (SL) (F1-317)
T082	PLANT 2/3 - Acid cond stor (F1-407)
T083	PLANT 2/3 - Nitric acid washstor (F1-613)
T085	PLANT 2/3 - Filtrate stor (SL) (F3E-408)
T087	PLANT 2/3 - Nitric acid stor tk (F1-201)
T088	PLANT 2/3 - Nitric acid stor tk, WS-PILOT PLANT
T092	Fresh acid receiving tank - PLANT 6
T093	Plant 6 - Spent Acid Tank (06-BO56A TNK)
T094	Plant 6 - Spent Acid Tank (06-F036-TNK)
T095	Plant 6 - Spent Acid Tank (06-F035-TNK)
T096	6,192 GAL. FIXED ROOF FILTRATE STORAGE TANK
T097	6,192 GAL. FIXED ROOF FILTRATE STORAGE TANK
T098	22,100 GAL. FIXED ROOF FILTRATE STORAGE TANK
T099	6,192 GAL. FIXED ROOF FILTRATE STORAGE TANK
T100	3,700 GAL. FIXED ROOF ACCOUNTABILITY TANK
T101	PLANT 2/3 - Filtrate stor (SL) (F3E-409)
T102	5800 GAL FIXED ROOF URANYL NITRATE STORAGE TANK EP
T103	5800 GAL FIXED ROOF URANYL NITRATE STORAGE TANK EP
T104	5800 GAL FIXED ROOF URANYL NITRATE STORAGE TANK EP
T106	7,833 GAL FIXED ROOF SUMP ACCUMULATOR STORAGE TANK
T107	7,833 GAL FIXED ROOF SUMP ACCUMULATOR STORAGE TANK
T109	PLANT 2/3 - Solvent storage tk (G2-4)
T111	K-65 SILO #1 STORAGE TANK-RADIUM CAKE
T112	K-65 SILO #2 STORAGE TANK-RADIUM CAKE
T113	RAILROAD ENGINE HOUSE DIESEL FUEL STORAGE TANK
T116	No.3 well Pumphouse strge tk
T117	MAINTANCE SHOP DIESEL FUEL STORAGE TANK
T118	WASTE PIT AREA DIESEL FUEL STORAGE TANK
T120	S. SPENT SOLVENT STORAGE TANK (CB), PILOT PLANT
T121	N. SPENT SOLVENT STORAGE TANK (AX), PILOT PLANT
T124	30,500 GAL. DILUTE HYDROFLORIC ACID STORAGE TANK
T125	30,500 GAL. DILUTE HYDROFLORIC ACID STORAGE TANK
T126	4,200 Sulfuric acid-93% STORAGE tank
T127	50,000 GAL. METHANOL STORAGE TANK W/I.F.R.
T128	36,000 GAL. CAP. AHF STORAGE TANK: HF SCRUBBER
T129	36,000 GAL. CAP. AHF STORAGE TANK: HF SCRUBBER
T130	36,000 GAL. CAP. AHF STORAGE TANK: HF SCRUBBER
T131	36,000 GAL. CAP. AHF STORAGE TANK: HF SCRUBBER
T141	INGOT PICKLING
T142	ACID WATER TANK
T143	1000 GALLON NITRIC ACID STORAGE TANK
T144	PHOSPHORIC ACID TANK (F2)
T158	CONCENTRATED SULFURIC ACID STORAGE TANK

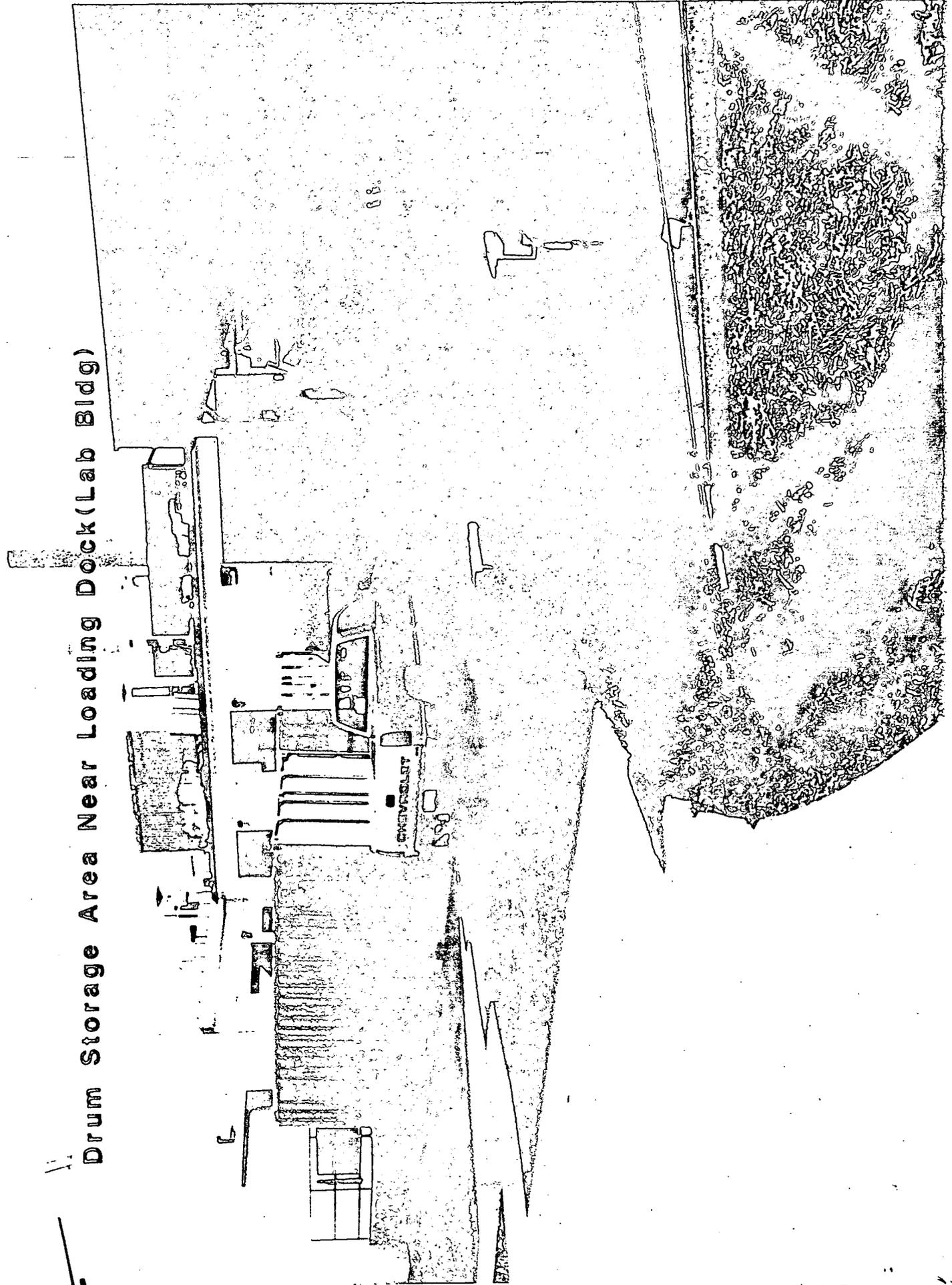




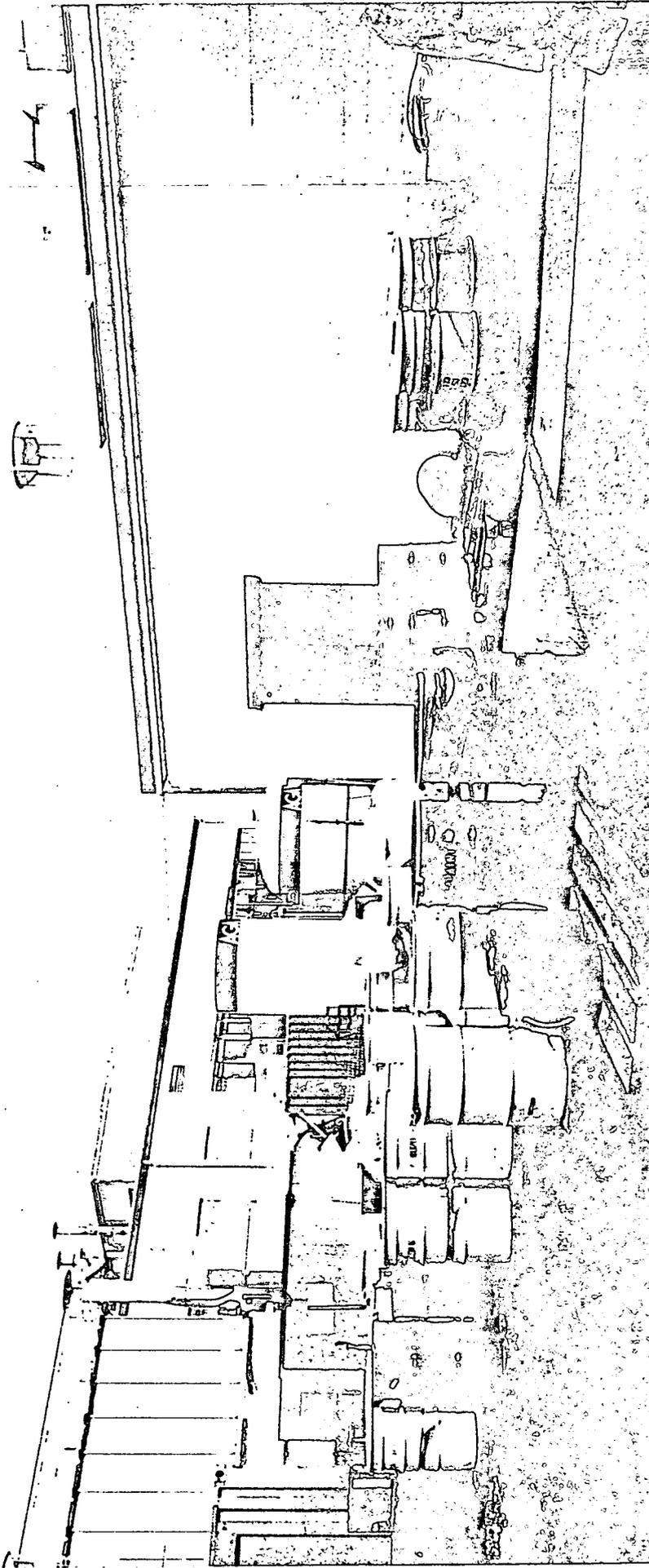
WASTE-OIL STORAGE IN GARAGE



Drum Storage Area Near Loading Dock (Lab Bldg)



DRUM STORAGE AREA SOUTH OF W-26 (LAB BLDG)



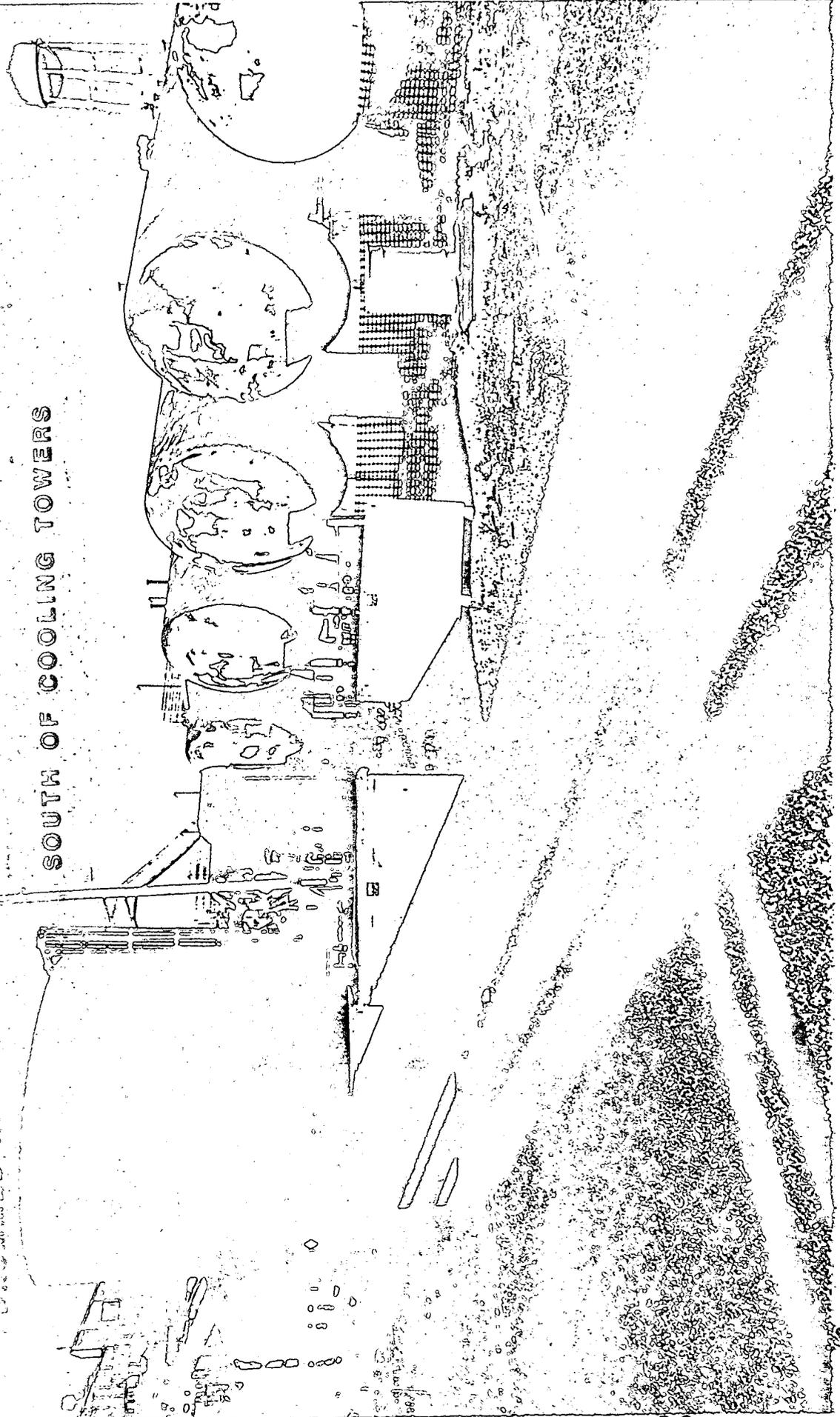


DELIVERED BY REGISTERED MAIL

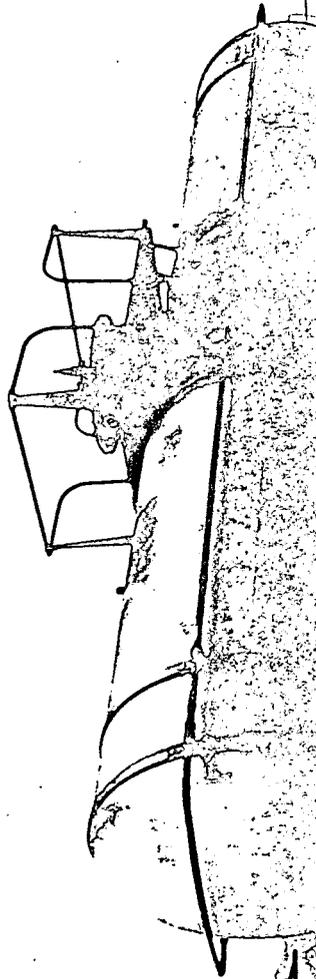


LOCATED AT RESIDUES ASSOCIATED STORAGE AREAS

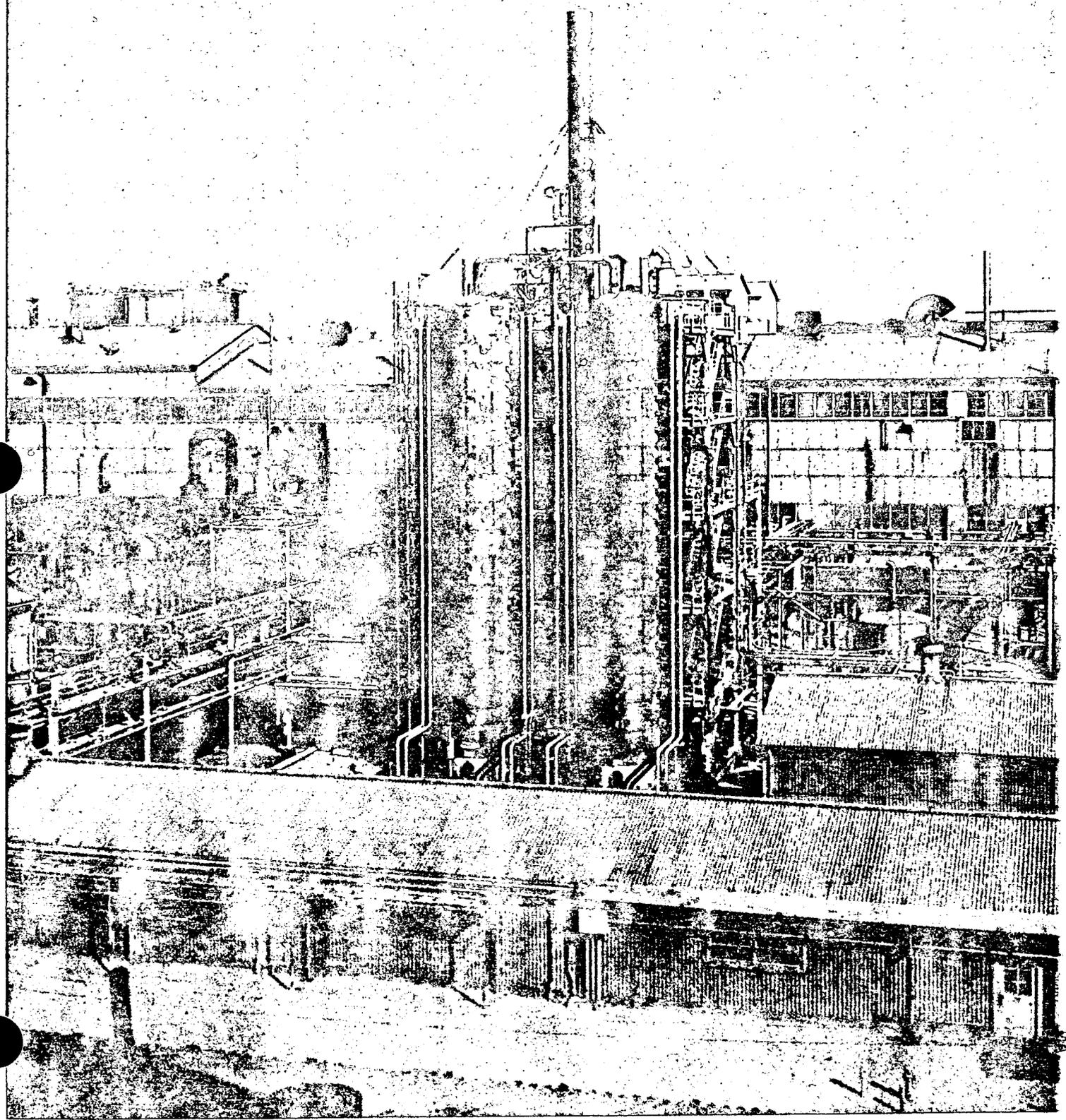
SOUTH OF COOLING TOWERS



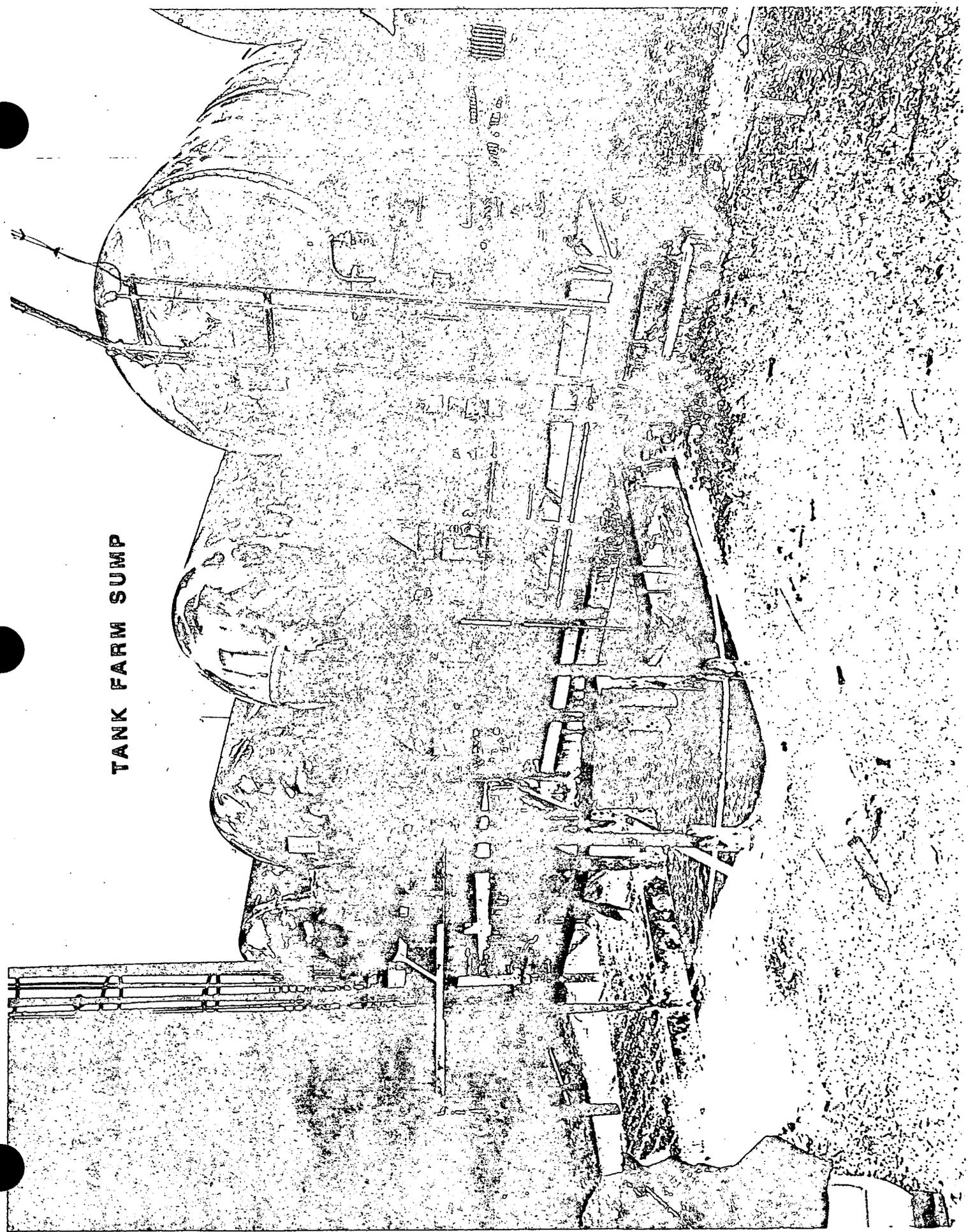
NITRIC ACID RAIL CAR AND AREA

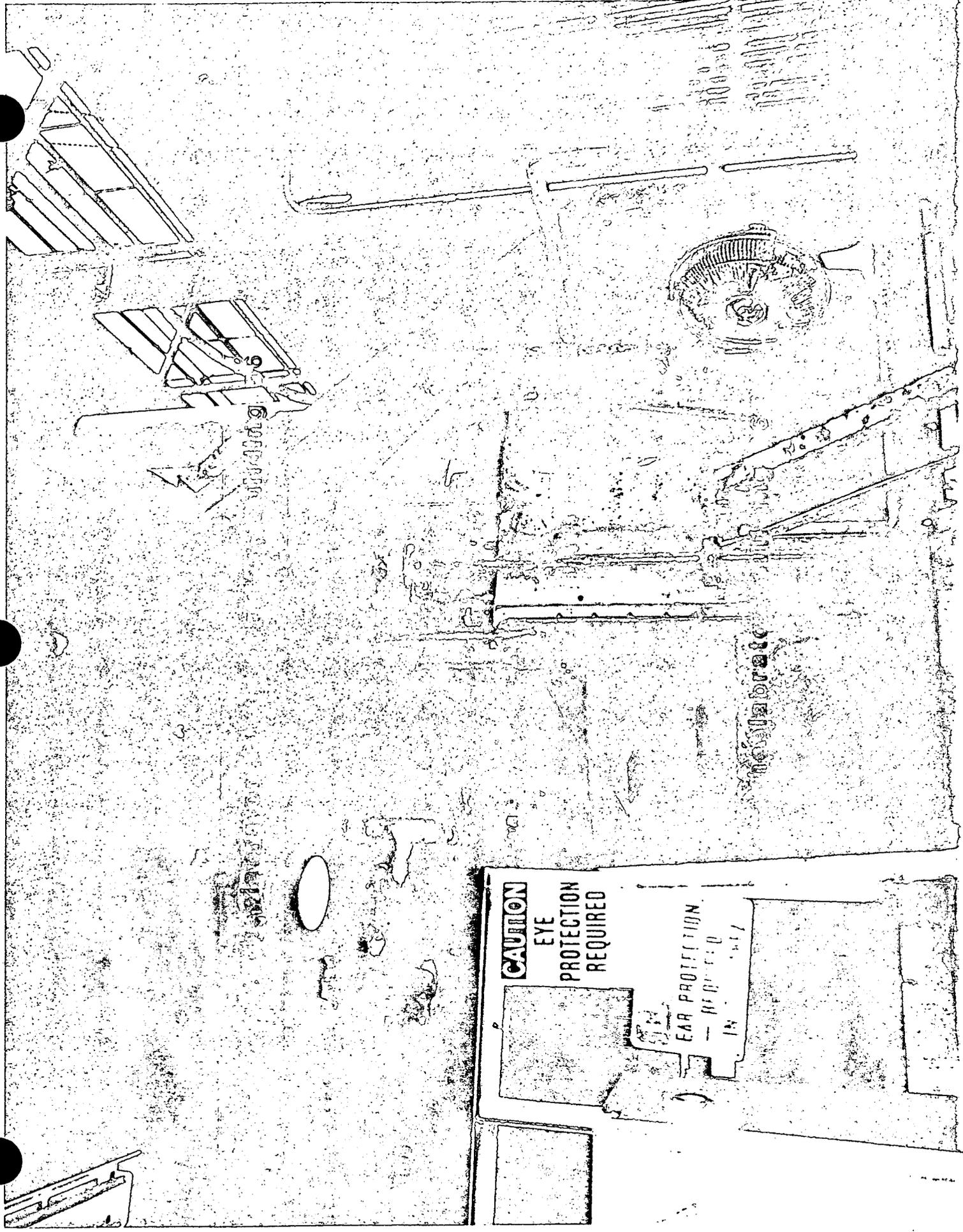


NAF System Components



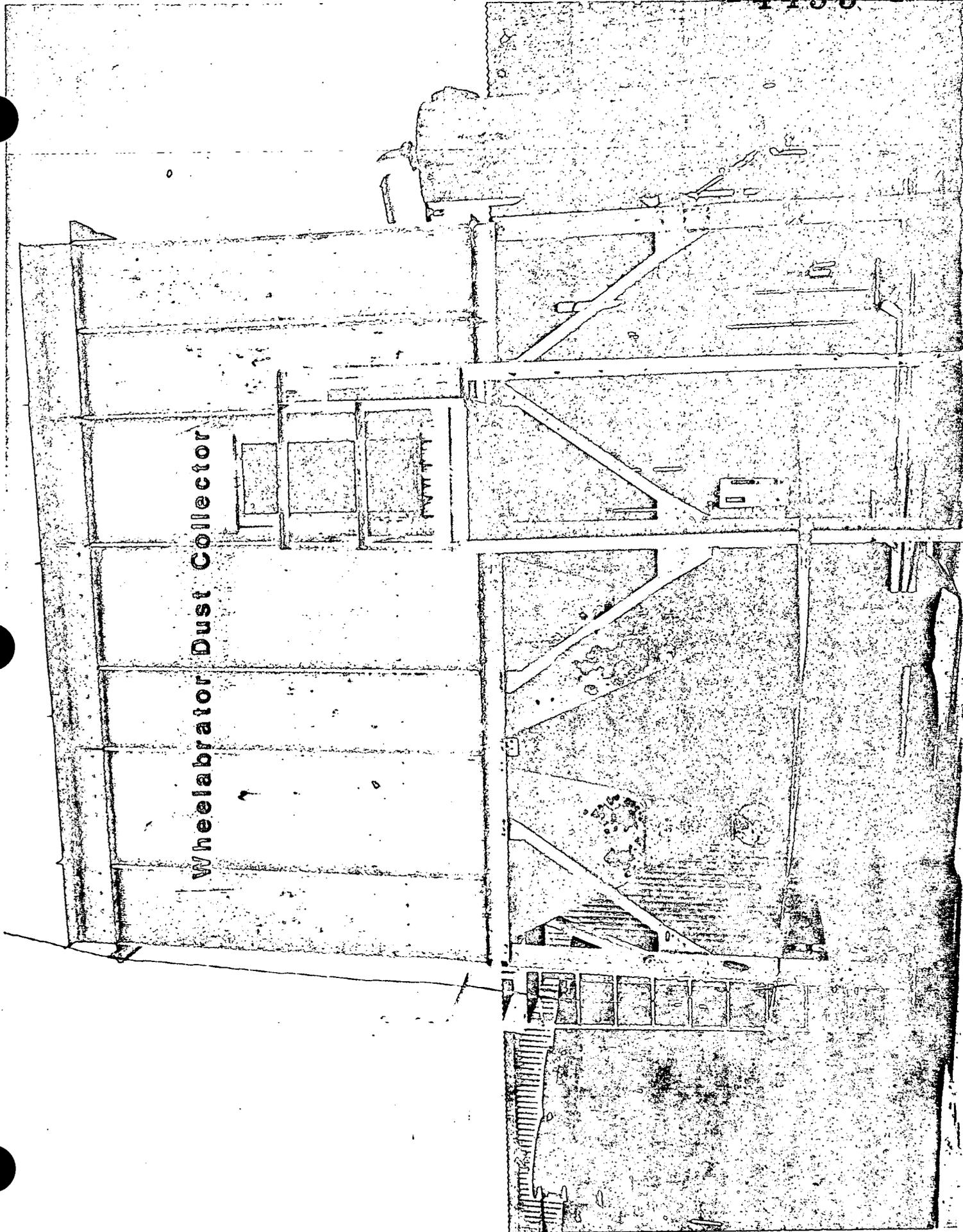
TANK FARM SUMP





CAUTION
 EYE
 PROTECTION
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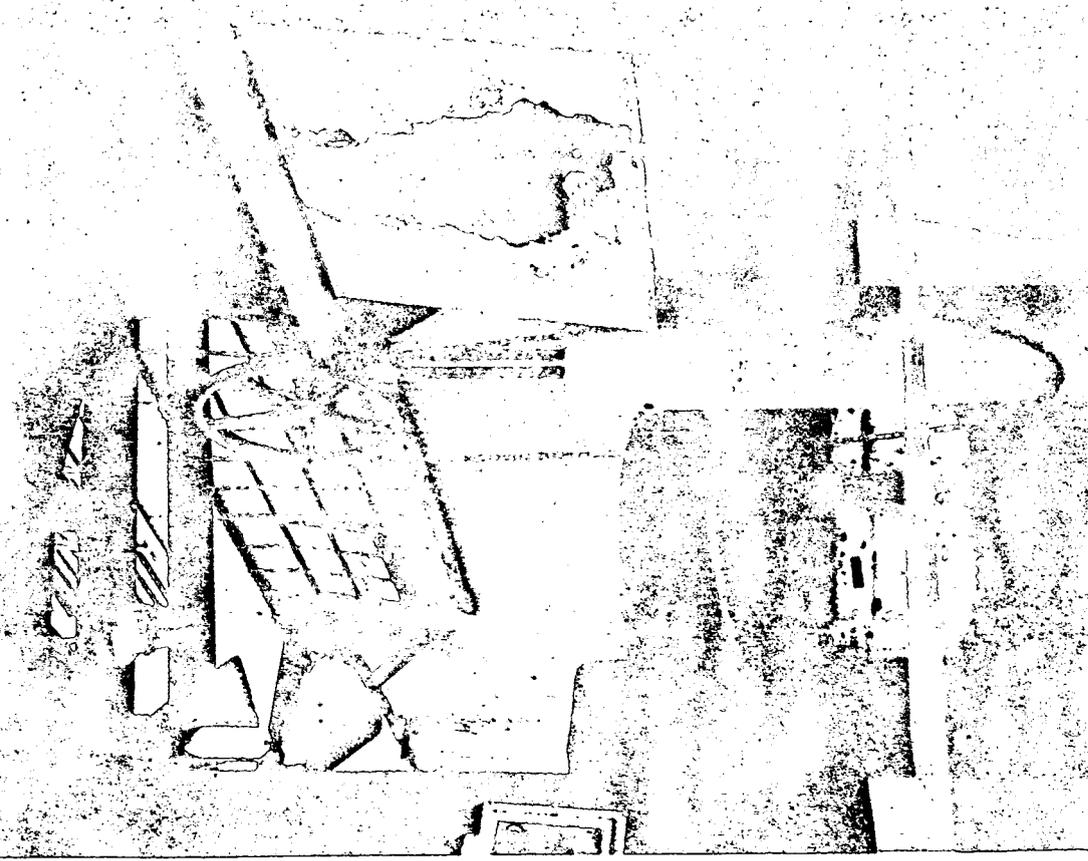
EAR PROTECTION
 - REQUIRED
 IN THIS AREA

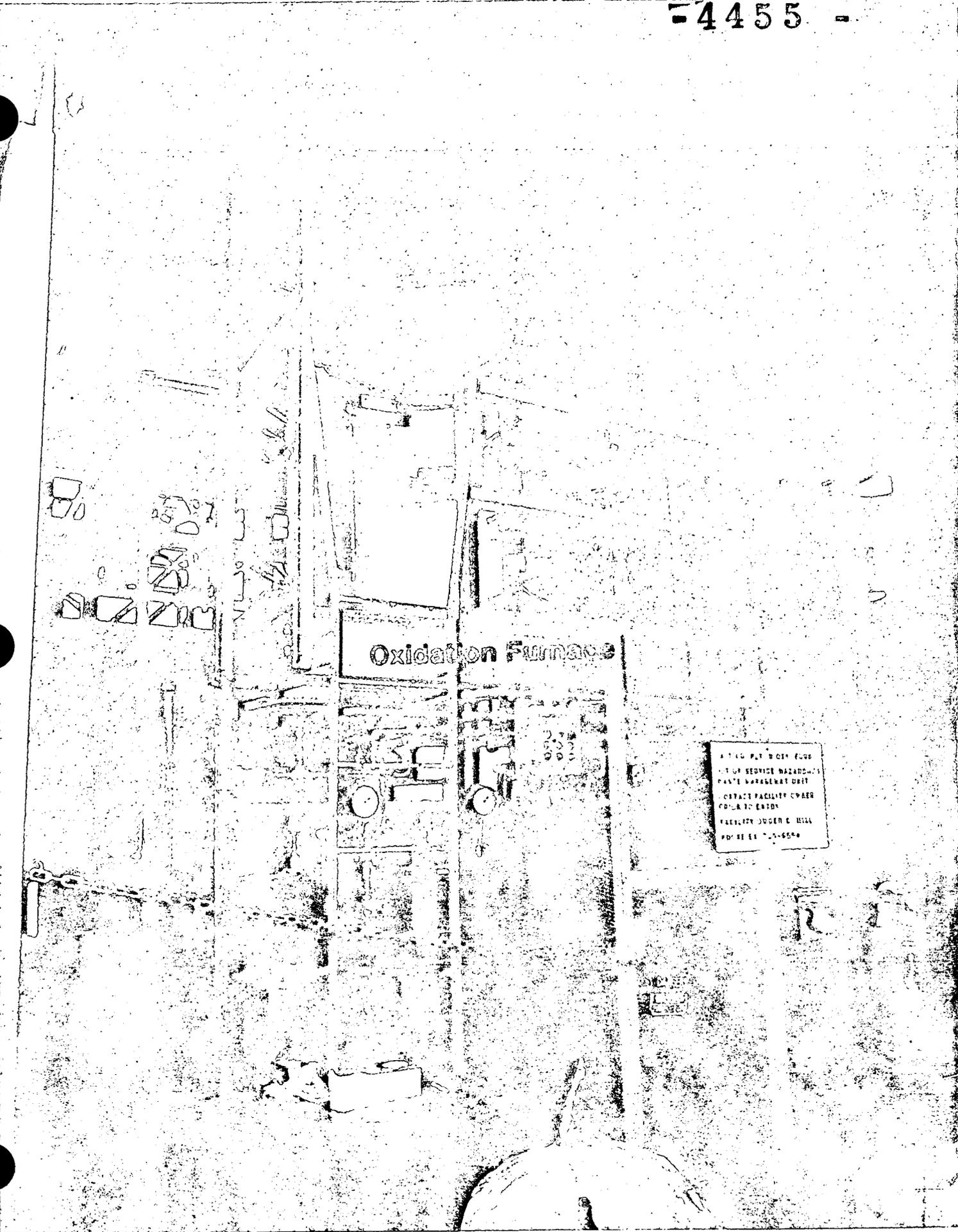


Wheelabrator Dust Collector

UNITED STATES POST OFFICE
 OUT OF SERVICE - HAZARDOUS
 WASTE WORKS UNIT UNIT
 CONTACT FACILITY NUMBER
 PRIOR TO CLOSURE
 FACILITY NUMBER 888
 PHONE 7 0-6554

BOX FURNACE





Oxidation Furnace

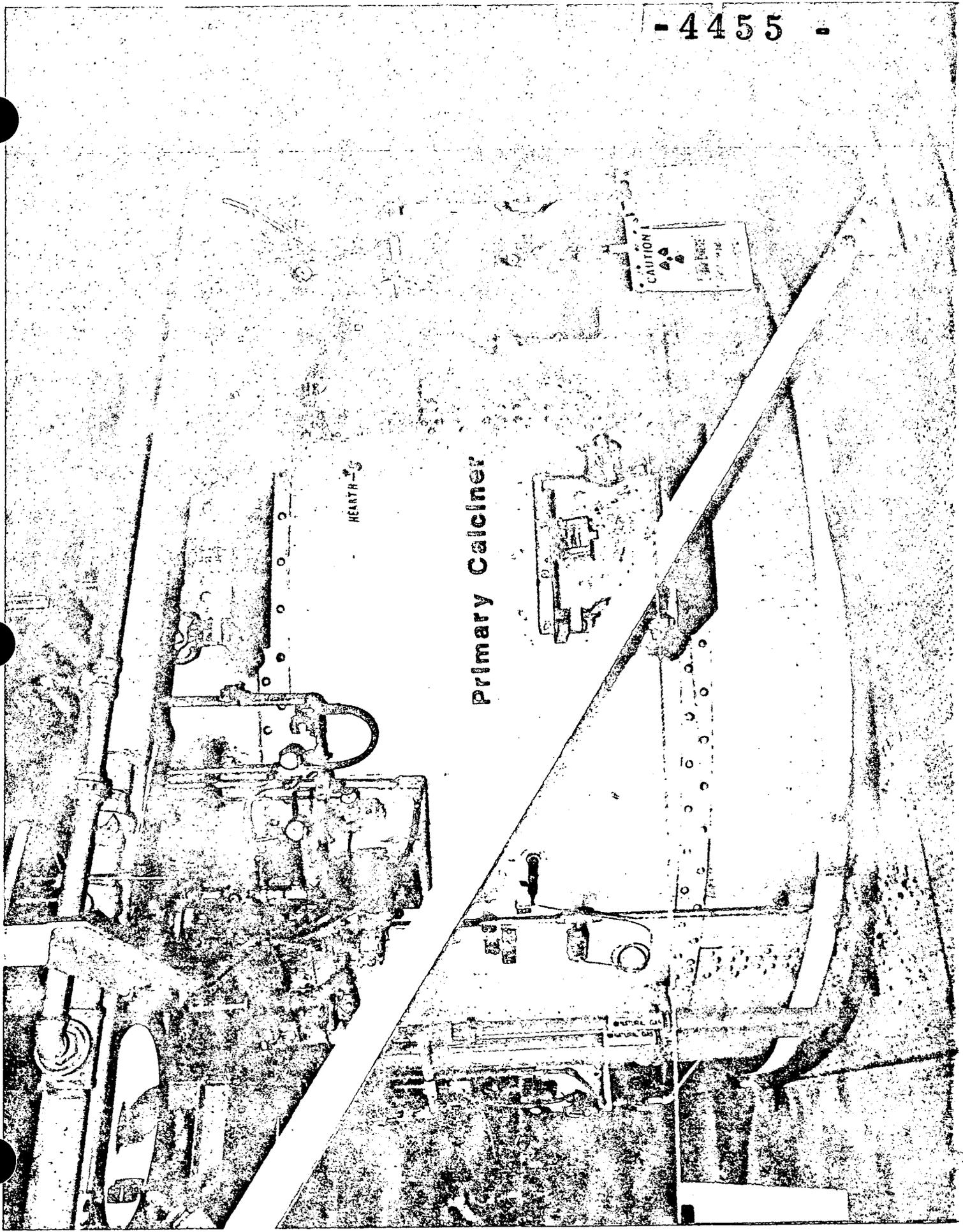
A 100 P.T. 2000 FUGG
UNIT OF SERVICE HAZARDOUS
WASTE MANAGEMENT UNIT
OFFICE FACILITY CWBER
COLLA 20 ESTON
FACILITY JUDER & HILL
NO. 22 22 7-5-65*

Primary Calciner

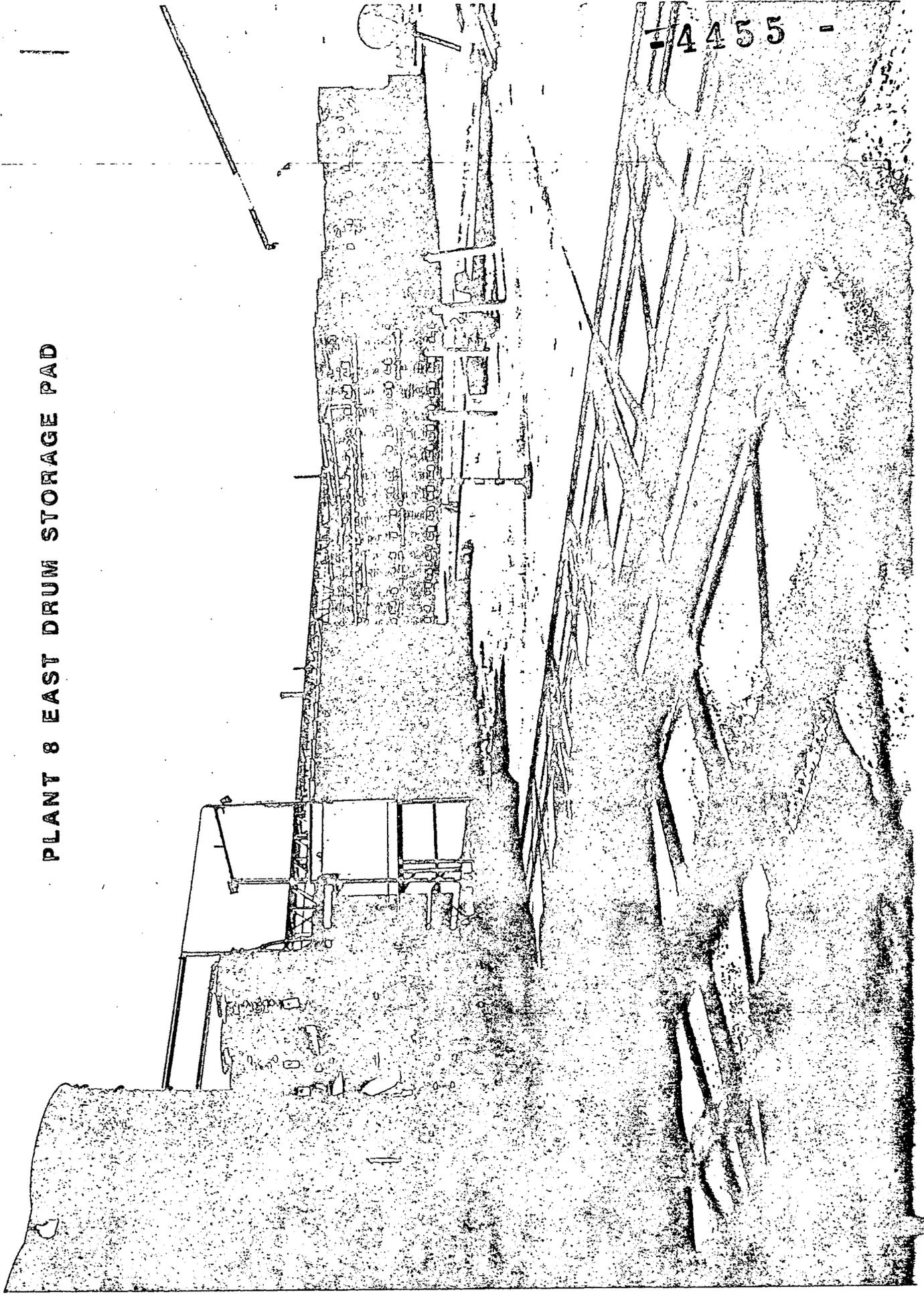
HEARTH - 5

CAUTION
RADIOACTIVE

NATURAL GAS
MANUFACTURED GAS

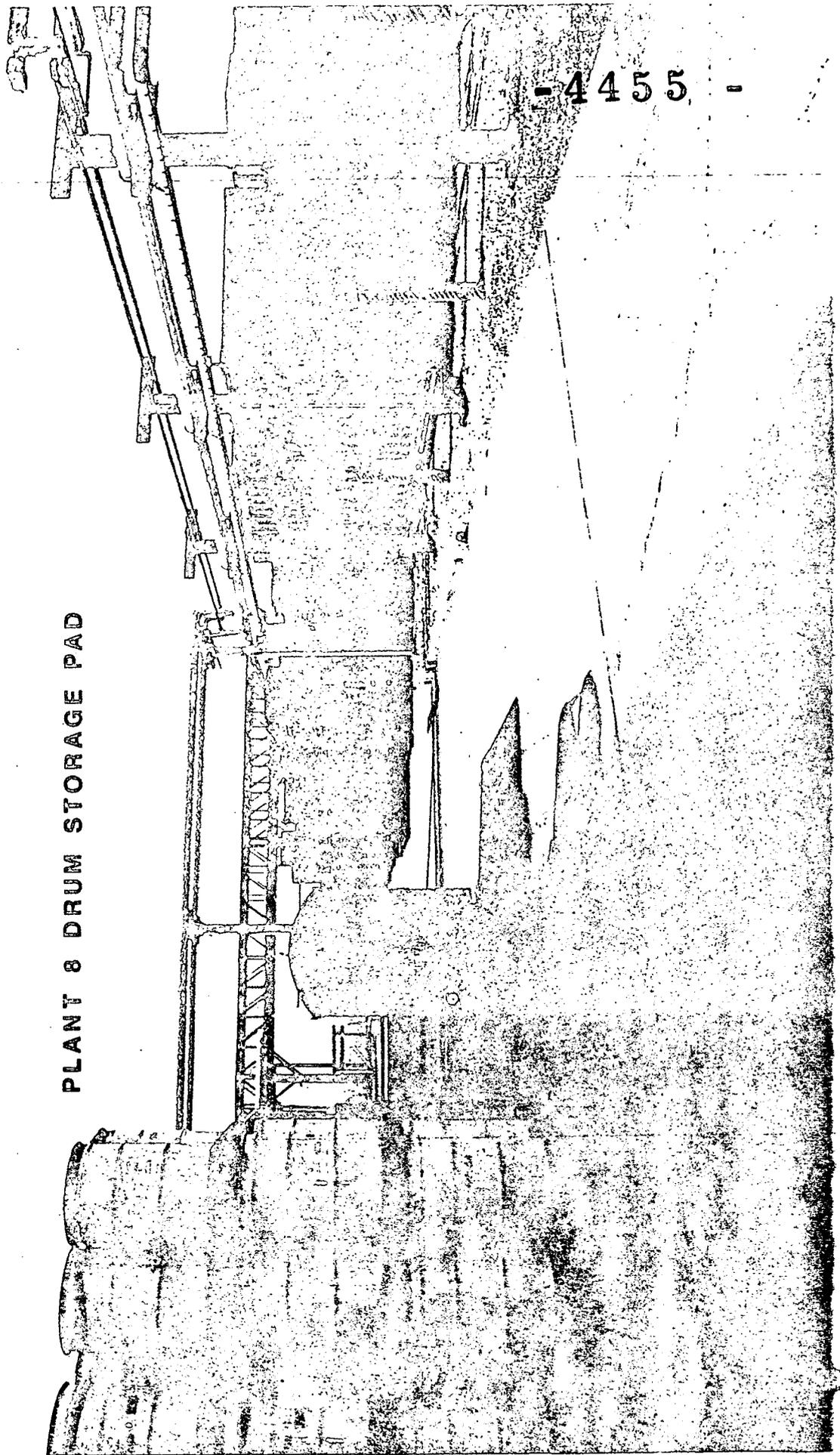


PLANT 8 EAST DRUM STORAGE PAD



4455 -

PLANT 8 DRUM STORAGE PAD

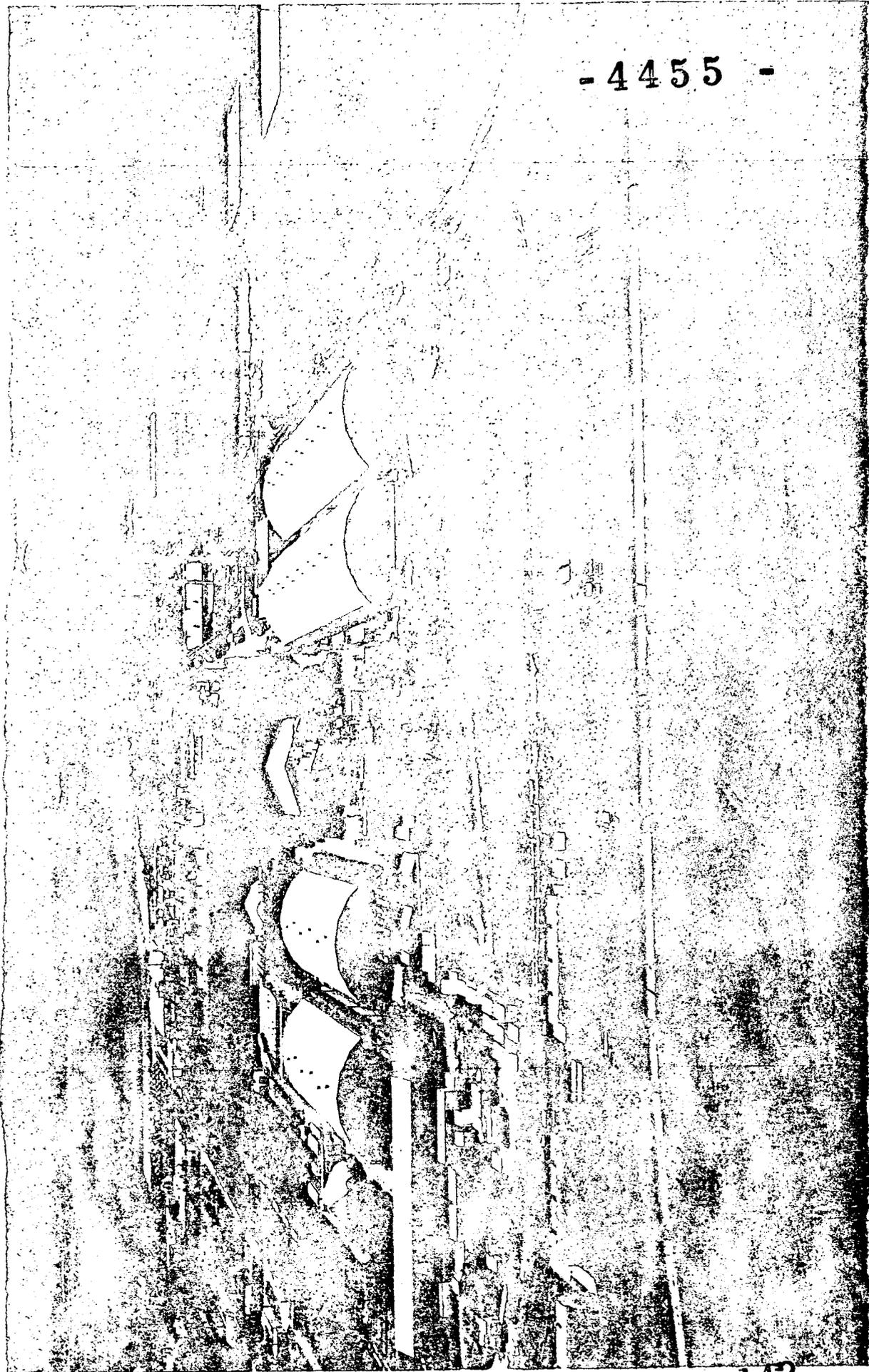


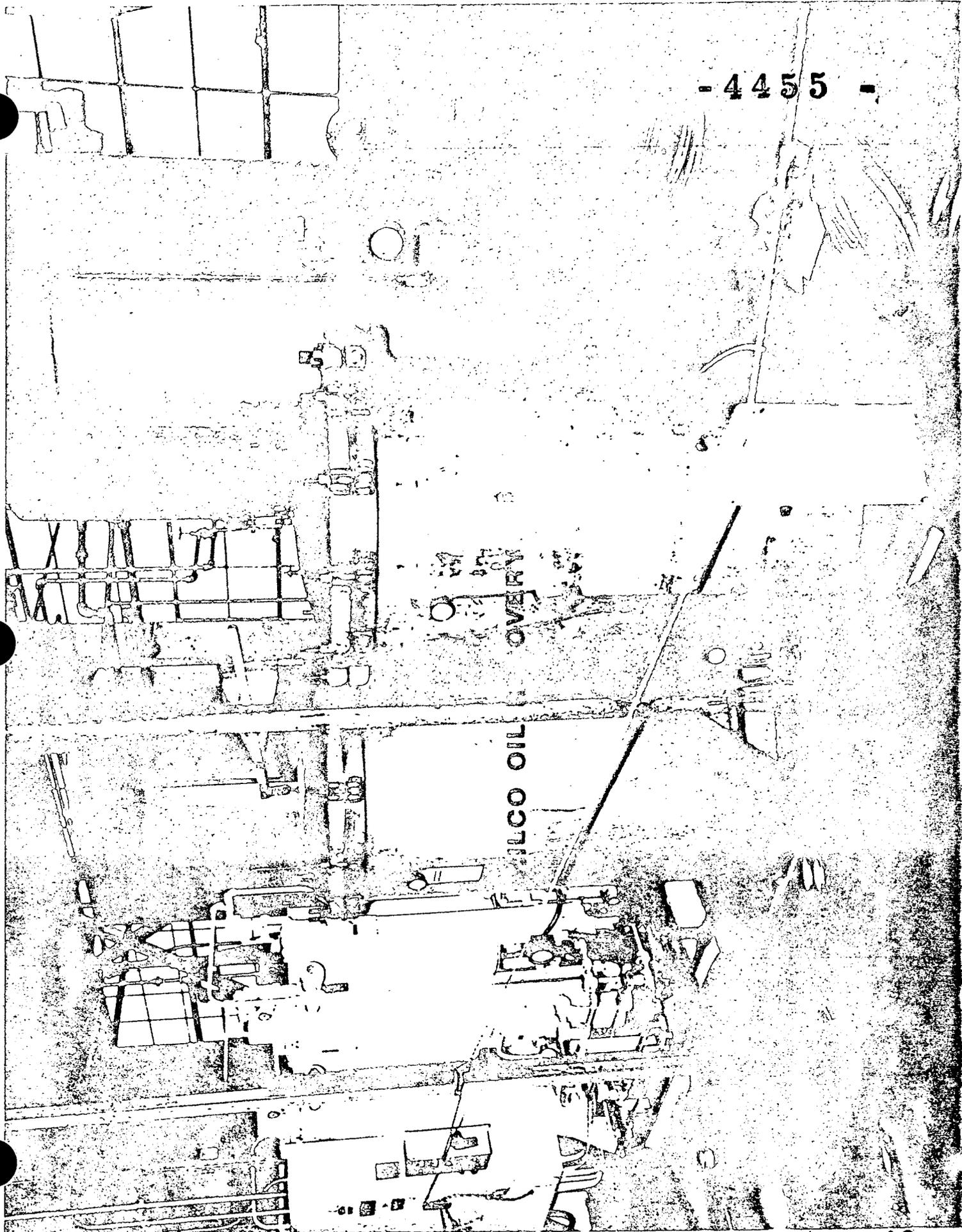
CP STORAGE WAREHOUSE - BLDG. 56 (BUTLER BLDG)

- 4455 -

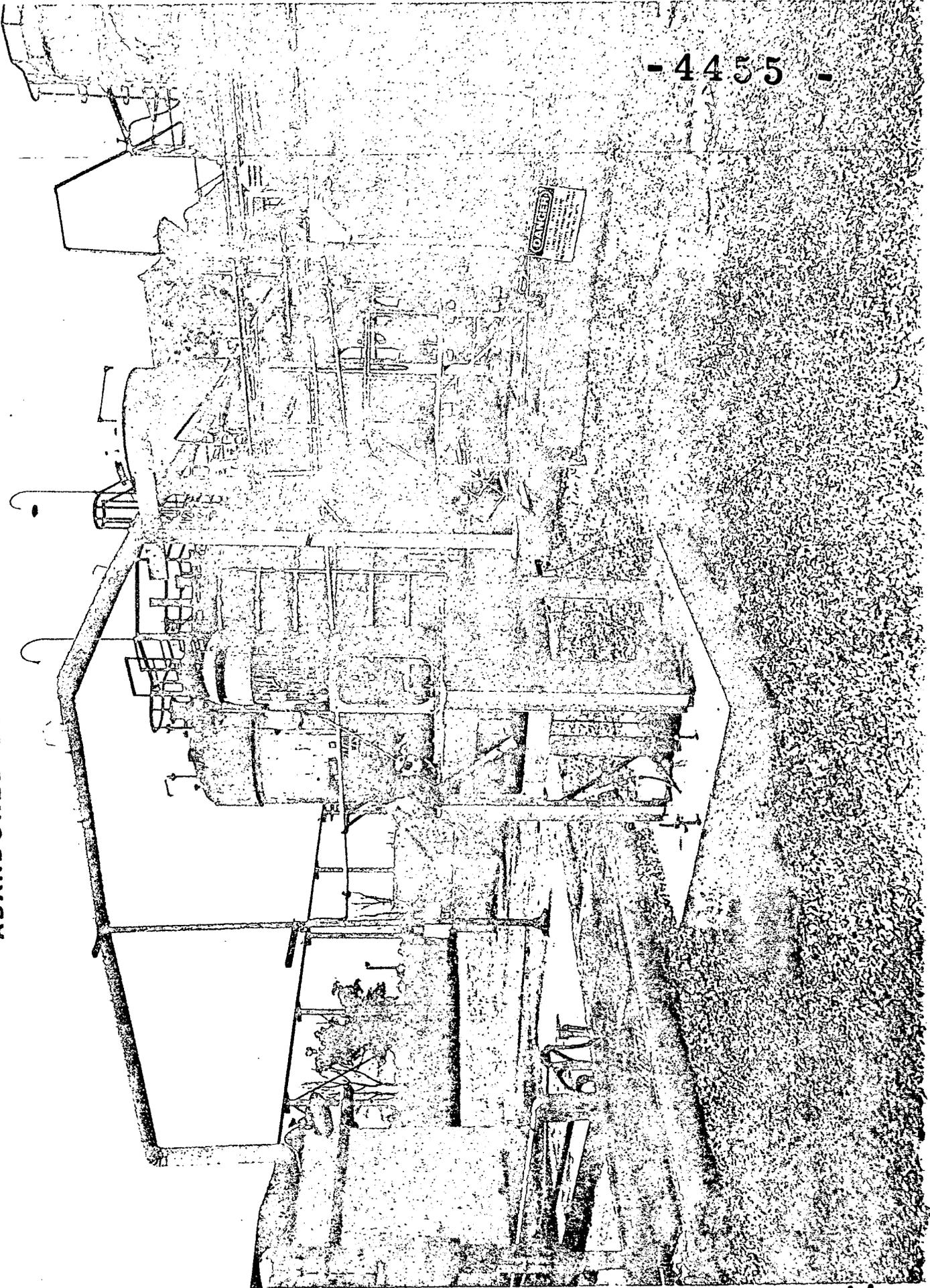


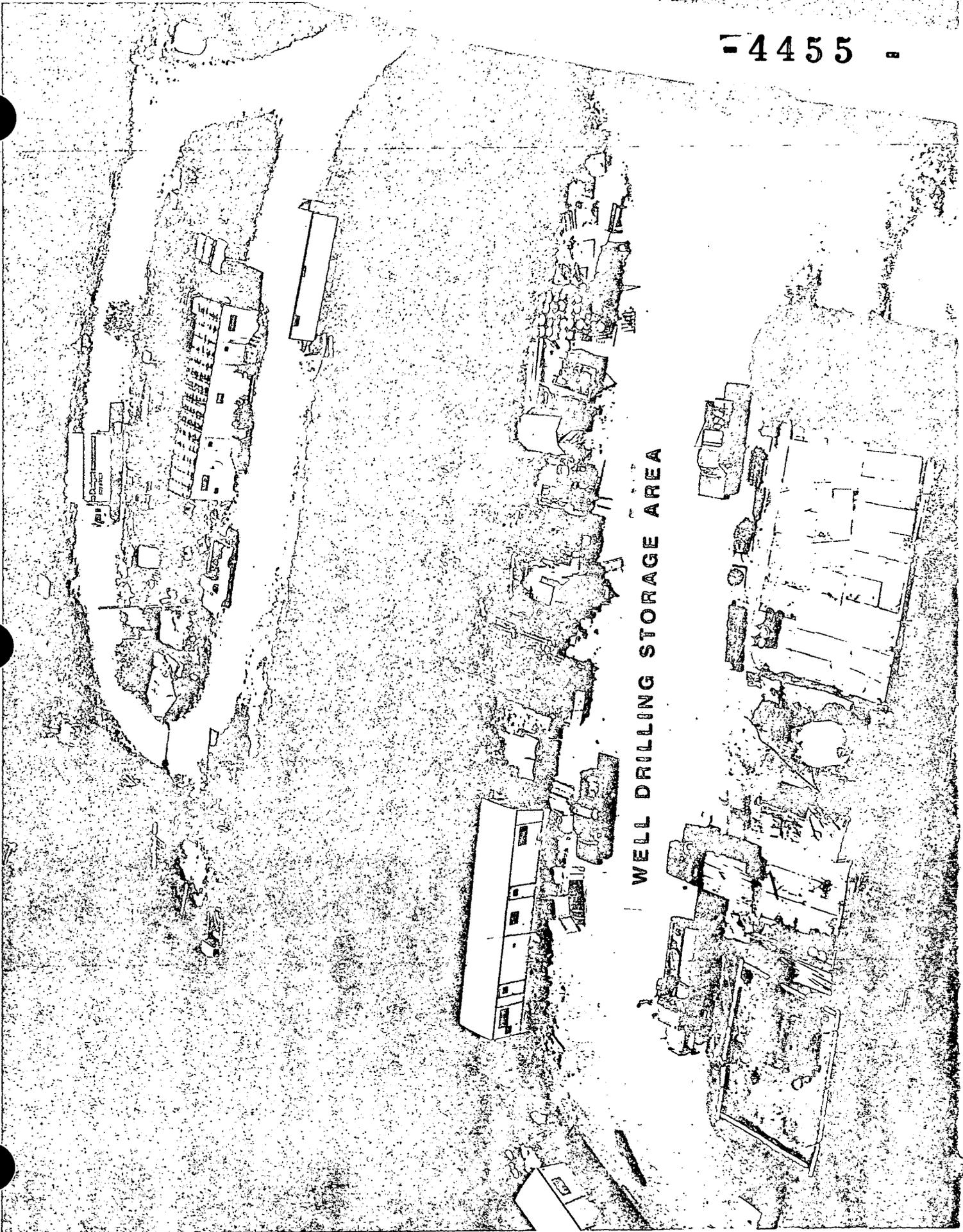
PLANT 1 PAD





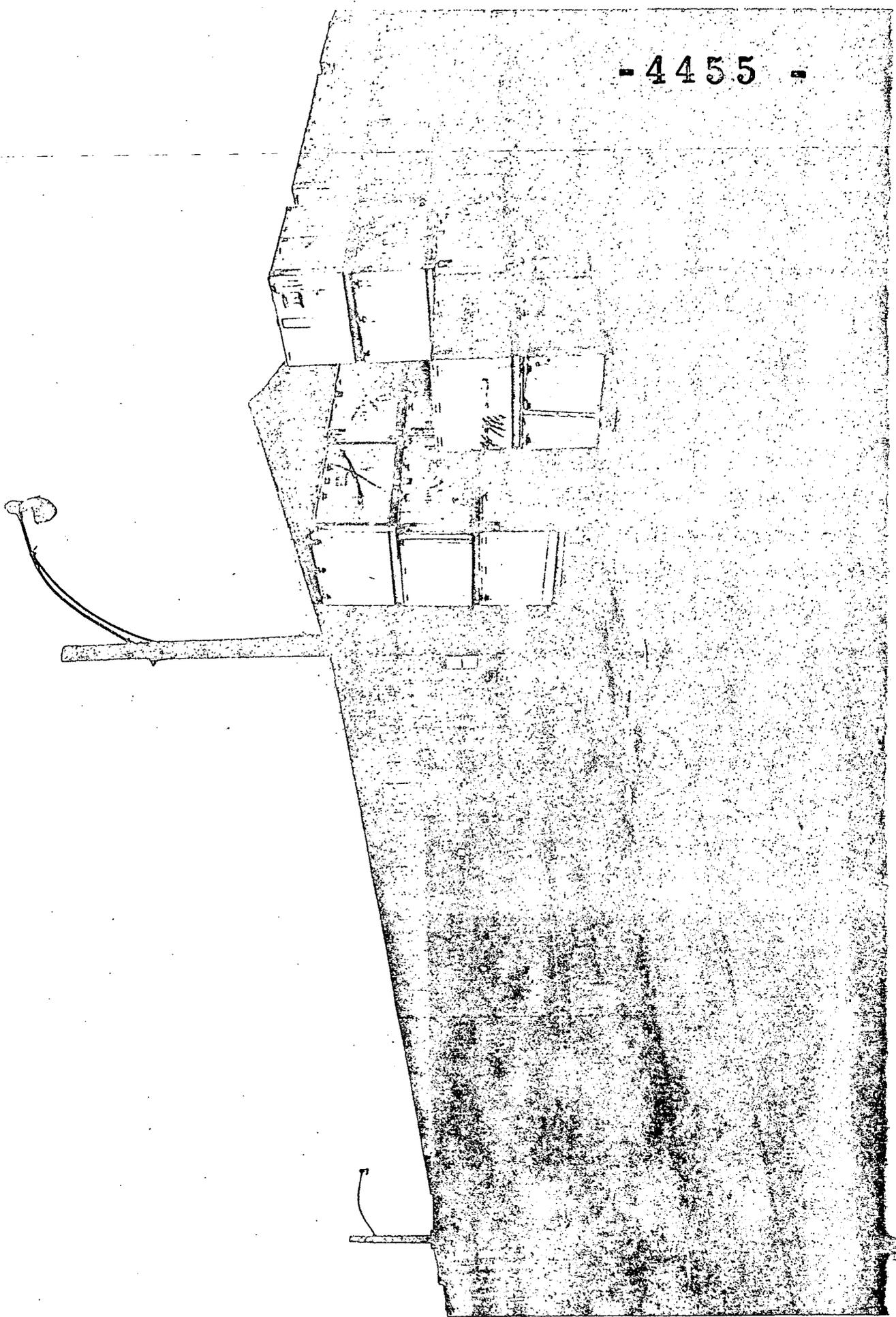
ABANDONED SUMP WEST OF PILOT PLANT



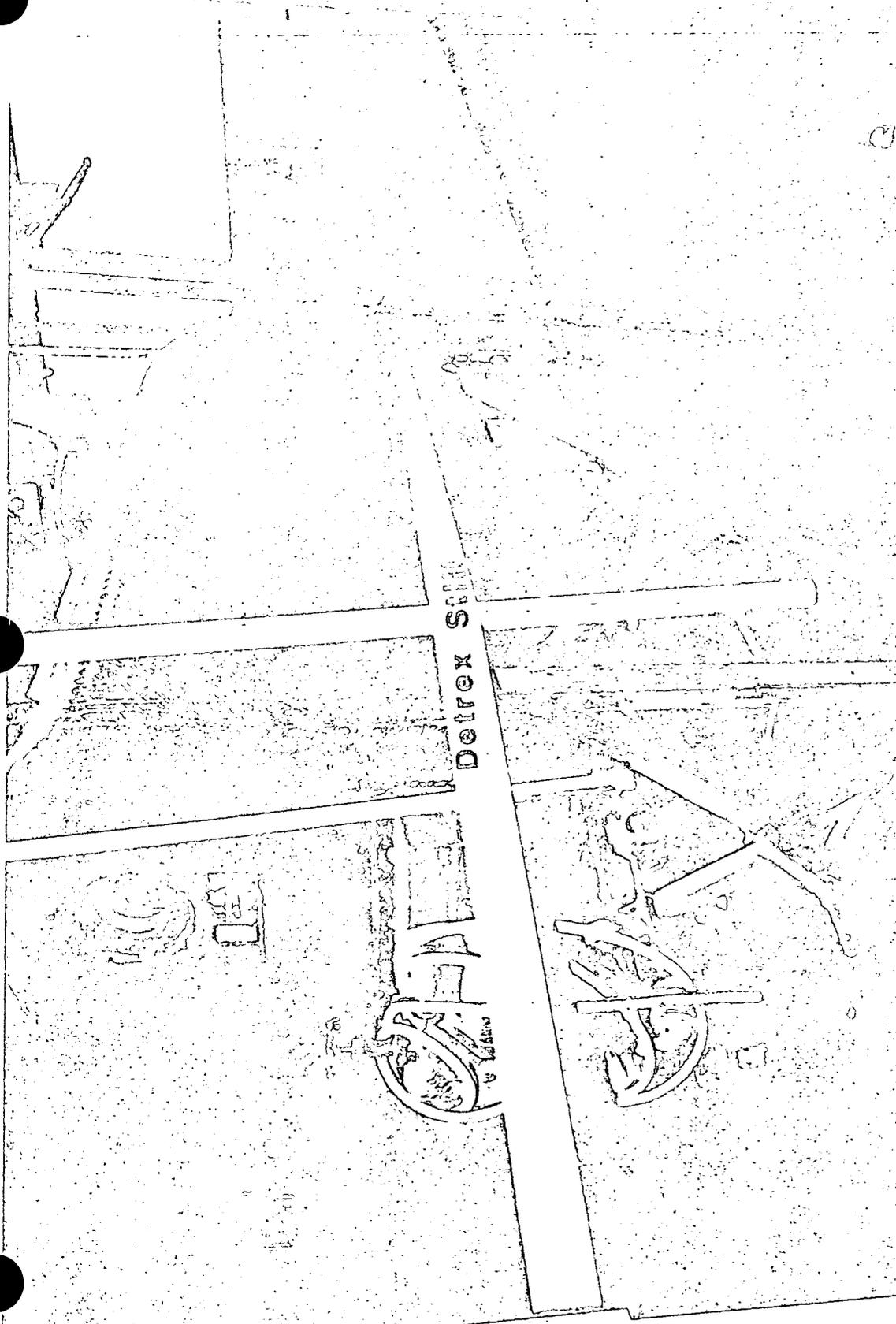


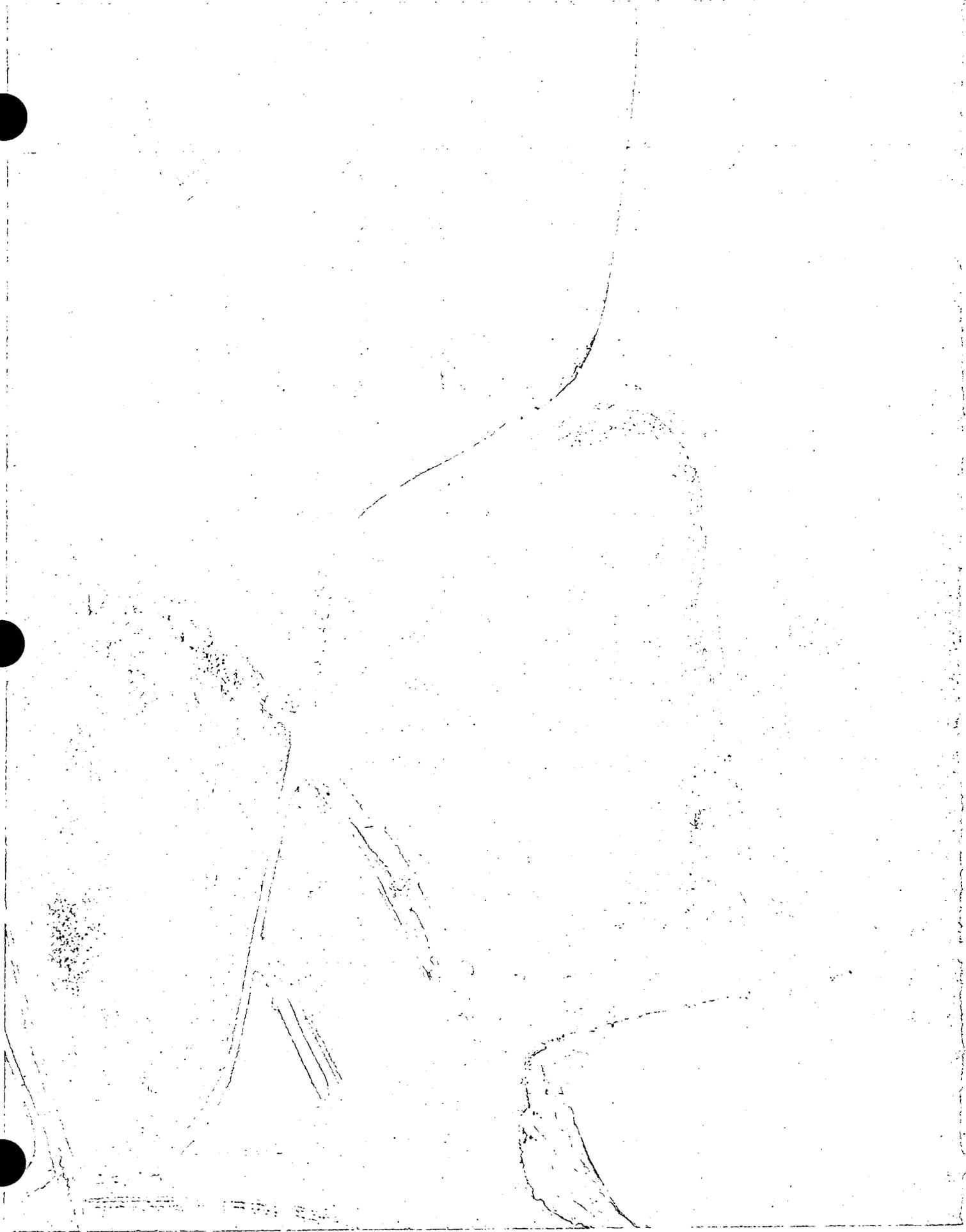
WELL DRILLING STORAGE AREA

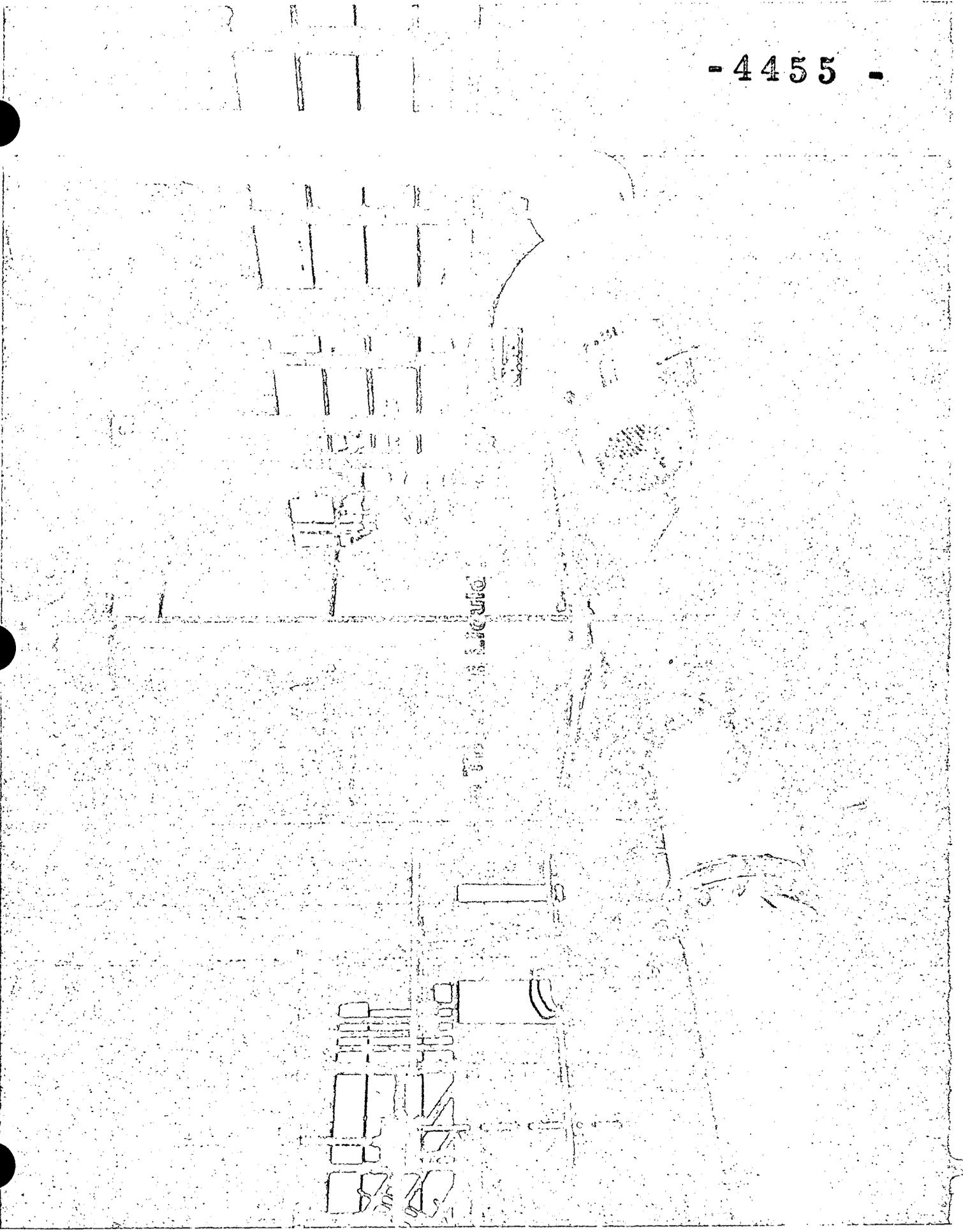
PLANT 1 STORAGE BLDG (BLDG 67)



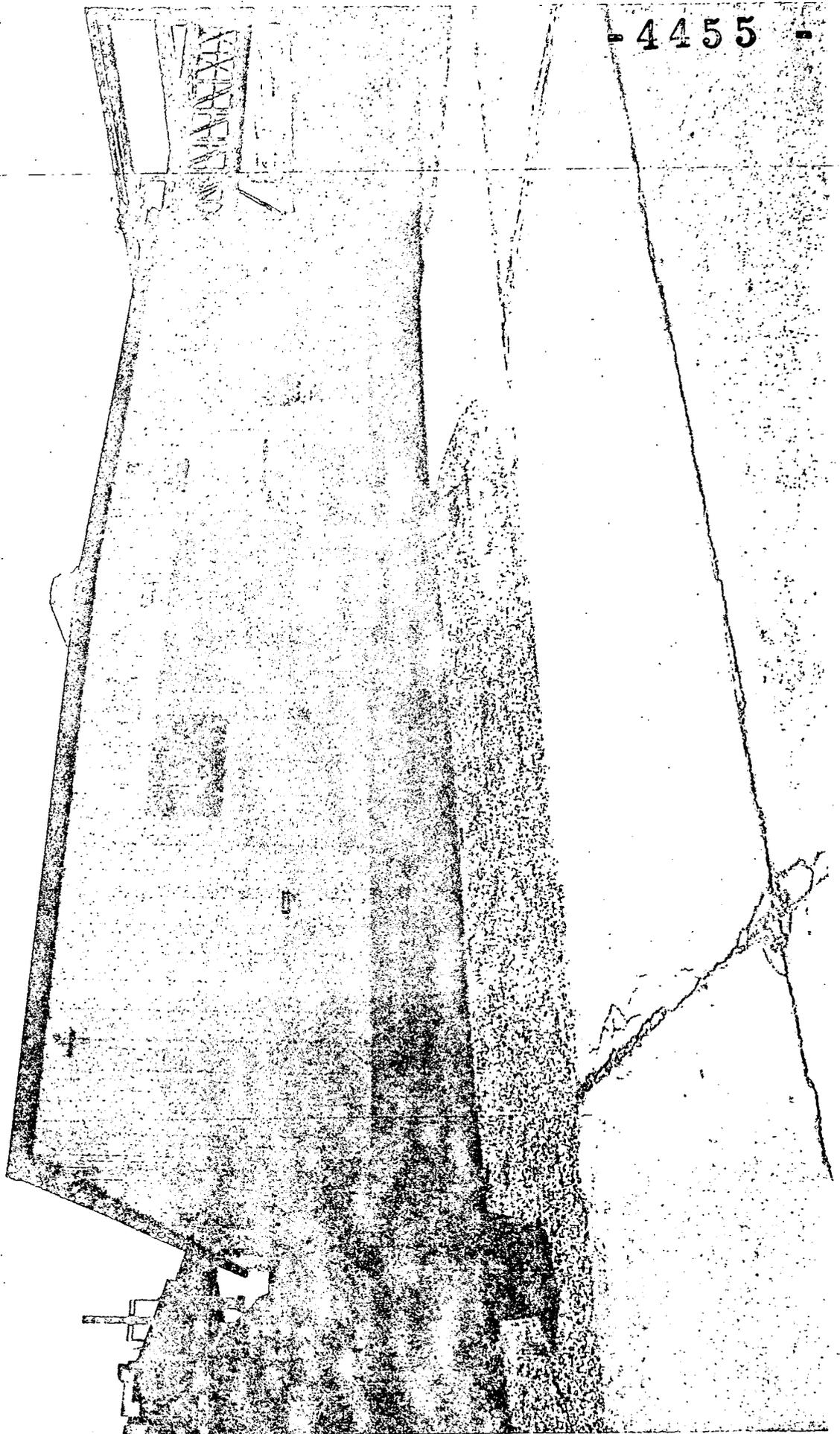
- 4455 -







PLANT 8 WAREHOUSE (BLDG 80)



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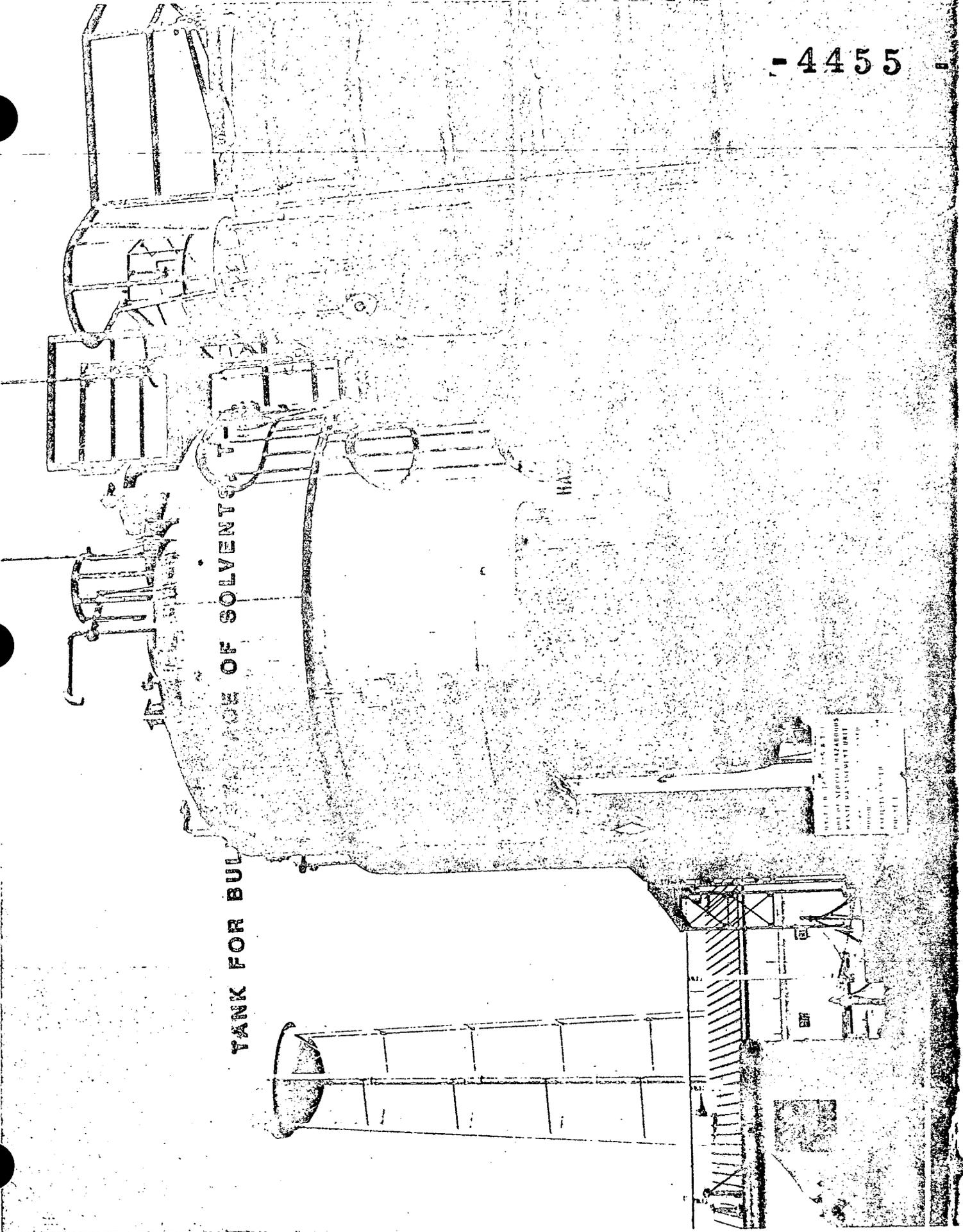
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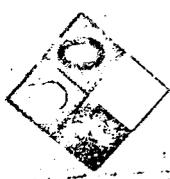
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TANK FOR BULK STORAGE OF SOLVENTS

DRAWN BY: [illegible]
 DATE: 12-15-68
 DIVISION: [illegible]
 PROJECT: [illegible]

TANK FOR BULK STORAGE OF SOLVENTS, T-6



HAZARDOUS WASTE



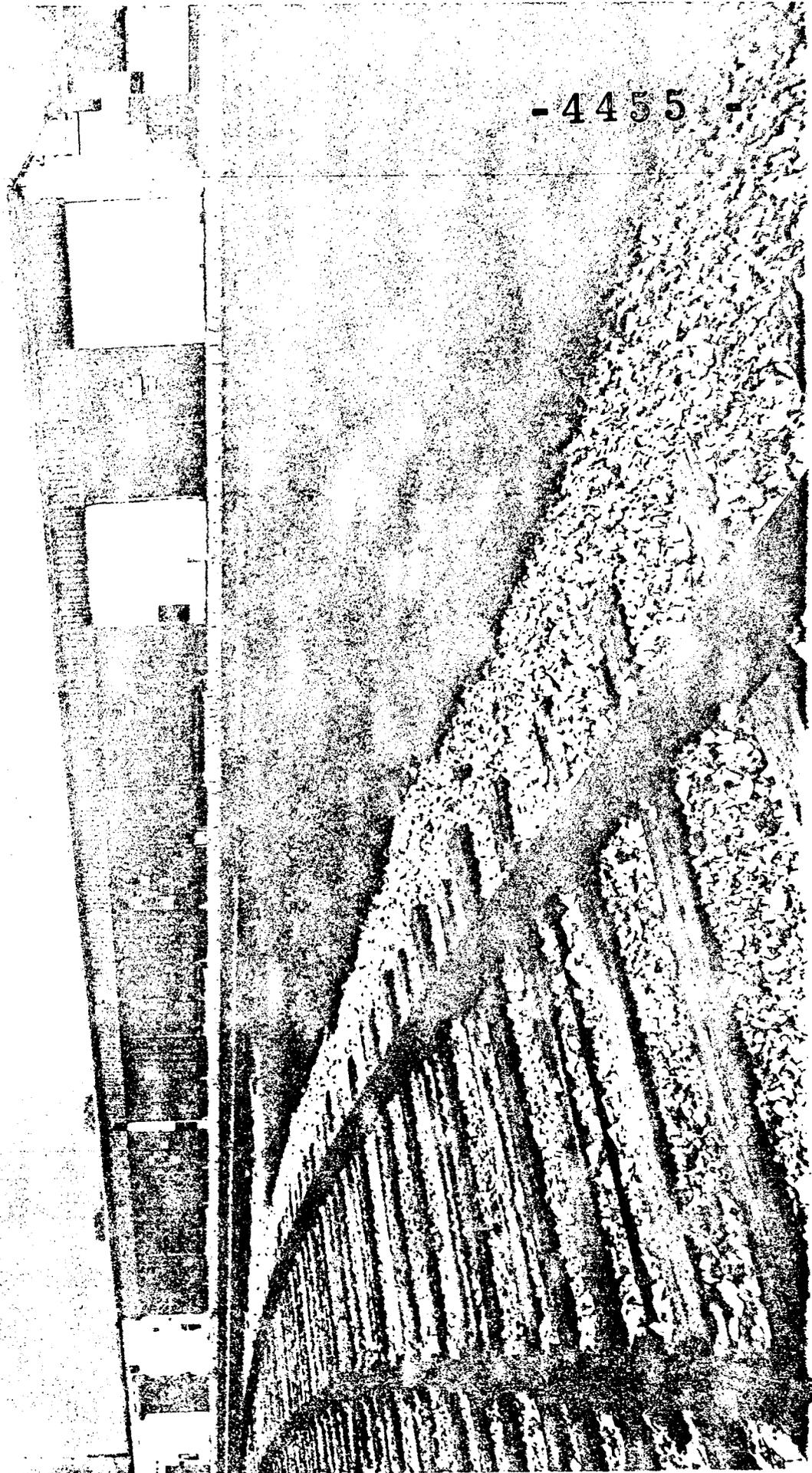
- 4455 -

PILOT PLANT WAREHOUSE (BLDG 68)

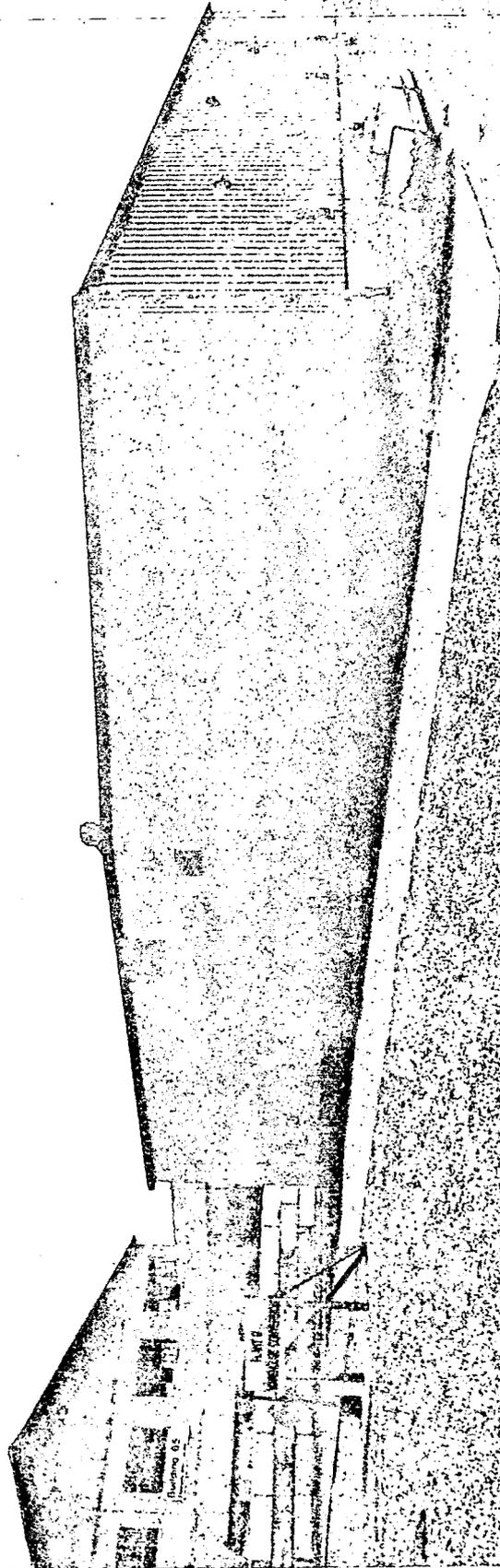


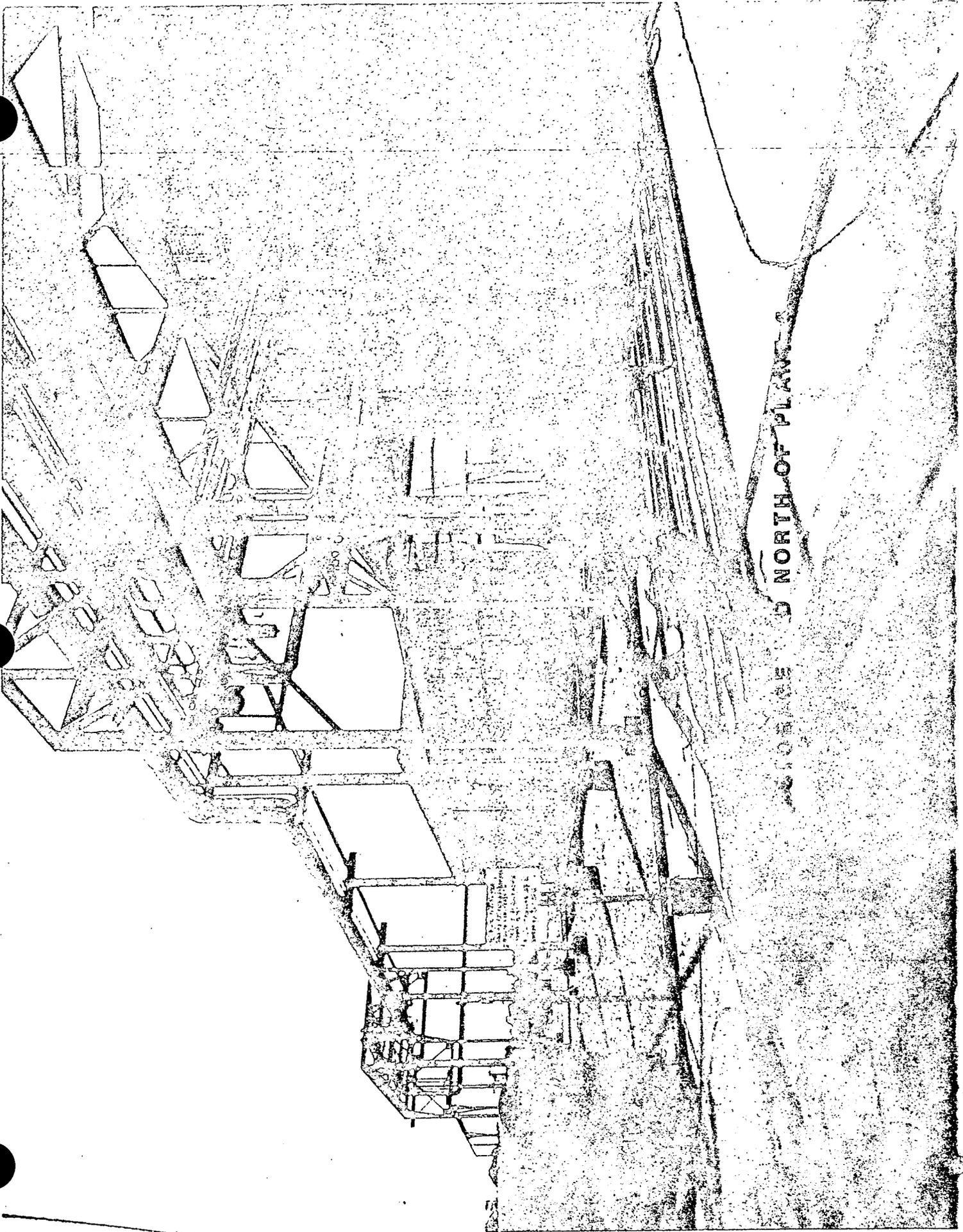
- 4455 -

KC-2 WAREHOUSE (BLDG 63)



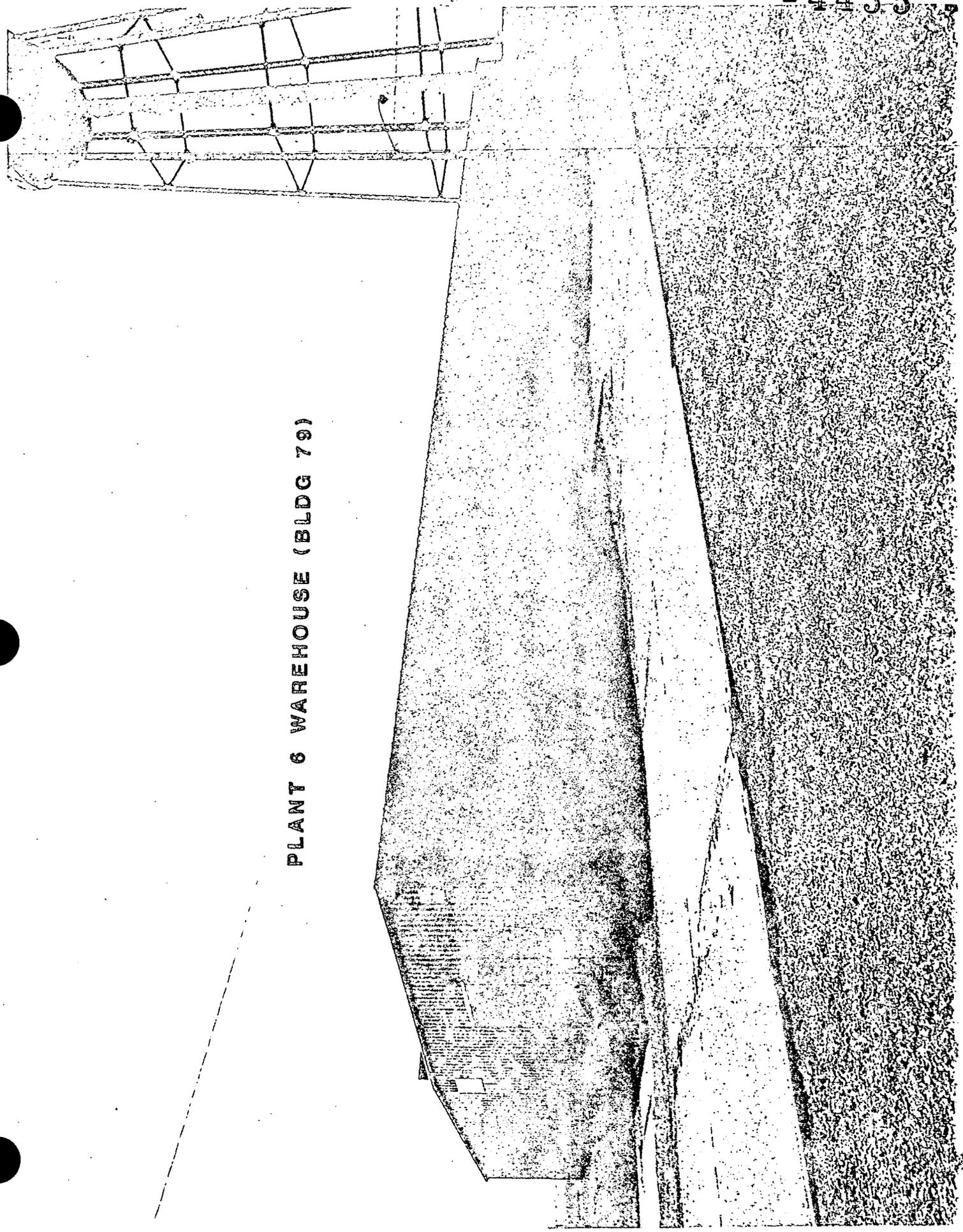
PLANT 9 WAREHOUSE (BLDG 81)



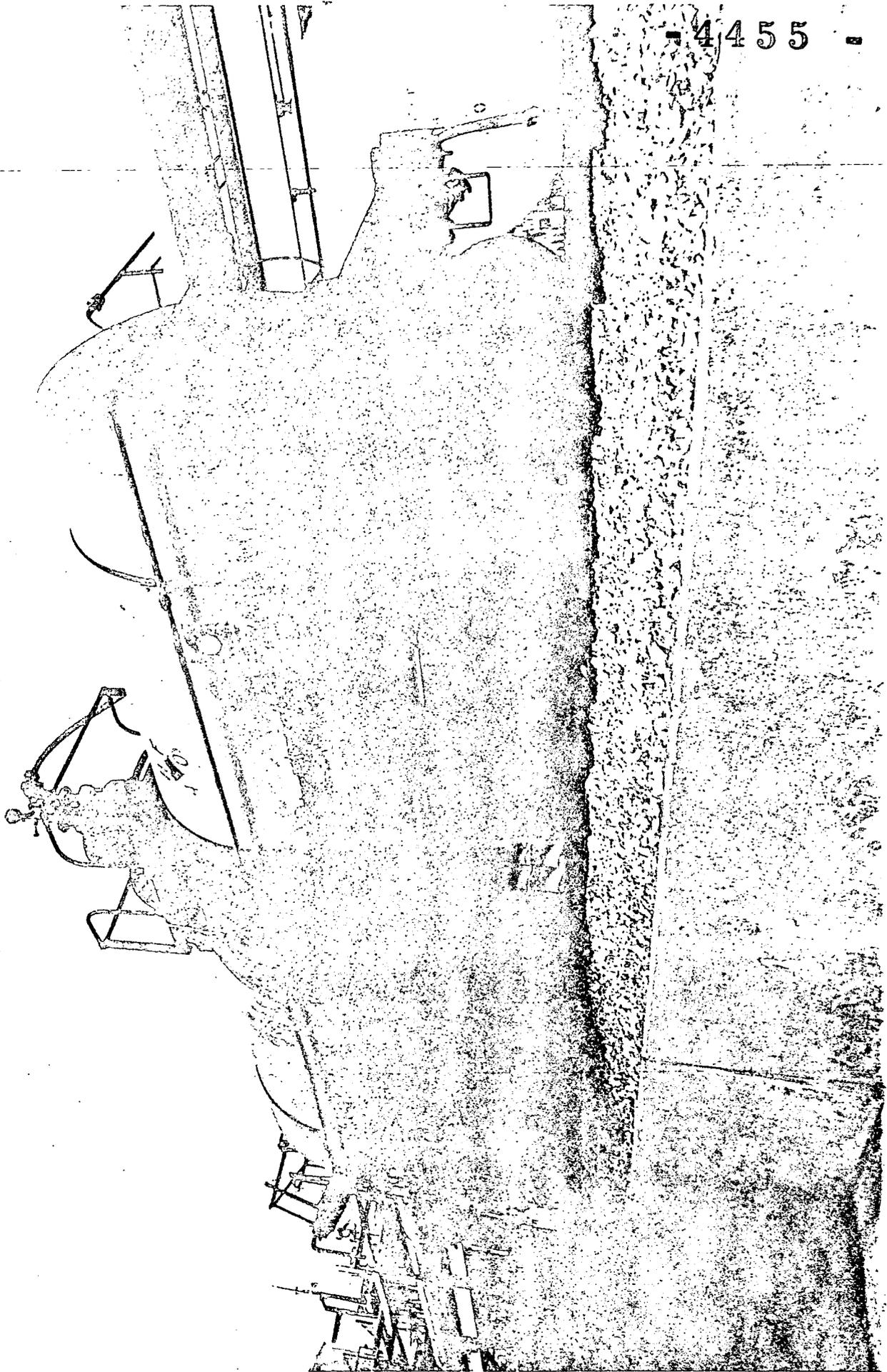


SECTION NORTH OF PLANT

PLANT 6 WAREHOUSE (BLDG 79)



HF TANK CAR



4455

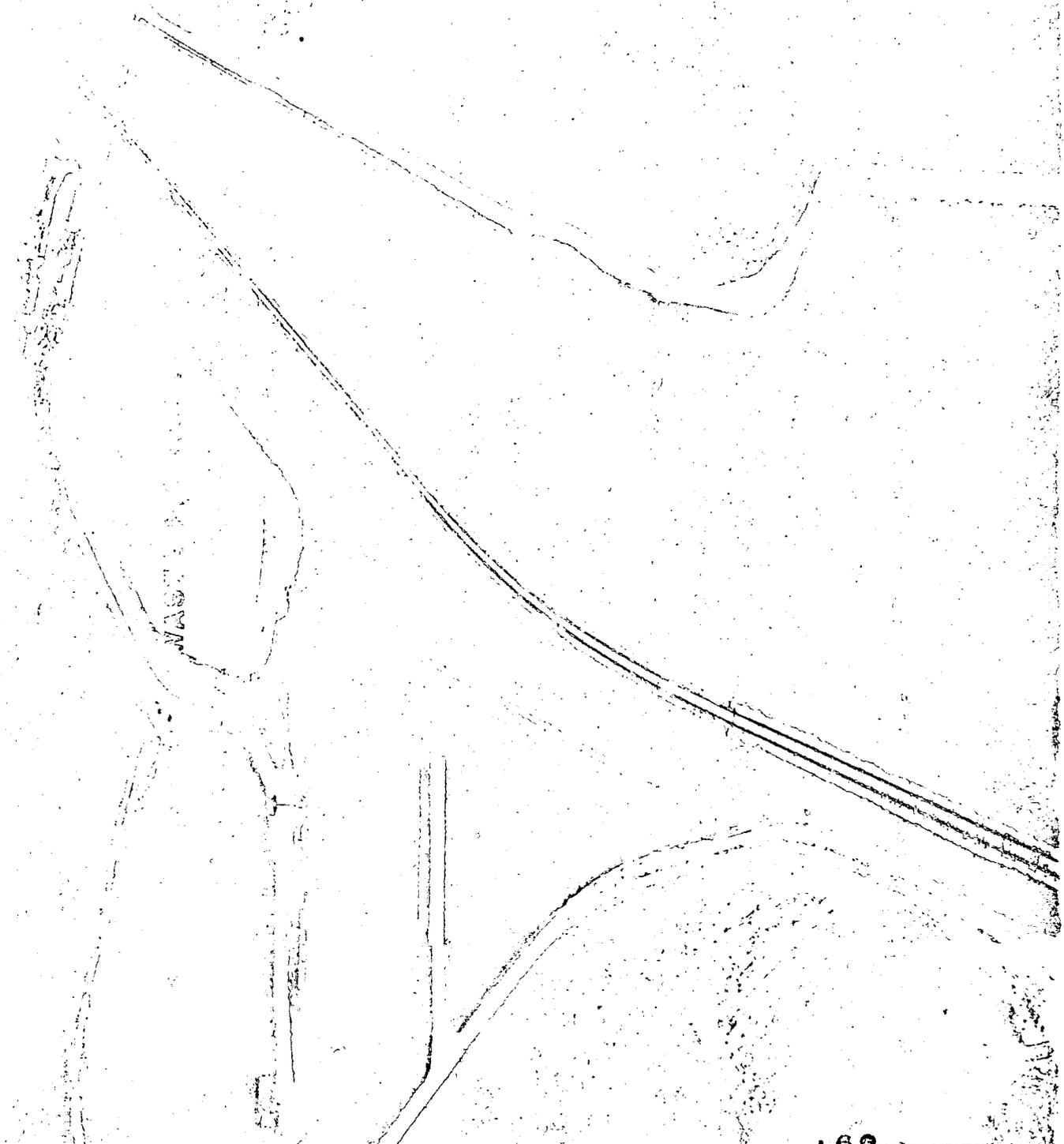
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F4455 -



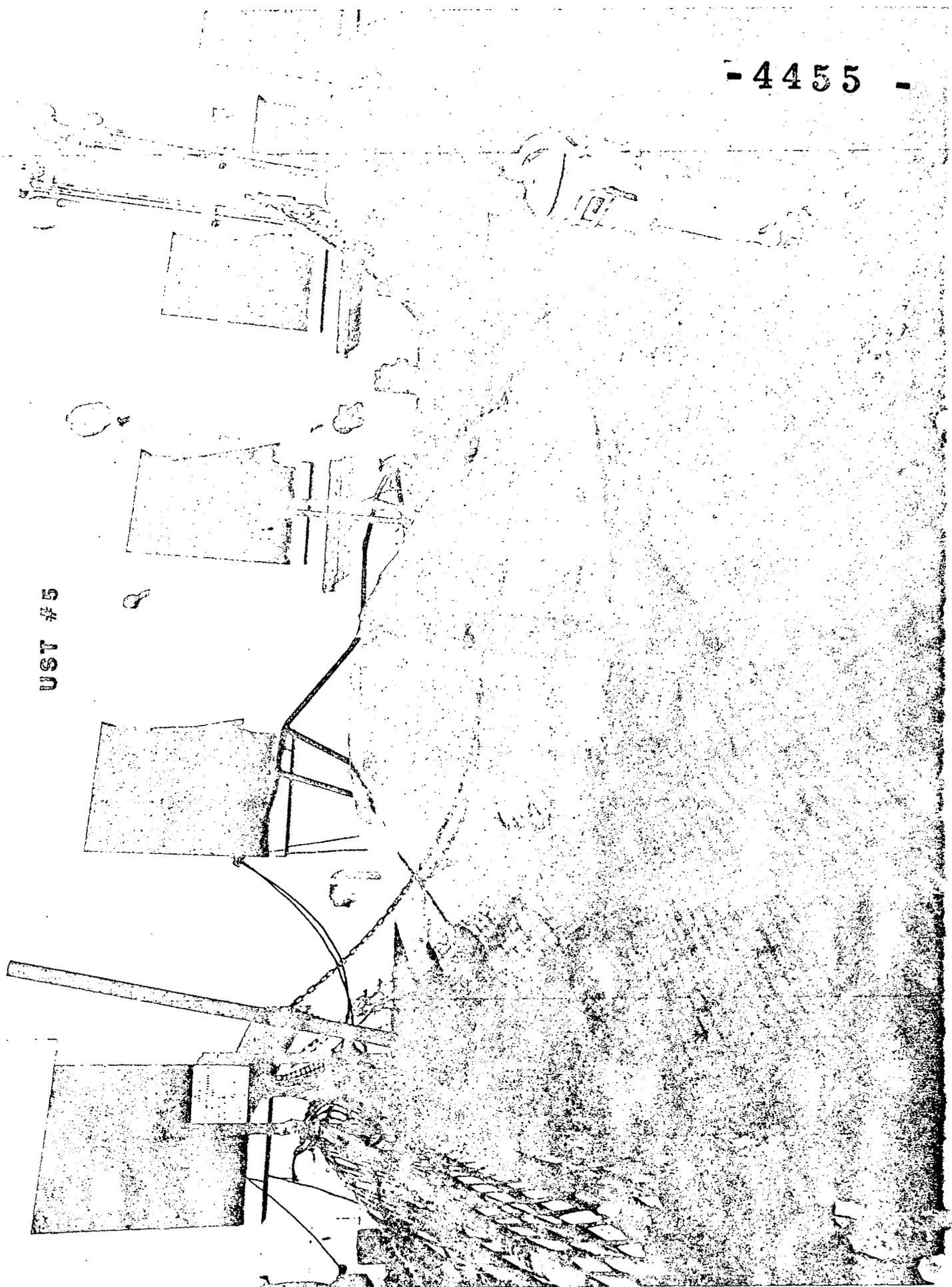
LIME SLUDGE POND



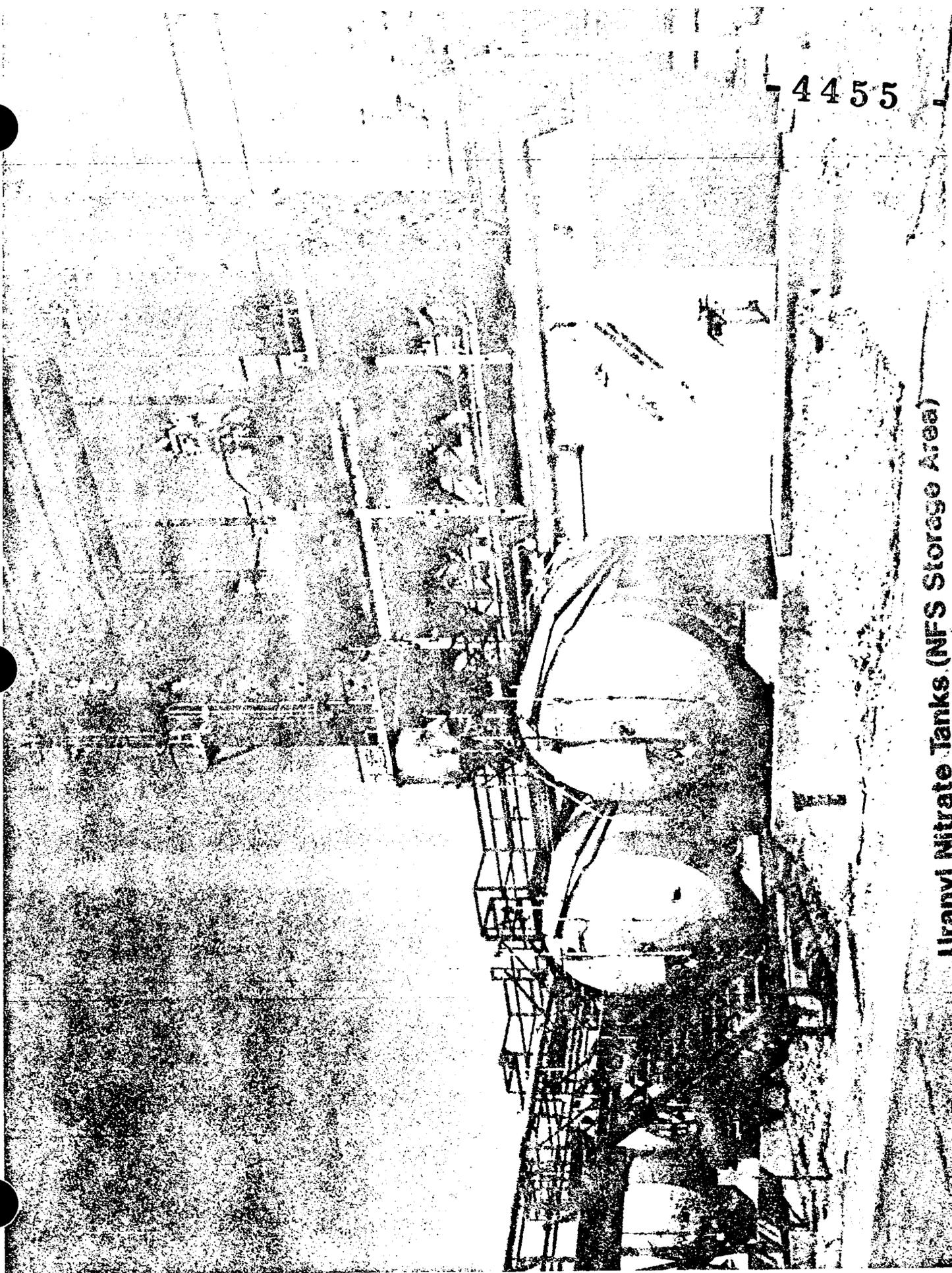
4455 -



UST #5



- 4455

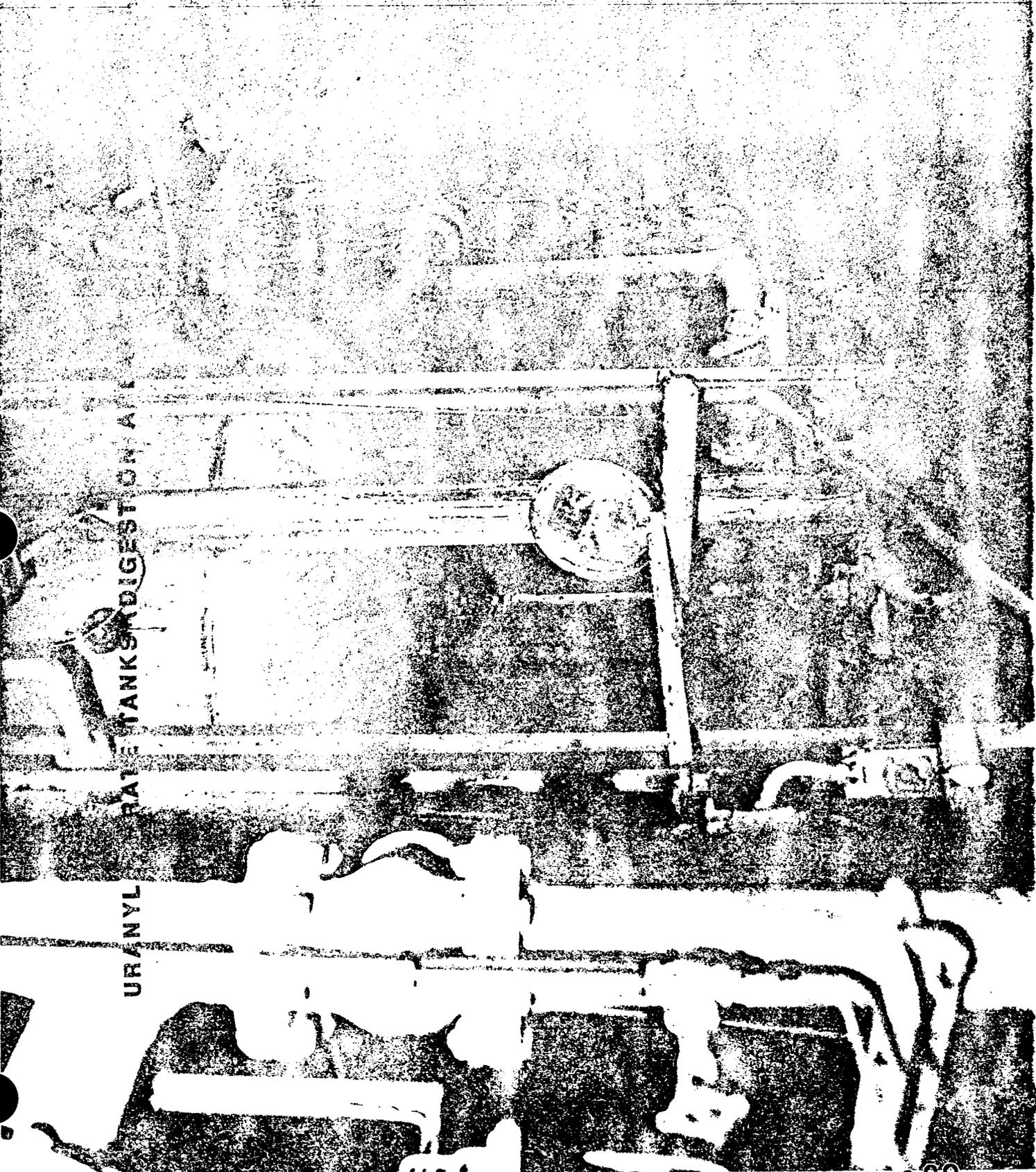


Uranyl Nitrate Tanks (NFS Storage Area)

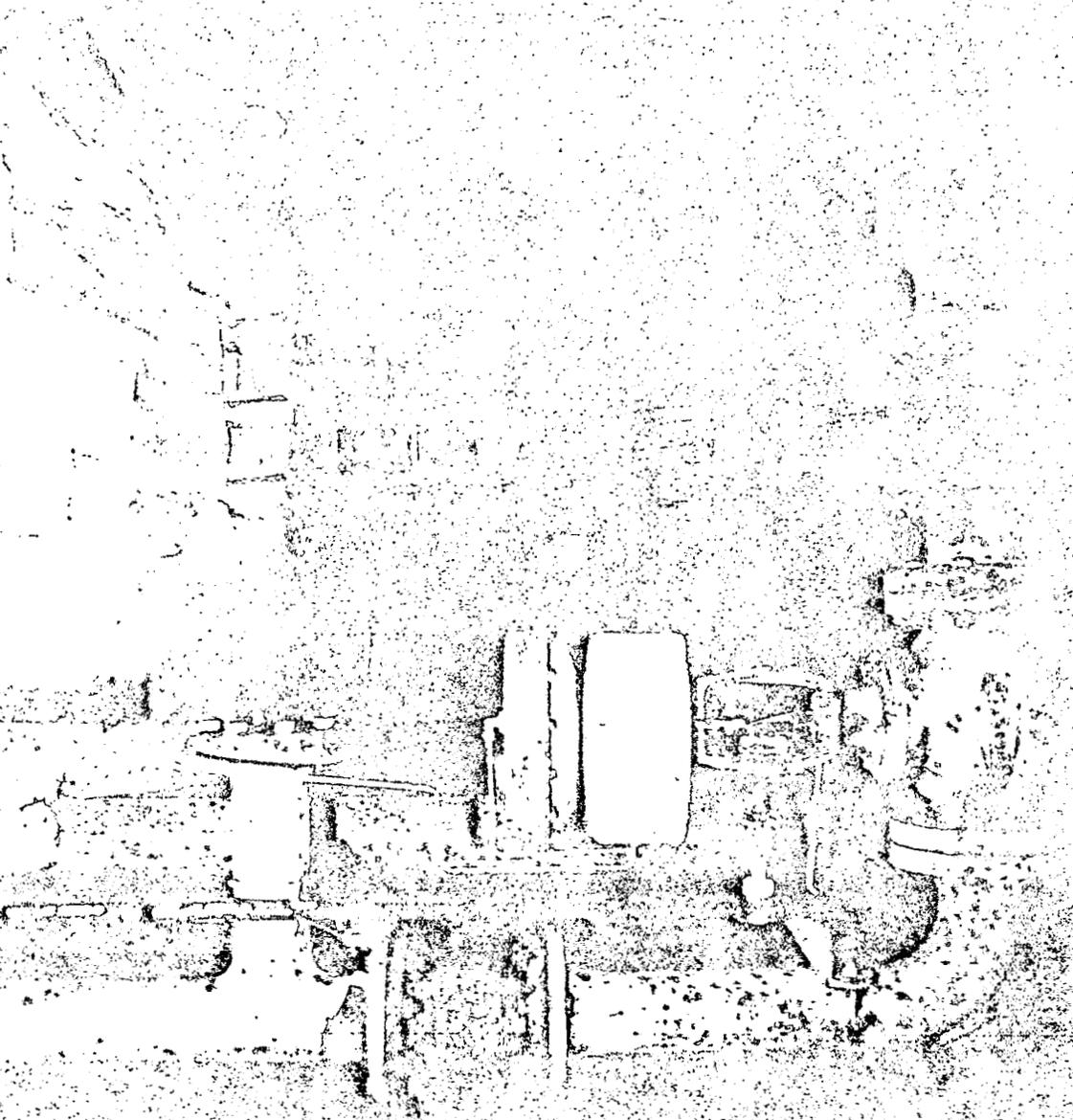
URANYL NITRATE TANKS (NORTH OF PLANT 2)

URANYL NITRATE TANKS DIGESTION ON A

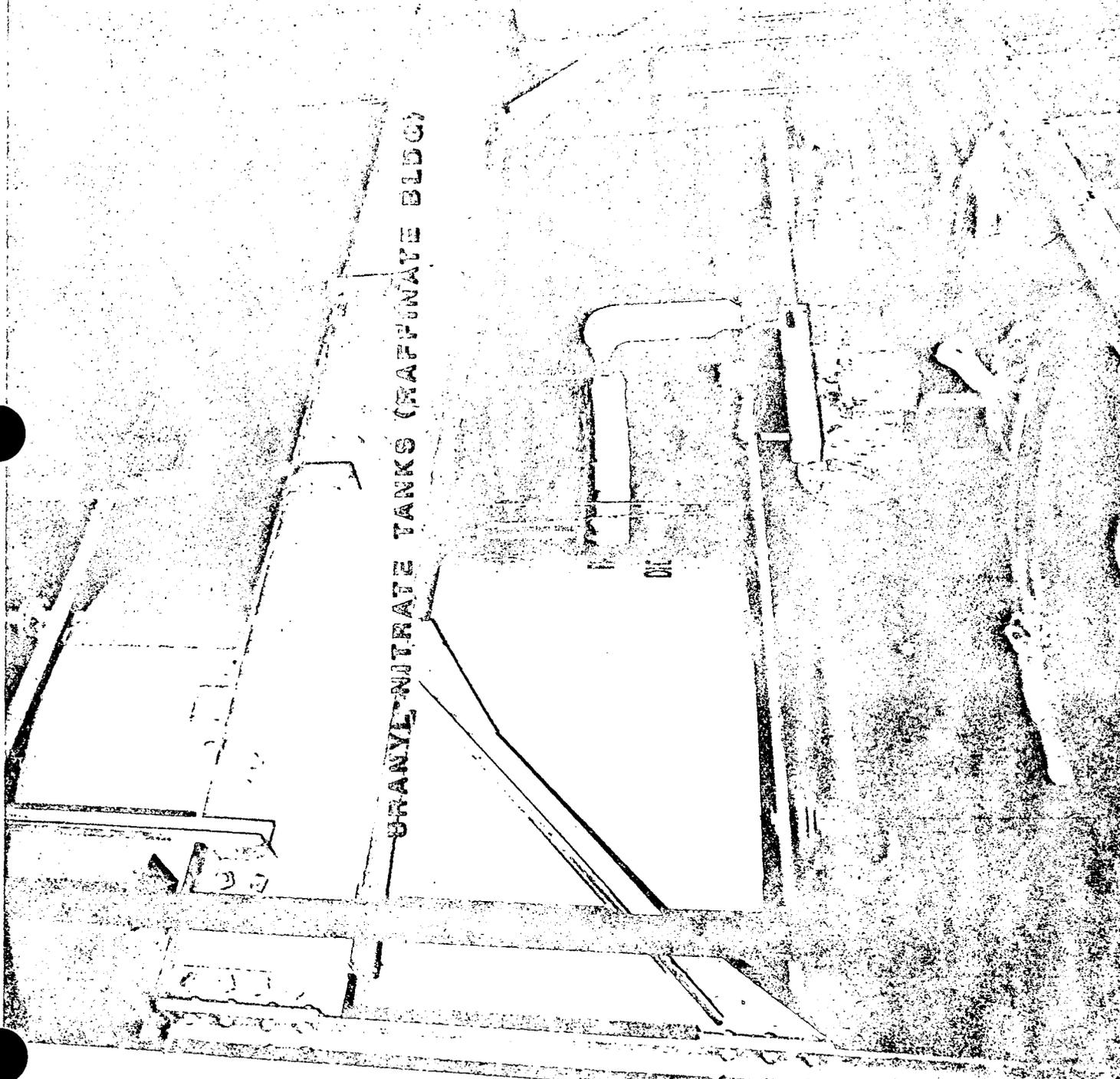
URANYL



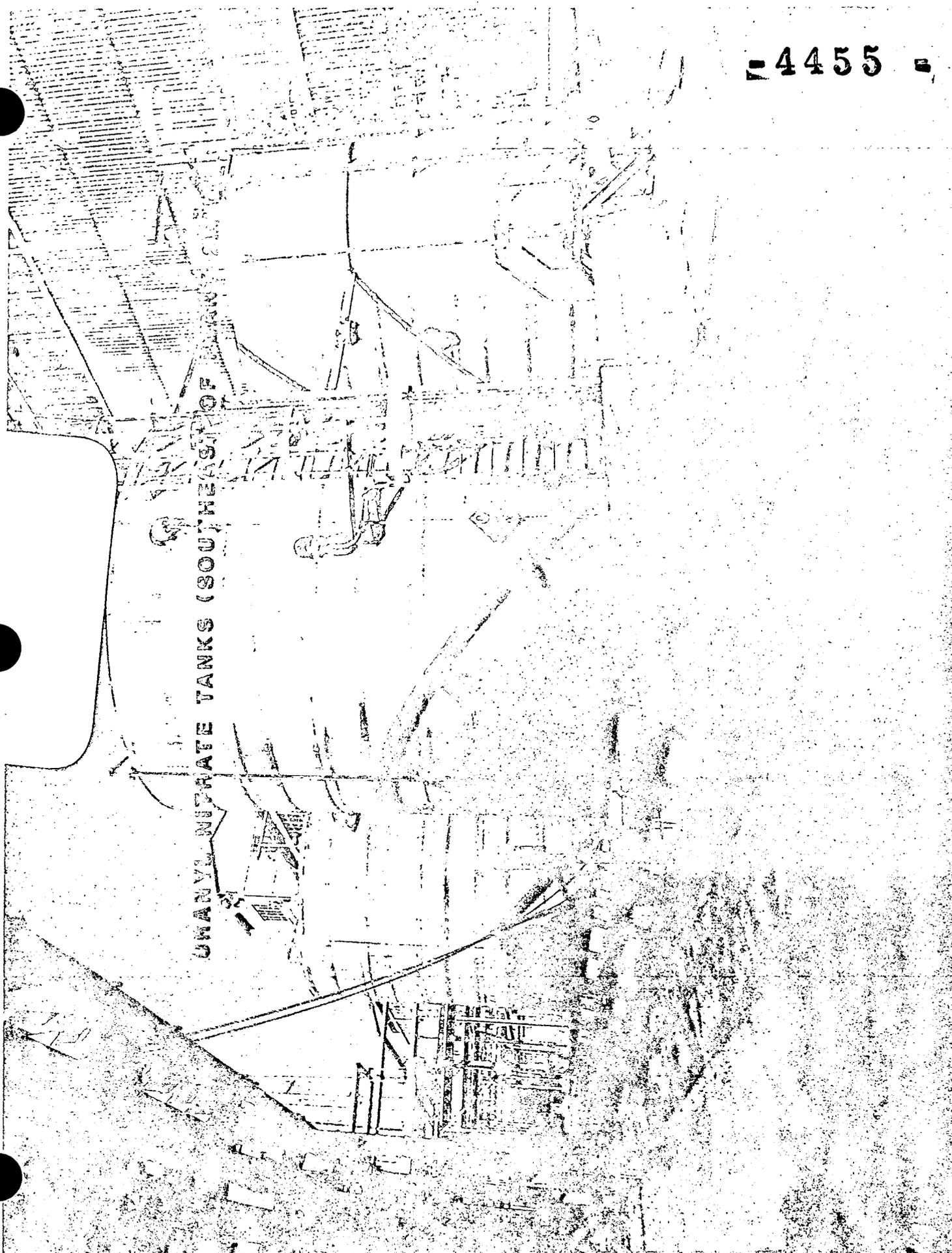
LAUREL NITRATE TANKS (DIGESTION AREA)



URANYL NITRATE TANKS (RAFFINATE BLDG)



UNANYL NITRATE TANKS (SOUTHEAST OF ...)



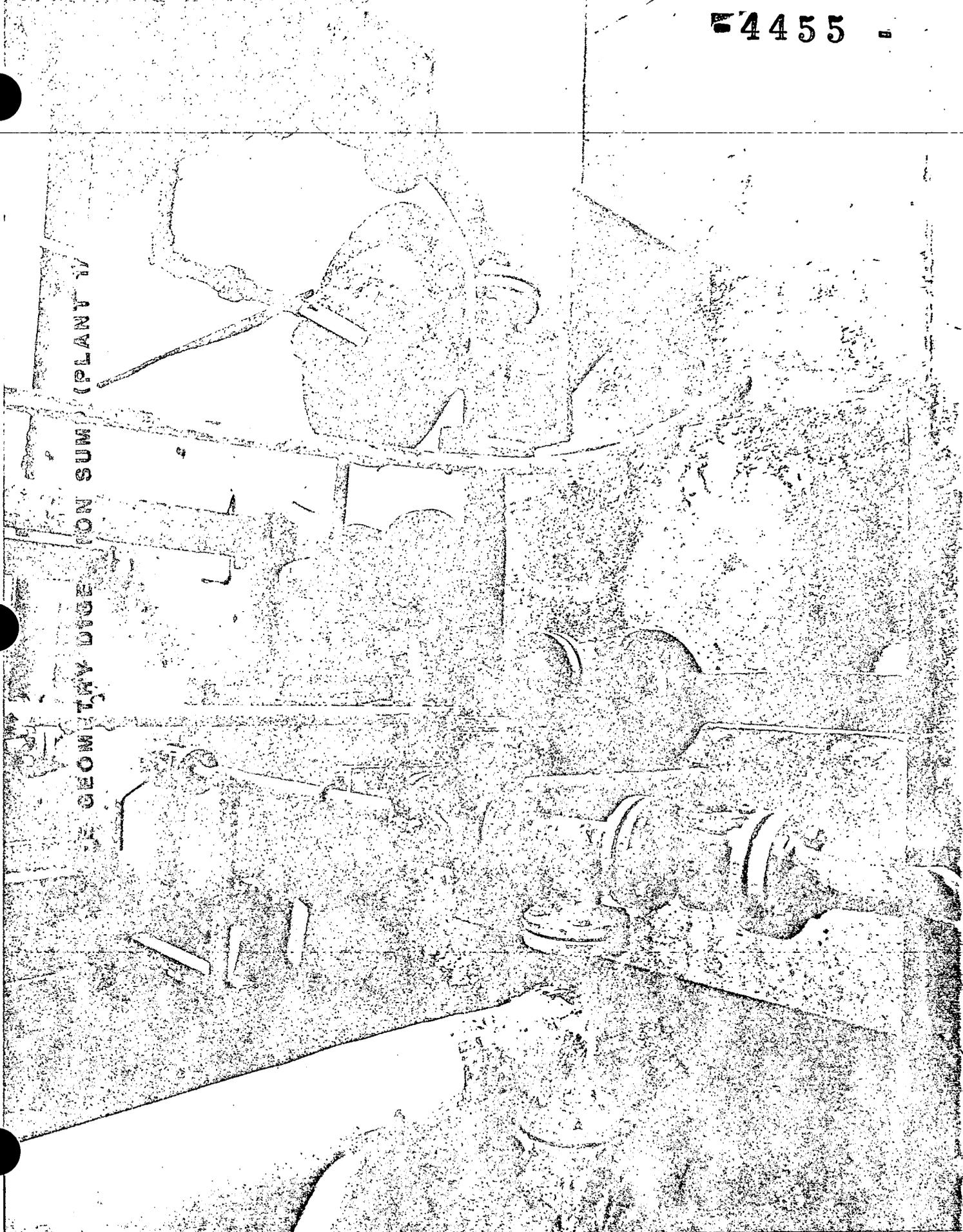
Experimental Treatment Facility (ETF)





NORTH-SOUTH SOLVENT TANKS-PILOT PLANT

GEOMETRY DIGESTION SUMMARY (PLANT IV)



SECTION B - FACILITY DESCRIPTION

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Loading/Unloading Areas

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO
EPA ID NO. OH6890008976
SECTION B: FACILITY DESCRIPTION

RCRA PART B PERMIT APPLICATION
FEMP REVISION 1.0 0393
Page 11 of 11

LIST OF ATTACHMENTS

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SECTION B - FACILITY DESCRIPTION

RCRA Part B Permit Application
Fernald Environmental Management Project
Fernald, Ohio

This section provides a general description of the Fernald Environmental Management Project (FEMP) as required by Ohio Administration Code (OAC) 3745-50-44(a)(1) and Title 40 of the Code of Federal Regulations (CFR) 270.14(b).

~~It is Westinghouse Environmental Management Company of Ohio's (WEMCO) position that the following surface impoundments listed in this document did not manage a listed hazardous waste because of the application of the wastewater mixture rule exemption, and, as such, are exempt from hazardous waste management unit requirements: waste pit No. 5, the clearwell, the bio surge lagoon, the sludge drying beds, the lime sludge ponds, and the coal pile runoff basin. WEMCO is executing this document as co operator in the spirit of cooperation with DOE which has overall responsibility for the FEMP. But in doing so, WEMCO does not agree that the listed surface impoundments are hazardous waste management units or that they and the listed surface impoundments are hazardous waste management units or that they and the listed wastewater streams are subject to hazardous waste statutes or regulations and WEMCO, in executing the document expressly reserves all rights with respect thereto.~~

B-1 GENERAL DESCRIPTION

Formerly named the Feed Materials Production Center (FMPC), the Fernald Environmental Management Project (FEMP) is located on a 1050-acre Federal Reservation in Hamilton and Butler counties in Southwestern Ohio. The FEMP is approximately 20 miles northwest of Cincinnati, Ohio between the villages of Ross and Fernald. The former production facilities occupy approximately 136 acres in the center of the site. Figure B-1 shows the location of the FEMP relative to the surrounding area.

The FEMP is owned by the United States Department of Energy (DOE) and operated by the DOE/Fernald Office (~~DOE-F0~~) (DOE-FN). Operational guidance and program direction for the FEMP is administered through DOE Headquarters, Environmental Restoration and Waste Management.

The FEMP was a large-scale integrated feed materials production facility which produced uranium metal used in the fabrication of fuel cores and target fuel elements for the DOE defense programs. Operations consisted of foundry and other processes to convert natural uranium ore concentrates and recoverable, recyclable residues into uranium metal and compounds. During the manufacturing process, high quality uranium compounds were introduced into the FEMP processes at several points. Impure starting materials were dissolved in nitric acid and the uranium was purified through solvent extraction to yield a solution of uranyl nitrate. Evaporation and heating converted the nitrate solution to uranium trioxide (UO₃) powder. This compound was reduced with hydrogen to uranium dioxide (UO₂) and then converted to uranium tetrafluoride (UF₄) by reaction with anhydrous hydrogen fluoride. Uranium metal was produced by reacting UF₄ and magnesium metal in a refractory-lined vessel. This primary uranium metal was then remelted with scrap uranium metal to yield a purified uranium ingot.

In addition to the primary uranium products, small amounts of thorium were produced at the FEMP. The site currently serves as the thorium repository for DOE.

A variety of chemicals such as nitric acid, anhydrous fluoride, magnesium metal, metal cleaning solvents, coolants, and lubricating oils were used in the production process. As a result of these operations, various types of liquid and solid matrix wastes were generated. These include spent solvents, oils, sludges, filter cakes, process intermediates, and barium chloride salts.

In July 1989, production activities were suspended. The shutdown was intended to be temporary. The formal closure of FMPC production activities became effective in June 1991. At that time, the FEMP's primary function officially changed from uranium metal production to environmental restoration and site clean-up activities. Most of the hazardous waste currently generated at the FEMP originates from remediation activities such as closures, response actions, and underground storage tank removals, and from construction, maintenance and miscellaneous activities. These wastes are remediation wastes as defined by the Corrective Action Management Unit (CAMU) Rule established in 58 FR 8658, February 16, 1993.

Several restoration activities have also resulted or will result in the generation of hazardous waste from off-site locations that must be returned to the FEMP facility prior to disposal. The FEMP will not accept offsite waste unless that waste contains radionuclides which have originated from the FEMP. Any other offsite waste will be brought onsite in accordance with the Consent Decree and its Stipulated Amendment. Off-site generators include analytical laboratories, treatability studies, and other laboratory facilities that have processed FEMP wastes. The FEMP received 7,498 pounds of hazardous waste from these sources in CY 1992. Most of this material was "backlog waste" generated during the analysis of

FEMP samples

On December 2, 1988, DOE entered into a Consent Decree with the state of Ohio that outlined specific actions to characterize and manage hazardous waste and to protect waters of the State in accordance with the Resource Conservation and Recovery Act (RCRA) and the Clean Water Act, respectively. Further negotiations between the State of Ohio, DOE, and Westinghouse Environmental Management Company of Ohio (WEMCO) resulted in the signing of the Consent Decree and its Stipulated Amendment on January 22, 1993. These documents contain many requirements related to hazardous waste management. Specific provisions which were developed to address storage of hazardous wastes are included below:

Subsection 3.5.1(f) of the SACD:

"The FEMP shall, as soon as reasonably possible but no more than sixty days from a determination that any drummed materials are hazardous or mixed waste, move such materials to units that are identified in the FEMP Part A Permit Application submitted September 1989, or subsequent revisions. If storage space which meets RCRA and Ohio hazardous waste storage requirements is not available, the FEMP shall store such wastes in a manner as protective of human health and the environment as possible, shall perform daily leakage inspections on all such containers not located under cover, and shall, within 60 days of the determination that sufficient hazardous waste storage space is not available, submit a plan and schedule for Ohio Environmental Protection Agency (OEPA) approval for short term storage of these wastes."

Backlog material which is being evaluated for the potential to be hazardous or mixed waste may be stored on the best available hard surface provided that leakage may be easily detected and that the required aisle spacing is maintained (as described in Section D).

Section 3.8 of the SACD:

Containers that are being evaluated under the Consent Decree and its Stipulated Amendment provisions must be stored in accordance with the Drum Management Plan as approved by OEPA.

In addition, Section 3.1 of the Consent Decree states that the FEMP is not required to comply with Federal and Ohio hazardous waste laws and hazardous waste regulations with regard to mixed waste, where compliance will increase the risk to human safety and health or the environment. In these circumstances the FEMP will, in consultation with the Ohio EPA, handle the hazardous or mixed waste in a manner as protective of human health and safety and the environment as if the hazardous waste requirement had been applied.

~~Because past operations at the facility involved uranium and thorium, much of the hazardous waste currently in storage is radioactive mixed waste. Only the hazardous components of the mixed waste are subject to regulation under the Resource Conservation Recovery Act (RCRA).~~

~~The FEMP is not required to comply with Federal and Ohio hazardous waste laws and hazardous waste regulations, with regard to mixed waste, where compliance will increase the risk to human safety and health or the environment, as applied in the Consent Decree and its proposed amendments.~~

The FEMP is seeking a permit for on-site container storage units. The units are to be used for the storage of hazardous waste generated when the facility was in production and for the storage of currently generated hazardous waste remediation waste, and hazardous mixed waste from off-site facilities with a radionuclide content that originated from the FEMP. ~~Because past operations at the facility involved uranium and thorium, much of the hazardous waste currently in storage is radioactively mixed waste. Only the hazardous components of the mixed waste are subject to regulation~~

~~under the Resource Conservation and Recovery Act (RCRA). The hazardous waste currently generated at the FEMP includes maintenance/construction wastes, laboratory waste, closure and remedial activity wastes.~~

~~Hazardous waste generated by other DOE programs has been and may be received and stored at the FEMP. This hazardous waste is similar to the types of hazardous waste generated at the FEMP. Hazardous waste generated at off site laboratories during the analysis of FEMP waste may also be returned to the FEMP. Hazardous waste from off site sources is received at the FEMP in accordance with the conditions set forth in the Consent Decree and its proposed amendments.~~

Table B-1 lists the name, location, and capacities for the container storage areas to be permitted for storage of hazardous waste. The locations of these units are identified on Figure B-2 (Section B).

B-2 TOPOGRAPHIC MAP

B-2a General Requirements

Several maps and drawings have been included in order to satisfy the requirements in OAC 3745-50-44(A)(19), OAC 3745-50-44(B)(3) and 40 CFR 270.14(b)(19). The site plan, production facility boundaries, and locations of on-site buildings are shown in Figure B-2 (Sections A, B, and C).

Topography

Figure B-2 (Sections A, B, and C) shows the topography of the FEMP site and approximately 1000 feet beyond the property line. The elevations are defined by contour intervals of one foot. The topography was produced by stereographic mapping techniques from a flyover done on April 12, 1985. ~~A new flyover was done on April 9, 1992. The stereographic mapping from this flyover is not complete at the time of this submittal but will be submitted as soon as it~~

becomes available. This topographic map will include five foot contours to improve the clarity of the map.

The production facilities are located near the center of the site. Topographically, the production area is on a relatively level plane at about 580 feet above sea level. North of the production area at the northern boundary of the site the elevation rises to 698 feet above sea level. The western and southern edges of the site slope towards Paddy's Run to an elevation of approximately 551 feet.

One Hundred Year Floodplain Area

The 100-year floodplain areas are identified on Figure B-3 (Sections A, B, and C). Additional information concerning the floodplain area is contained presented in Section B-3b.

Surface Water

The surface water bodies within 1000 feet of the FEMP include Paddy's Run and its tributaries as shown on Figure B-4. Paddy's Run is a small intermittent creek that runs along the western boundaries of the FEMP. The Great Miami River is located approximately 0.75 miles east of the FEMP.

Surrounding Land Uses

Figure B-3 (Sections A, B, and C) identifies the land usage within 1000 feet of the FEMP boundary. Area land uses include agricultural, residential, and light industrial. Included under the agricultural designation are farm crops and dairy farming.

Population distribution located within a ten mile radius of the FEMP is shown by compass sector is presented in Table B-2.

Wind Rose

A wind rose indicating the wind speed and direction is shown on

Figure B-3 (Section C). The FEMP wind rose is based on data obtained from 1987 through 1990 from the on-site meteorological station. Approximately 83% of the possible observations at the 10 meter height are represented. Negligible winds comprise the remaining 17% of the possible observations. The predominant wind direction is from the southwest.

Map Orientation

The plant orientation as to grid north, true north and magnetic north is shown on Figure B-3 (Section C).

Legal Boundaries

The FEMP's legal boundaries are identified on Figure B-3 (Sections A, B, and C). The boundaries are defined by 36 segments. The coordinates of the points of intersection of these segments are included presented in a table on Figure B-3 (Section C).

Operational Units

The locations of operational units within the facility where hazardous waste has been, is or will be stored, treated or disposed are identified on Figure B-7.

Access Control

Primary access to the facility is at the southern end of the site from Willey Road. Willey Road connects to State Route 128 approximately 3300 feet southeast of the facility entrance. The main vehicle traffic entrance to the production area is through a locked gate that is under 24 hour surveillance. A second access road to the facility connects to State Route 126 to the north. Truck access is available through a gate at the Receiving and Incoming Materials Inspection Area (RIMIA). Also located on the north side of the facility is a construction entrance through a locked gate. This gate is used infrequently, but could be used if

necessary. When this gate is open, entrance to the production area is only possible if other, internal gates are open. Both the facility perimeter and the production area are surrounded by eight foot high chain link fencing. The facility perimeter is surrounded by four foot fencing with barbed wire and the production area is surrounded by eight foot high chain link fencing. The personnel gate entrance and an entrance entrances through the administration office and TACOS trailer complex are is located at the southern end of the facility production area.

Figure B-5 shows the various major roads and Interstates located in and around the FEMP.

Injection and Withdrawal Wells

There are no injection wells located at the FEMP. There are three withdrawal (production) wells located in the southwest quadrant of the production facility shown on Figure B-4. The depth of each of the wells is 210 feet and the depth to the surface of the regional aquifer water table ranges between 50 and 60 feet. Water used at the FEMP is supplied by these production wells.

Several private wells are located within 1000 feet of the property boundary. These wells are identified on Figure B-4. No private injection wells are known to be located within the vicinity of the FEMP.

Buildings and Structures

Figure B-6 locates and identifies the major buildings and structures within the FEMP production area.

Sewer Systems (Sanitary, Storm, and Process)

The FEMP production area has separate sanitary, storm, and process sewer systems. Attachment B-1 includes drawings identifying the

underground storm sewer systems for the entire facility.

Loading and Unloading Areas

The two primary loading and unloading areas for the permitted storage units are identified on Figure B-8. Of the permitted units, only the Plant 6 Warehouse (Building 79) and the Plant 1 Pad have designated loading and unloading areas. An additional loading/unloading area for hazardous and mixed waste is the Receiving and Incoming Materials Inspection Area (RIMIA), also identified on Figure B-8. Additional and temporary loading/unloading areas are located at various locations throughout the production area. Section D, Process Information, includes more detailed information concerning loading and unloading areas at the FEMP.

Fire Control Facilities

The fire control facilities are identified on Figure B-3 (Sections B and C). Vehicles that contain emergency response and fire protection equipment are stored in Building 31 and Building 46. Water supply storage at the FEMP consists of several ground level and elevated storage tanks supplied by the three on-site production wells. Underground water main systems supply water to hydrants, sprinkler systems, and standpipes at the major buildings and processing areas. Additional information about the FEMP's fire control facilities, including fire equipment, hydrants, and fire extinguishers is discussed in Section G, Contingency Plan.

Run-off and Drainage Control Systems

The storm sewer system currently collects stormwater runoff from building roof drains, uncontrolled storage pads, roadways, open ground areas, and railroad underdrains. Site drainage is partially controlled by curbs, and modified topography as a result of removal actions that capture potentially radioactively contaminated runoff.

The controlled stormwater run-off and drainage areas located within the FEMP boundaries are indicated by the shaded areas on Figure B-4.

B-2b Additional Requirements for Land Disposal Facilities

This section is not applicable. The FEMP is not seeking a permit to operate a land disposal facility.

B-3 LOCATION INFORMATION

B-3a Seismic Standard

The FEMP is not required to address this section in accordance with OAC 3745 50-44, 40 CFR 270.14(b)(11), 40 CFR 264.28(a) and 40 CFR 264 Appendix VI.

B-3b Floodplain Standard

The cross-hatched areas of the map, shown in Figure B-3 (Sections A, B, and C), are those within the 100 year floodplain (Zone A). The narrow band along the western boundary is within the 100 year floodplain of Paddy's Run. The remainder of the site is located in Zone C (areas of minimal flooding). This information is taken from the 1973 US Geological Survey, and the Flood Insurance Rate Map (FIRM), Panel 10 of 105 (Community Pane), Number 390204 0010 B, effective date June 1, 1982.

The FEMP is built on an upland till plain above the Great Miami River 100 year floodplain. The eastern boundary of the site is located approximately 0.75 miles west of the Great Miami River. The 100 year floodplain elevation of the Great Miami River nearest the FEMP is approximately 548 feet above mean sea level. The production

and hazardous waste storage areas rest on a relatively level plain at an approximate elevation of 580 feet. The plain slopes from 600 feet along the eastern boundary of the FEMP to 570 feet at the K-65 silos, and then drops off towards Paddy's Run at an elevation of 550 feet. The maximum elevation at the FEMP is located along the northern boundary and is approximately 700 feet above sea level.

B-3b(1) Demonstration of Compliance

The FEMP hazardous waste management units are located above the Great Miami River floodplain and Paddy's Run floodplain, therefore this section is not applicable.

B-3b(2) Plan for Future Compliance with Floodplain Standard

The FEMP hazardous waste management units are located above the Great Miami River floodplain and Paddy's Run floodplain, therefore this section is not applicable.

B-3b(3) Waiver for Land Storage and Disposal Facilities

The FEMP hazardous waste management units are located above the Great Miami River floodplain and Paddy's Run floodplain, and the FEMP is not seeking a permit for land storage or disposal units, therefore this section is not applicable.

B-4 TRAFFIC INFORMATION

Primary vehicle access to the former production area of the FEMP is located at the southern end of the site from Willey Road. Willey Road connects to State Route 128 approximately 3300 feet southeast of the FEMP. Plant personnel, contractors, visitors, and some shipments are received through an entrance located at the southeast corner of the production area. A secondary entrance to the production area is located on the east side of the facility on an access road between the primary entrance and State Route 126. The secondary entrance is identified as the Receiving and Incoming Materials Inspection Area (RIMIA) for miscellaneous majority of materials deliveries. A third entrance, located at the north end of the facility, is currently not used. This entrance is accessed from State Route 126. State Route 126 intersects with State Route 128 at Ross, Ohio, northeast of the facility.

Access to the production area of the facility is limited by perimeter fences and gates under continuous 24 hour, seven days per week control by security patrolmen as described in Section F-1, Security.

Traffic control signals within the FEMP boundaries consist of stop signs, yield signs, and speed limit signs (Figure B-8). The FEMP main roads are two-way. There are no stacking or turning lanes within the production area. Within the production area, vehicles consist primarily of trucks, four wheel trailers, other company personnel transport vehicles, and industrial equipment. Employee vehicles are confined to the parking lots and entrance roads located outside of the production area. The number of vehicles on plant roads is generally light. The two heaviest time periods for traffic are between 6:30 and 7:30 AM, and 3:30 and 4:30 PM.

The FEMP bases its selection of on-site hazardous waste movement routes on the shortest route, the best road, and the least congested area, when possible. Since most of the production area roadways are used for

pedestrian traffic, utmost caution is used in the movement of hazardous wastes to ensure the loads are secured and do not endanger pedestrians.

Existing paved on-site roads at the FEMP consist of two inches of bituminous concrete pavement (blacktop) overlaid on a six to eighth inch reinforced concrete slab pavement. Below the concrete slab pavement is six to twelve inches of compacted aggregate base. New major roads are constructed of a similar cross section as the existing roads, generally an asphaltic concrete surface wearing course overlaid on stabilized aggregate base.

Maintenance of the road system is conducted under the FEMP's yearly program of road upgrading and consists of repaving or replacement as needed.

Paved on-site roads are capable of bearing loads up to allowable state highway limitations of 80,000 pounds. Various equipment including forklifts, small trailers, and trucks may be used to transport containers within the FEMP.

Off-site shipments are loaded into ~~tractors~~ tractor trailers at the storage areas or at ~~one of~~ the loading dock ~~docks~~. These tractor trailers normally weigh up to 32,000 pounds and are loaded with approximately 43,000 pounds or less of hazardous wastes when transporting off-site. ~~The number of containers that can be transported is dependent upon the individual container's weight and size.~~

The FEMP utilizes containers for shipment of hazardous waste that conform with current Department of Transportation (DOT) regulations. The specific container types used at the FEMP are discussed in Section D, Process Information. These include 55 and 85 gallon metal drums, strong light metal boxes and steel sea/land cargo containers. The FEMP also uses Department of Transportation (DOT) specification MC307/312 tankers for the

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO
EPA ID NO. OH6890008976
SECTION B: FACILITY DESCRIPTION

RCRA PART B PERMIT APPLICATION
FEMP REVISION 1.0 0393
Page 15 of 15

transport of liquid hazardous wastes.

Transporters routinely used by the FEMP include Environmental Transportation Service based in Oklahoma City, OK, Custom Environmental Transport (CET) from Houston, TX, and Tri-State Transit Co. based in Joplin, MO. In CY 1992, the FEMP shipped 2,196 pounds of waste solvents and spent photographic solution off-site in two shipments. Future quantities and frequencies of off-site waste shipments are expected to increase as additional mixed waste treatment and disposal capacity becomes available.

SECTION B - FACILITY DESCRIPTION

TABLE B-1

CONTAINER STORAGE AREAS TO BE PERMITTED AT THE FEMP

HAZARDOUS WASTE MANAGEMENT UNIT	LOCATION OF HWMU	UNIT CAPACITY
CP Storage Warehouse (Building 56, Butler Building)	Northwest corner of production area on 3rd Street	116,160 gallons
KC-2 Warehouse (Building 63)	North end of production area, east of B Street and North of RR tracks	200,640 gallons
Pilot Plant Warehouse (Building 68)	Southwest corner of production area	13,200 gallons
Plant 1 Pad	Northwest section of production area, north of 2nd Street and west of E Street	10,892,200 gallons
Plant 6 Warehouse (Building 79)	Western section of production area, north of 1st Street and east of E Street	230,780 gallons
Plant 8 Warehouse (Building 80)	Western section of production area, north of 1st Street and west of B Street	139,260 gallons
Plant 9 Warehouse (Building 81)	Northwest section of production area, north of 2nd Street and east of D Street	86,240 gallons

SECTION B - FACILITY DESCRIPTION

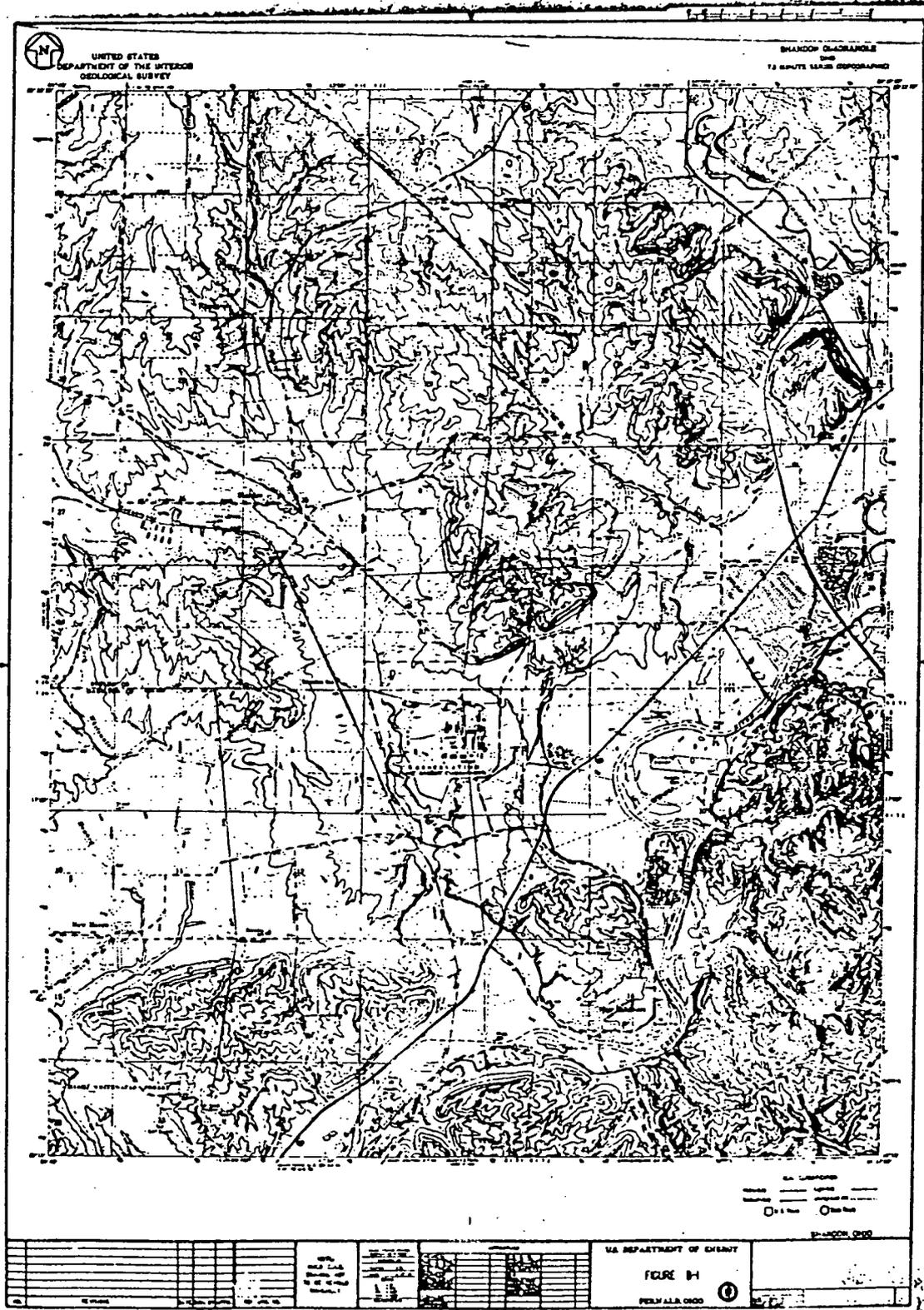
TABLE B-2

**POPULATION DISTRIBUTION
WITHIN TEN MILES OF THE FEMP**

Compass Sector	Population within 0-5 miles (0-8 km)	Population within 5-10 miles (8-16 km)
N	445	3,395
NNE	221	18,959
NE	489	32,001
E	512	40,770
ESE	713	54,533
SE	1,606	36,467
SSE	985	28,932
S	669	19,214
SSW	390	4,217
SW	185	2,957
WSW	440	4,961
W	519	1,765
WNW	157	1,361
NW	511	1,433
NNW	519	1,134
TOTAL	10,850	277,859

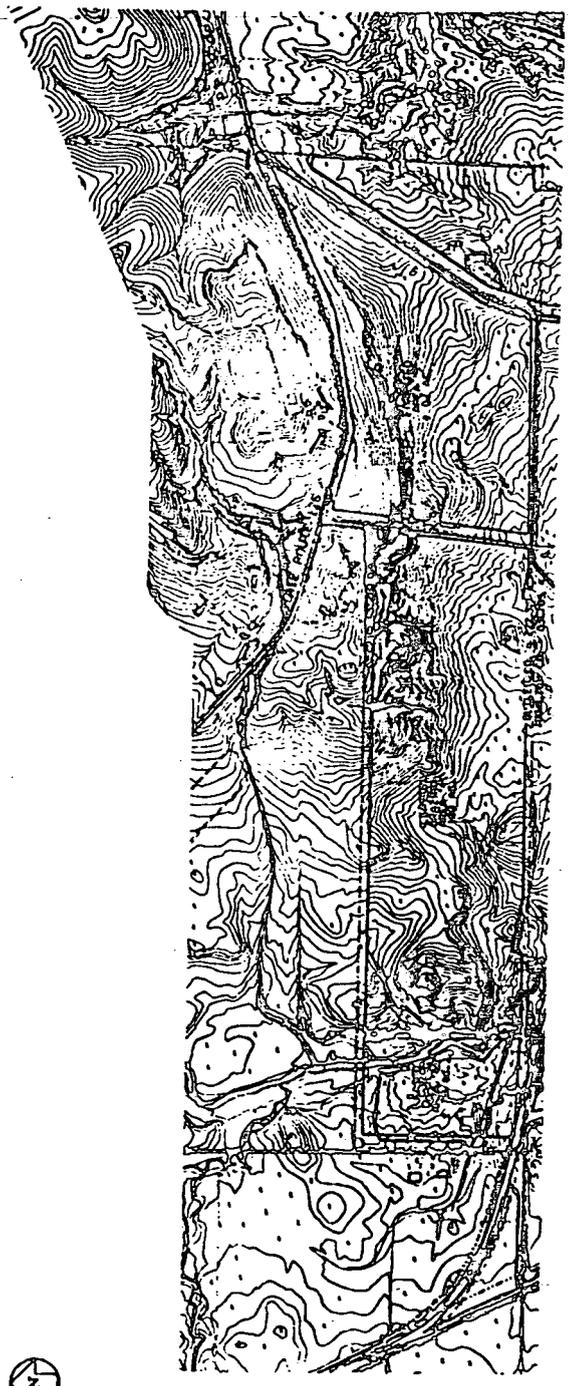
TOTAL FOR ALL SECTORS: 288,709

Based on "Report Findings, Population Studies for DOE, Feed Materials Production Center, Near Fernald, Ohio," dated May 18, 1981.



-4455

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PS-10



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Scale
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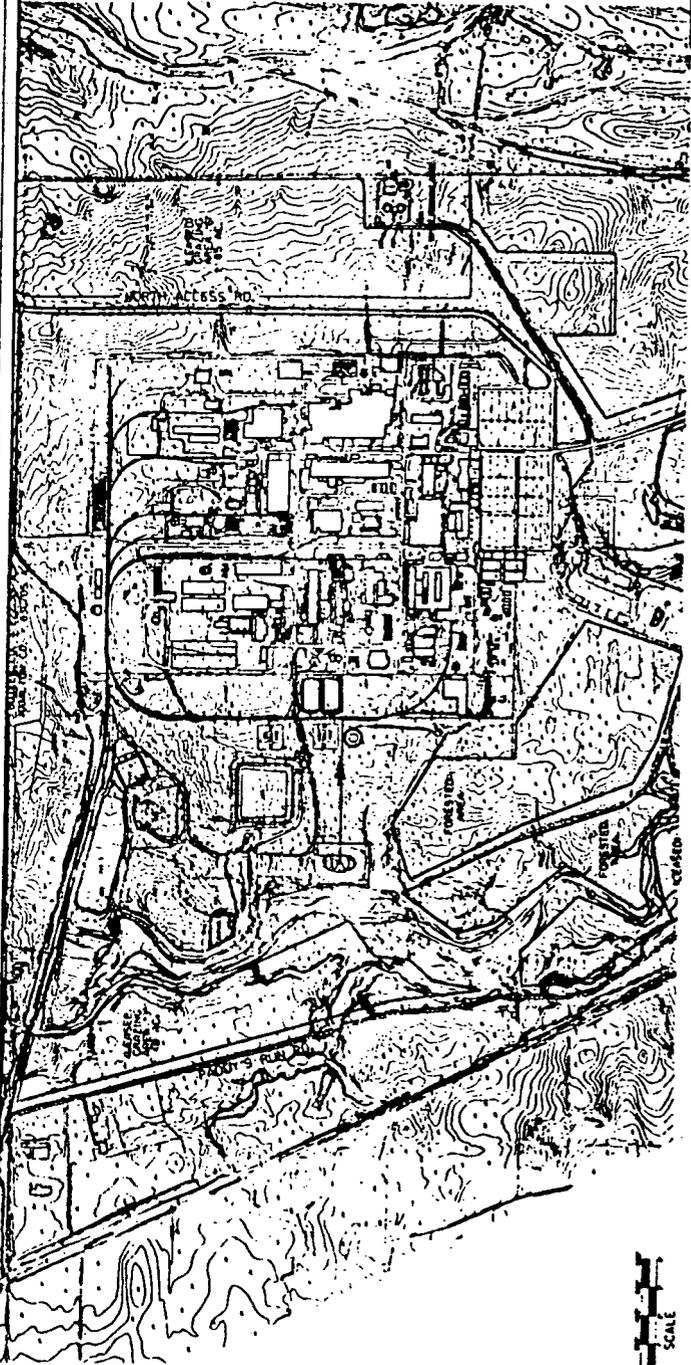


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LEGEND



© 1988
 1:25,000 Scale
 1:50,000 Scale

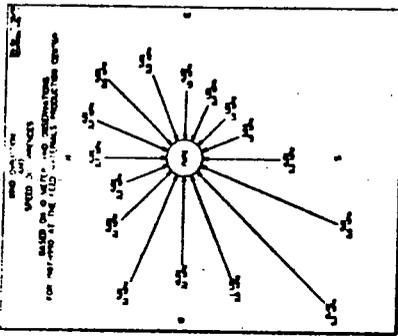


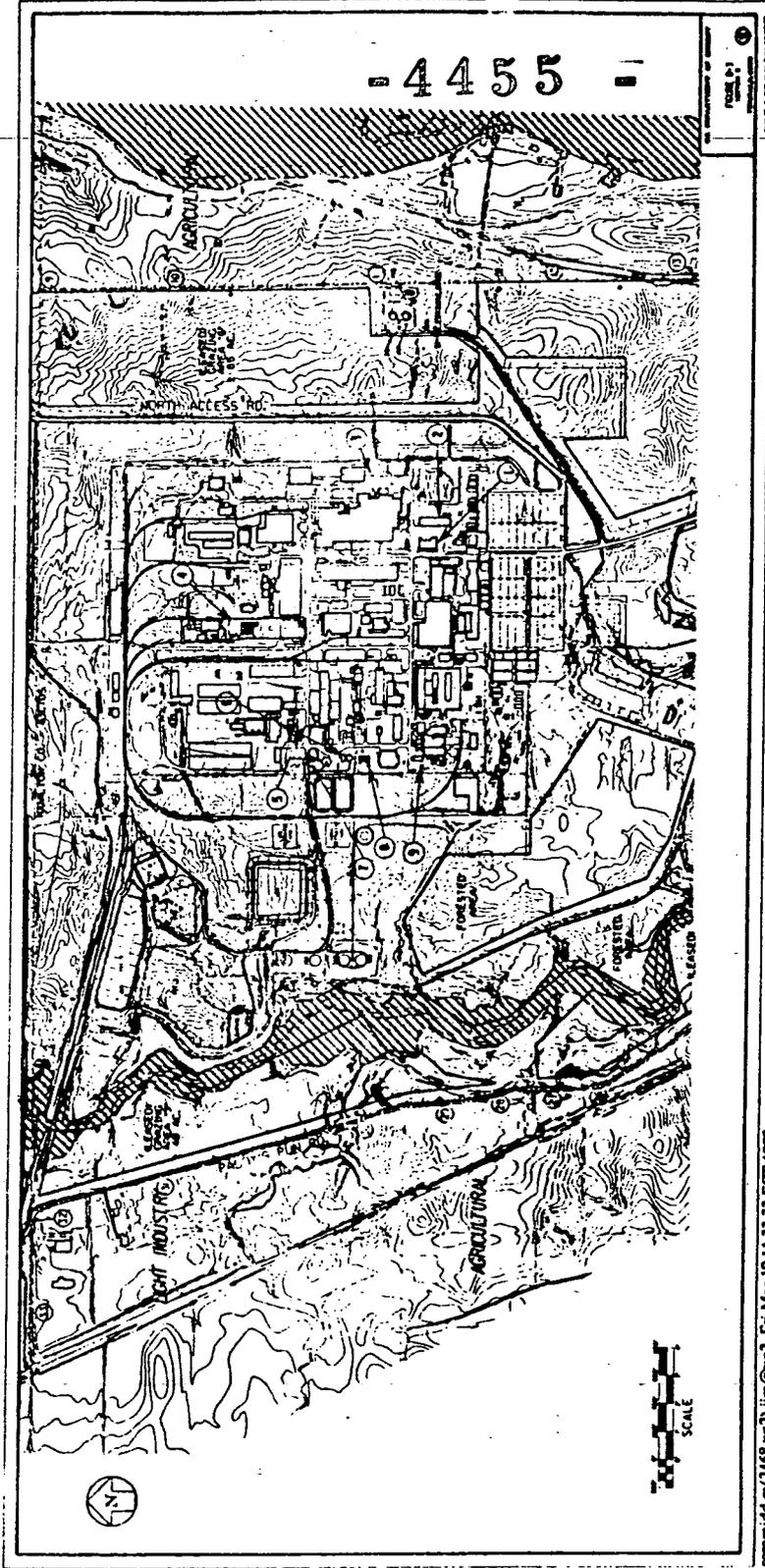
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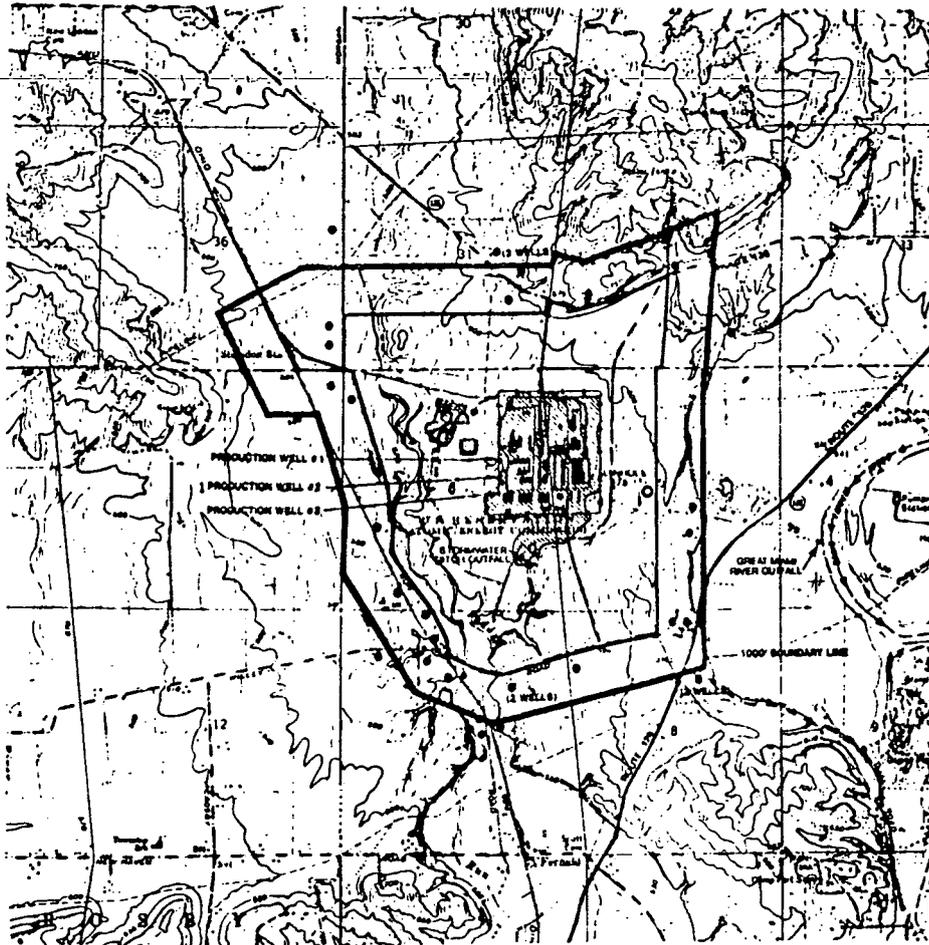


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rcramidd.m(3468.wx2)jim@w2. Ft Mar 19 11:33:33 EST 1993



- LEGEND
- IN SENSITIVE WATER WELLS (APPROXIMATE LOCATIONS)
 - NPDES DISCHARGE POINT
 - RIVER FLOW
 - PERMIT BOUNDARY
 - INTERMITTENT STREAM
 - MANHOLE
 - ▨ CONTROLLED STORMWATER RUNOFF AREAS
 - PERMIT BOUNDARY

MAP SCALE - USGS SHANDON QUADRANGLE, REV. 1974

SCALE: 1" = 1000'

U.S. DEPARTMENT OF ENERGY

FIGURE D-4

FERNALD, OHIO



FIGURE 8-10



SECTION / SOLO AND MANEUVER PARTY MANAGEMENT UNITS

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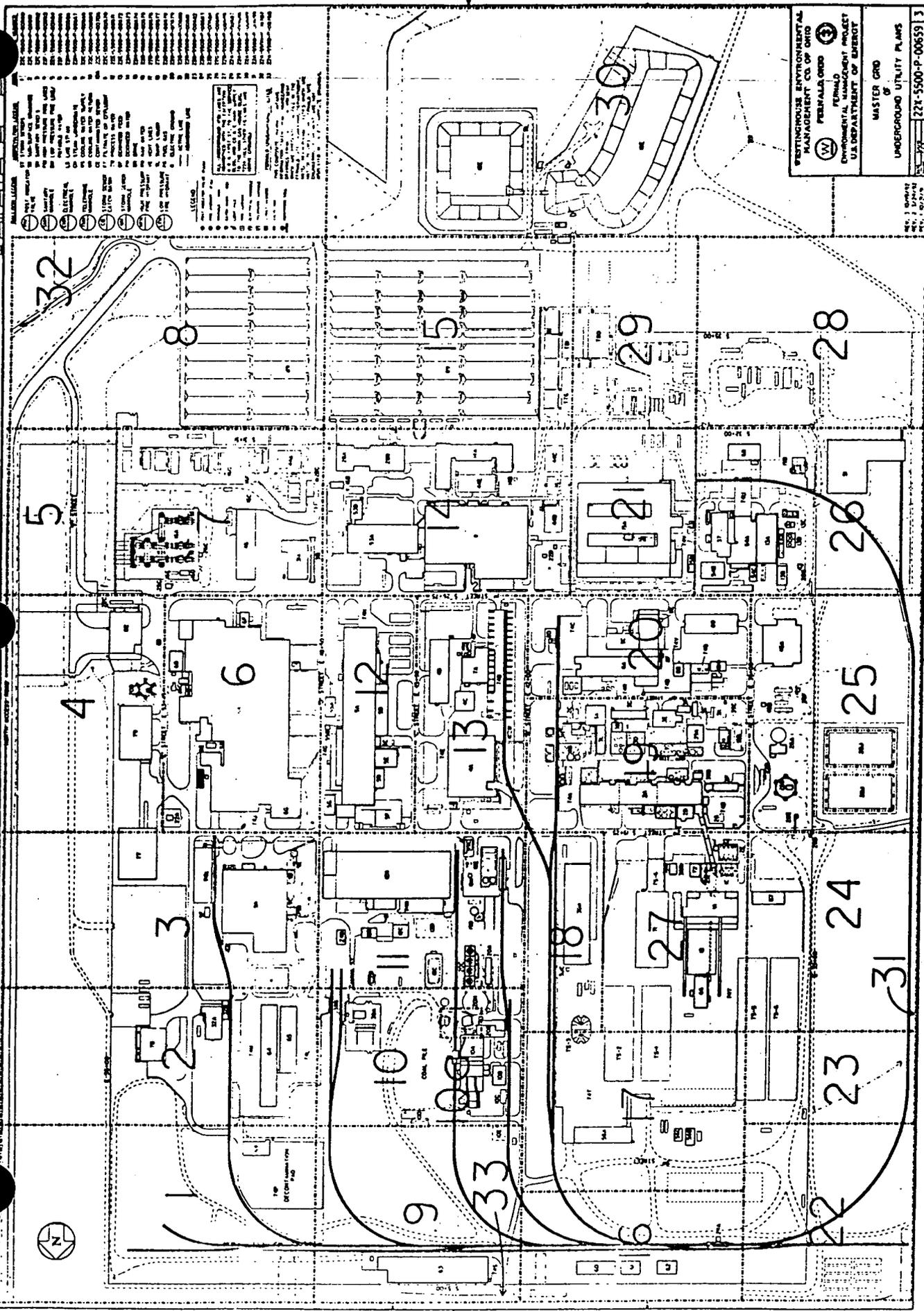
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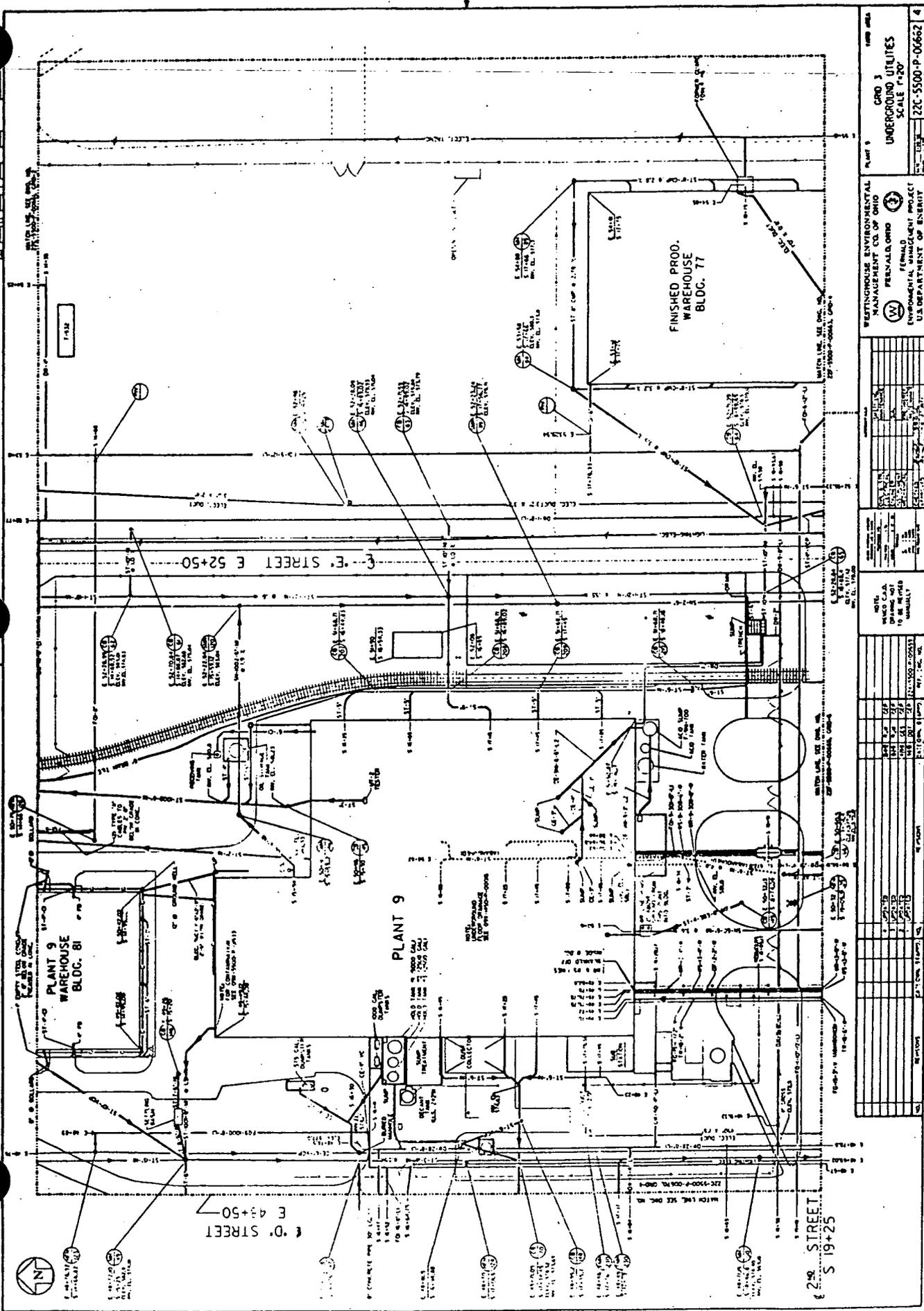
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 MANAGEMENT CO. OF ONTARIO
 DEPARTMENT OF ENERGY

UNDERGROUND UTILITY PLANS
 MASTER GRID

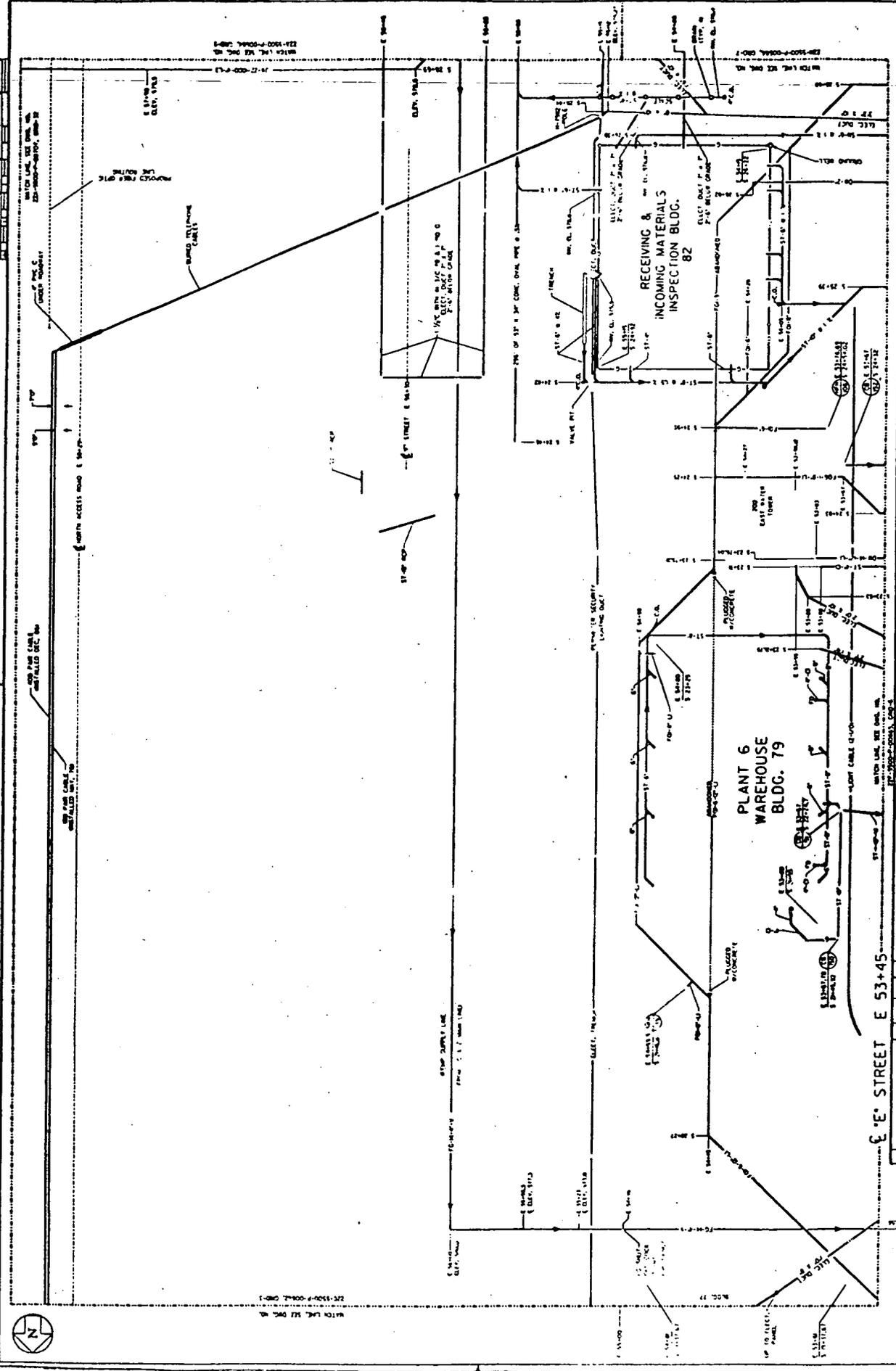
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WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO		GRID 3	
PERNARD, OHIO		PART 9	
ENVIRONMENTAL MANAGEMENT PROJECT		UNDERGROUND UTILITIES	
U.S. DEPARTMENT OF ENERGY		SCALE 1"=20'	
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WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PREPARED BY: [Signature] PROJECT: FORMAL PROTECT PROJECT U.S. DEPARTMENT OF ENERGY		BLDG. PLAN & C. WATER TOWER OHIO UNDERGROUND UTILITIES SCALE: 1/2" = 1'-0" 222-5500-P-00663 4
NOTES: 1. REFER TO ALL SHEETS IN THIS SET. 2. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE SPECIFIED. 3. ALL UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY. 4. ALL UTILITIES SHOWN ARE TO BE PROTECTED AND NOT TO BE DISTURBED. 5. ALL UTILITIES SHOWN ARE TO BE MAINTAINED AND NOT TO BE DISTURBED. 6. ALL UTILITIES SHOWN ARE TO BE REPAIRED AND NOT TO BE DISTURBED. 7. ALL UTILITIES SHOWN ARE TO BE REPLACED AND NOT TO BE DISTURBED. 8. ALL UTILITIES SHOWN ARE TO BE REMOVED AND NOT TO BE DISTURBED. 9. ALL UTILITIES SHOWN ARE TO BE ABANDONED AND NOT TO BE DISTURBED. 10. ALL UTILITIES SHOWN ARE TO BE PRESERVED AND NOT TO BE DISTURBED.		
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WESTINGHOUSE ENVIRONMENTAL
MANAGEMENT CO OF OHIO
PERMALD, OHIO
FERNALD
ENVIRONMENTAL MANAGEMENT PROJECT
U.S. DEPARTMENT OF ENERGY

GRID 5
UNDERGROUND UTILITIES
SCALE 1"=20'

22A-5500-P-00664 3

NO.	DATE	DESCRIPTION	BY	CHKD.

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DIMENSIONS
SHOWN ON THIS
DRAWING ARE
TO BE USED
UNLESS
SPECIFICALLY
NOTED OTHERWISE

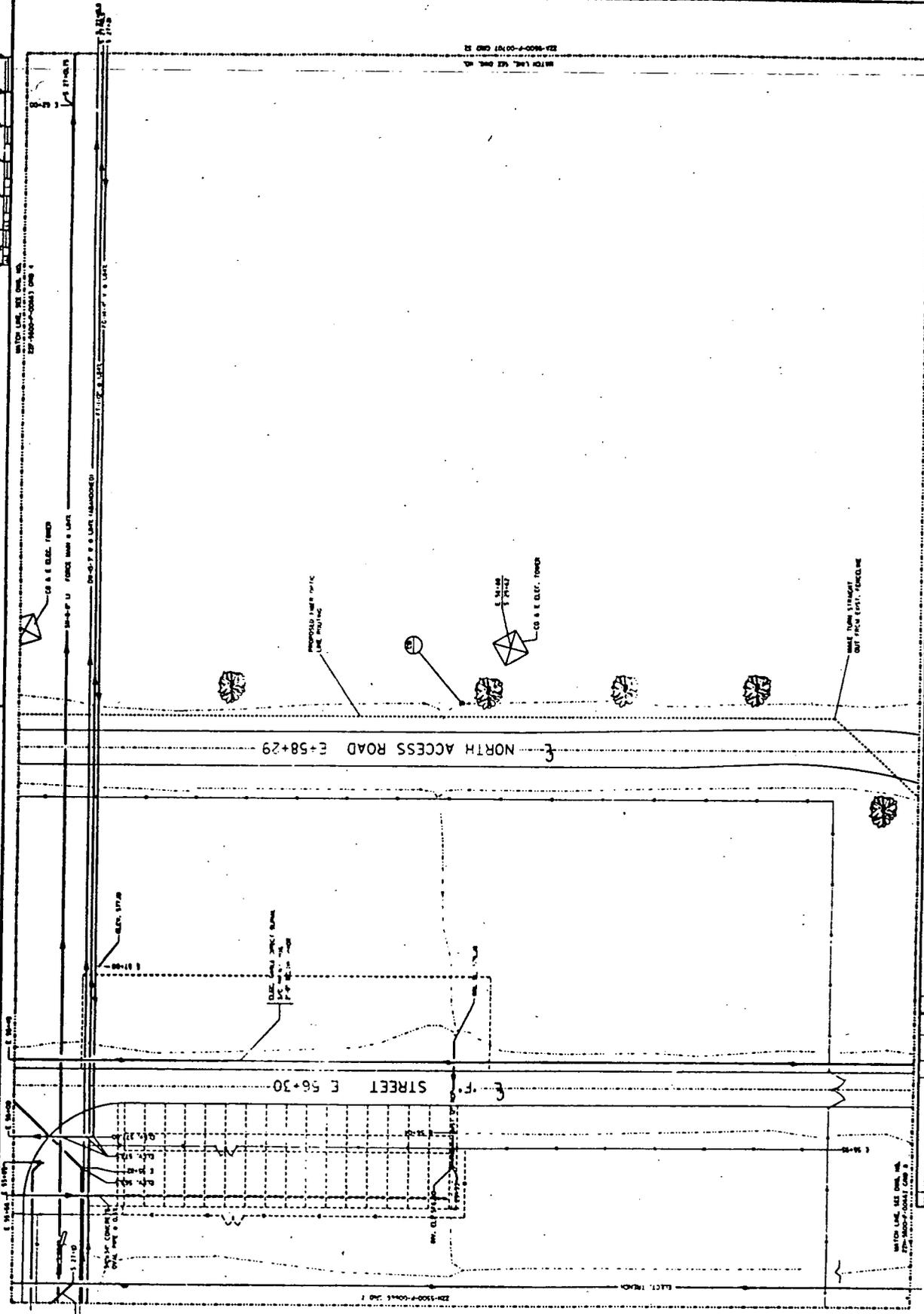
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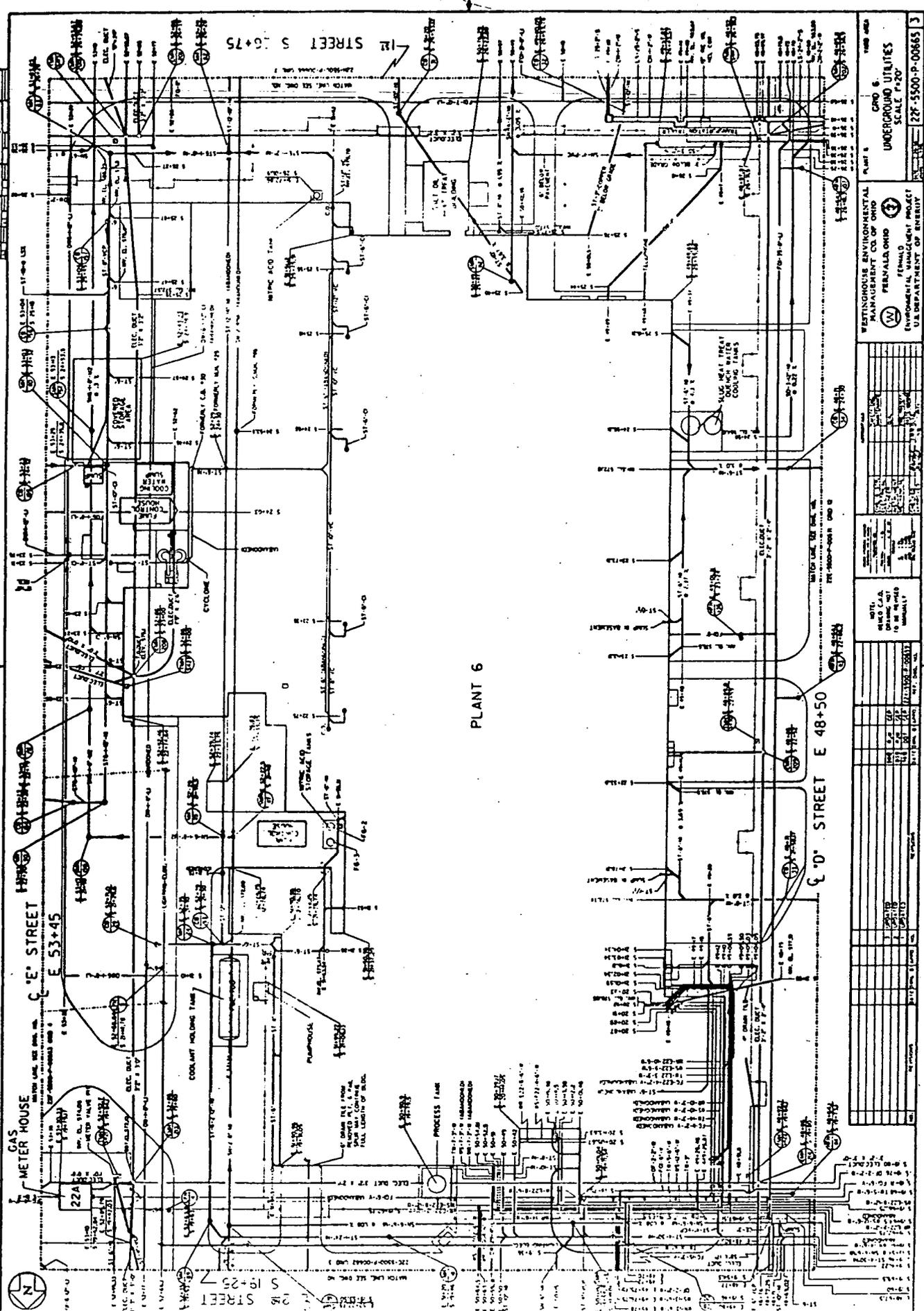
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 WESTINGHOUSE ENVIRONMENTAL
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 PERMALD, OHIO
 FERNALD
 ENVIRONMENTAL MANAGEMENT PROJECT
 U.S. DEPARTMENT OF ENERGY



PLANT 6

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PEENALA, OHIO ENVIRONMENTAL MANAGEMENT PROJECT U.S. DEPARTMENT OF ENERGY	
UNDERGROUND UTILITIES SCALE 1" = 20' GRID 9 SHEET 22-5500-P-020	
3 59800	
DATE: 11/11/77 DRAWN BY: J. J. ... CHECKED BY: ... APPROVED BY: ...	
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WESTINGHOUSE ENVIRONMENTAL
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Environmental Management Project
U.S. DEPARTMENT OF ENERGY

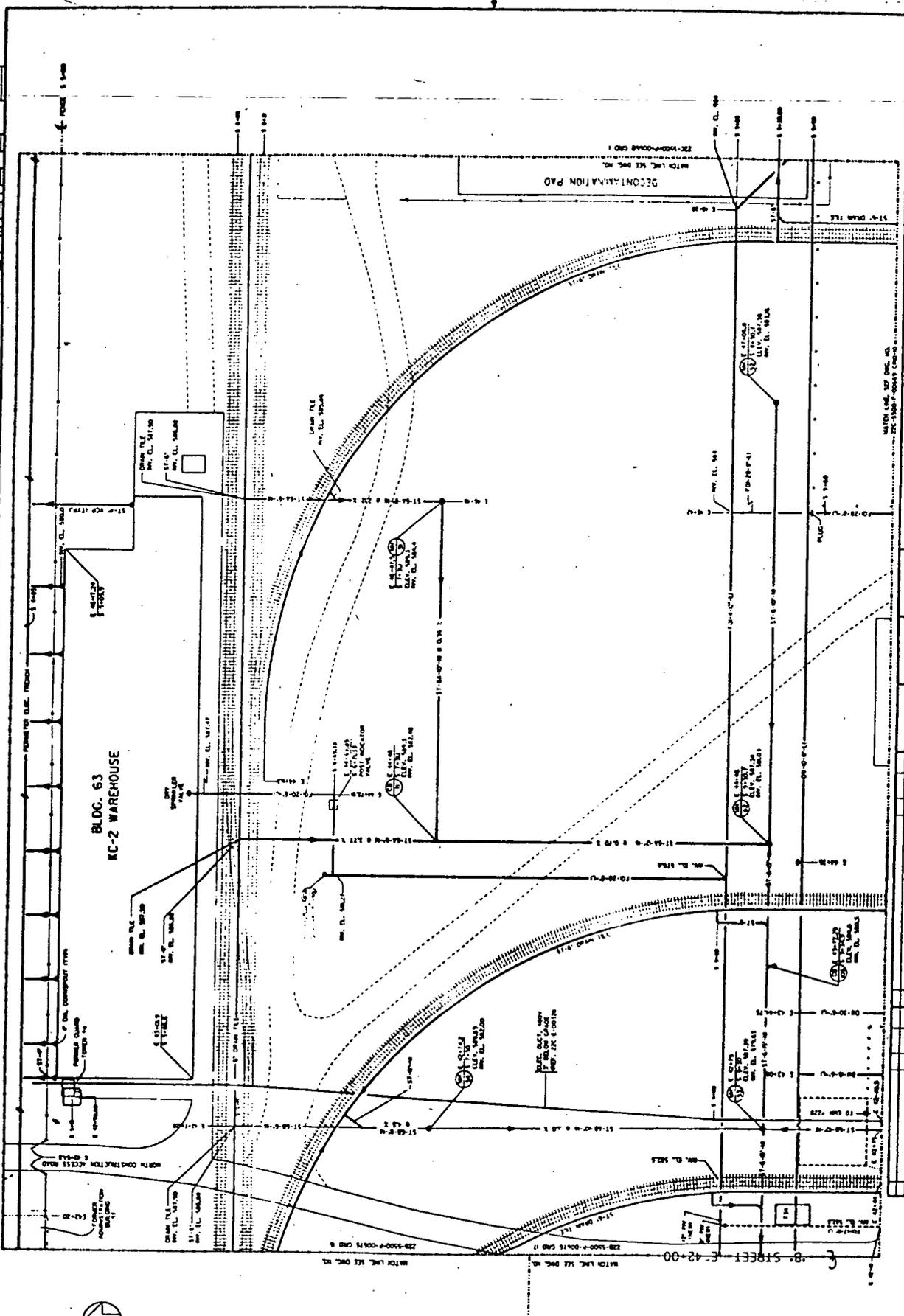
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UNDERGROUND UTILITIES
SCALE 1"=20'

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NOTES:
1. SEE C.A. DRAWING NO. 22C-5500-P-00668-1 FOR GENERAL NOTES.
2. SEE C.A. DRAWING NO. 22C-5500-P-00668-2 FOR GENERAL NOTES.
3. SEE C.A. DRAWING NO. 22C-5500-P-00668-3 FOR GENERAL NOTES.
4. SEE C.A. DRAWING NO. 22C-5500-P-00668-4 FOR GENERAL NOTES.
5. SEE C.A. DRAWING NO. 22C-5500-P-00668-5 FOR GENERAL NOTES.
6. SEE C.A. DRAWING NO. 22C-5500-P-00668-6 FOR GENERAL NOTES.
7. SEE C.A. DRAWING NO. 22C-5500-P-00668-7 FOR GENERAL NOTES.
8. SEE C.A. DRAWING NO. 22C-5500-P-00668-8 FOR GENERAL NOTES.
9. SEE C.A. DRAWING NO. 22C-5500-P-00668-9 FOR GENERAL NOTES.
10. SEE C.A. DRAWING NO. 22C-5500-P-00668-10 FOR GENERAL NOTES.

NO.	DATE	DESCRIPTION	BY	CHKD.
1	11/13/75	ISSUED FOR CONSTRUCTION	J. J.
2	11/13/75
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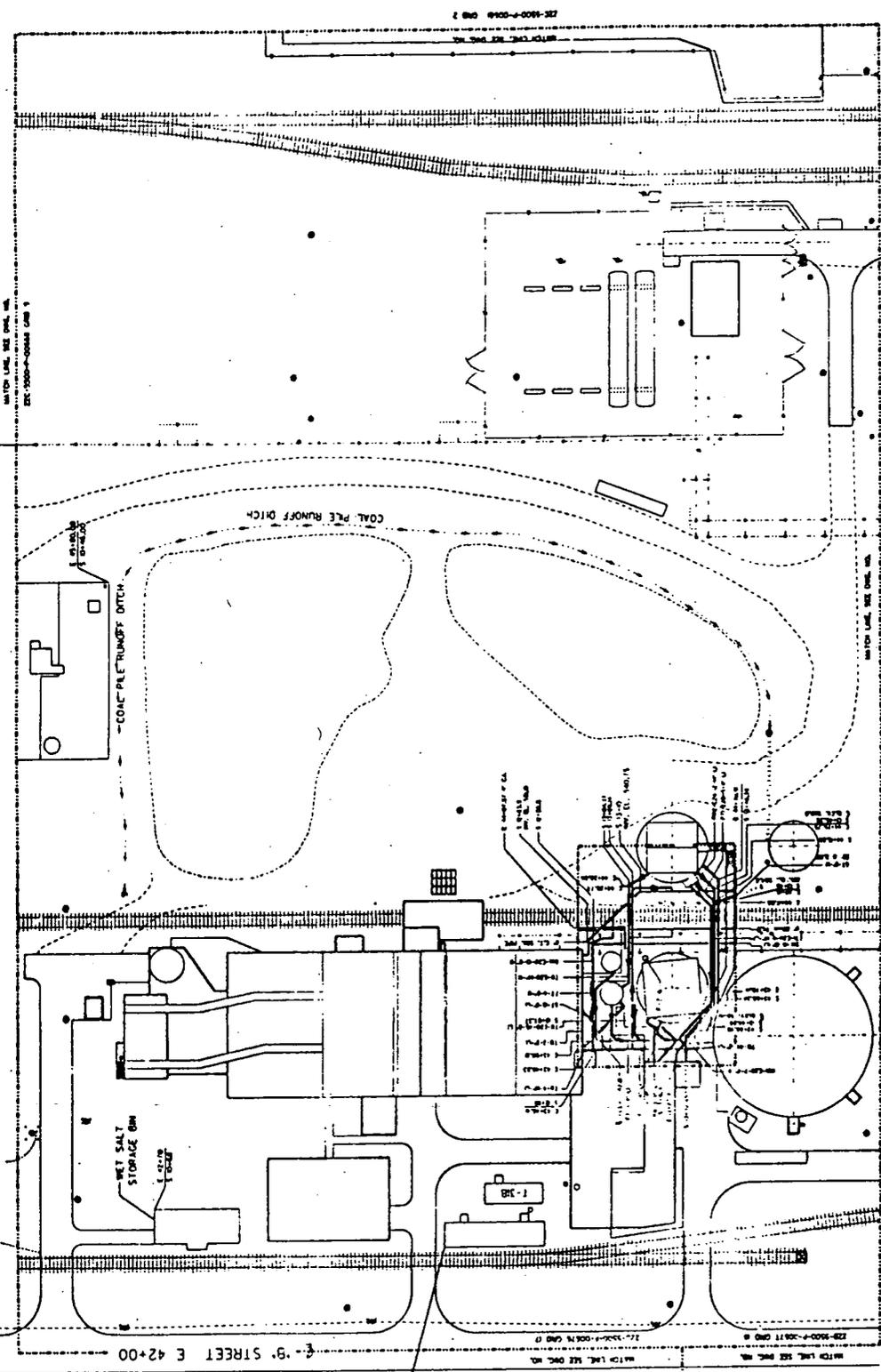


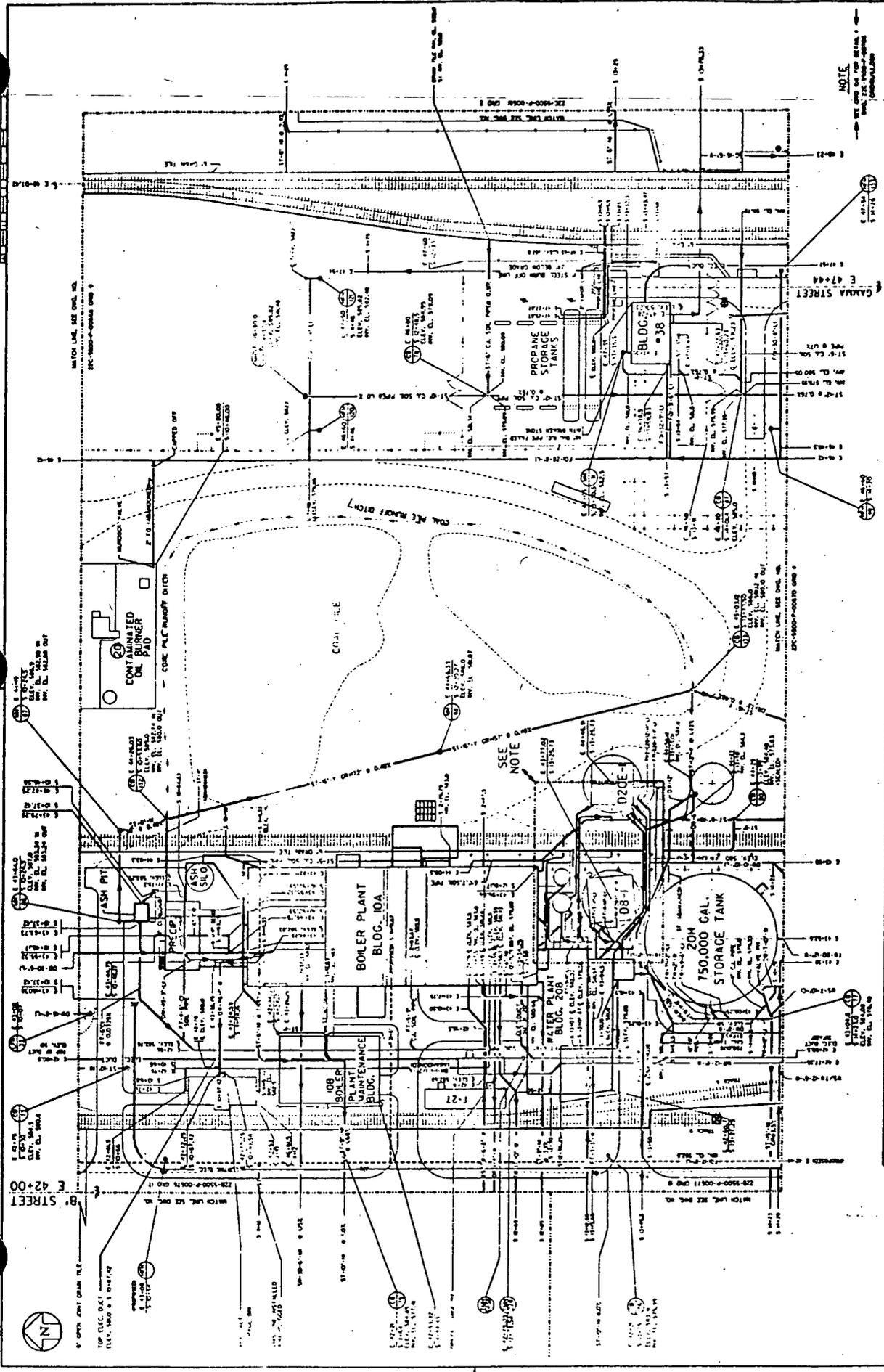
WESTINGHOUSE ENVIRONMENTAL
 MANAGEMENT CO. OF OHIO
 PERMALB, OHIO
 ENVIRONMENTAL MANAGEMENT PROJECT
 U.S. DEPARTMENT OF ENERGY

DRAWING NO. 22C-5500-P-00709
 SHEET NO. 1
 SCALE 1"=20'
 UNDERGROUND UTILITIES
 DATE: 11/11/78
 BY: J. J. [unclear]
 CHECKED BY: [unclear]

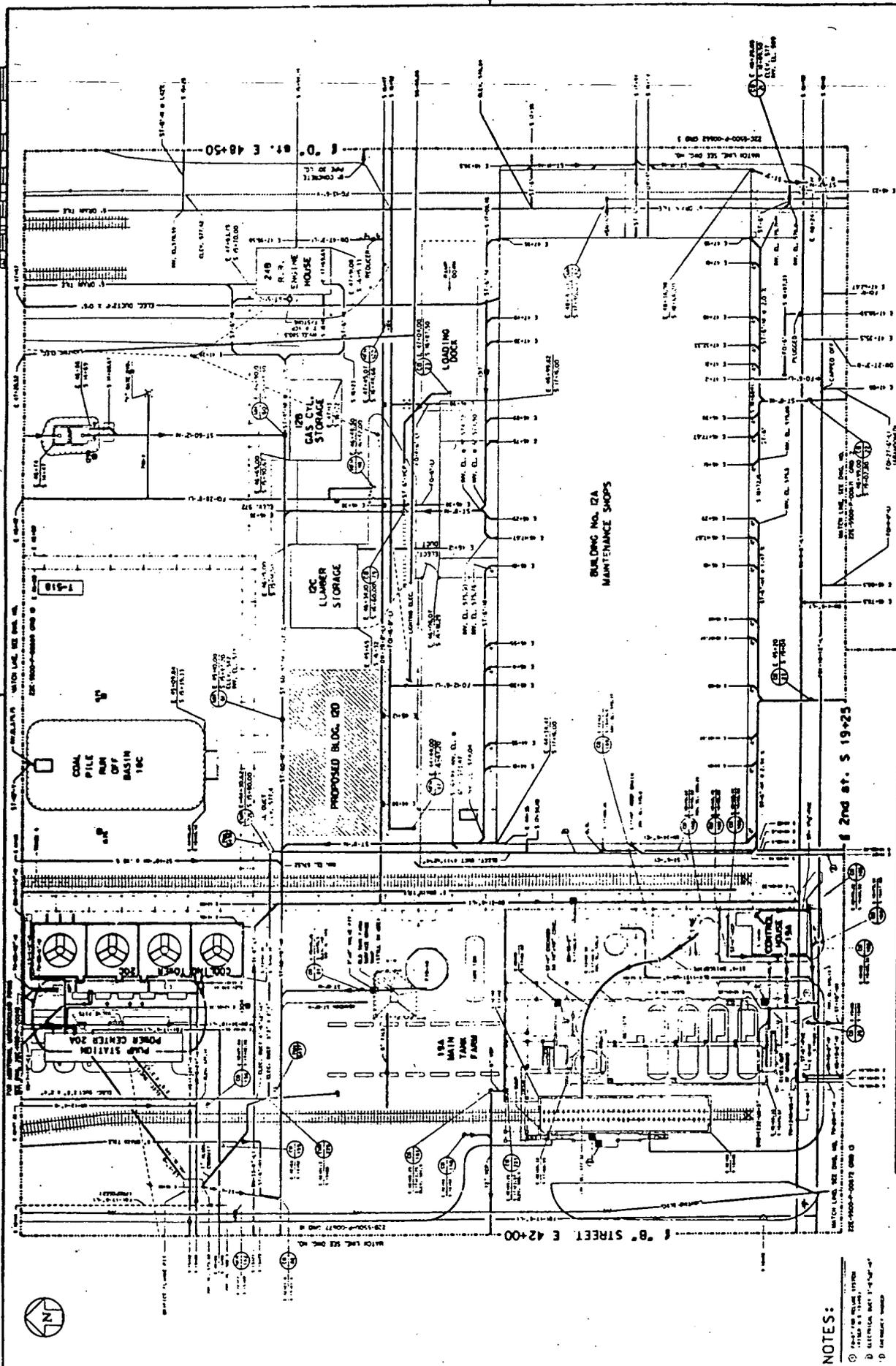
NO.	DATE	DESCRIPTION	BY	CHECKED
1	11/11/78	ISSUED FOR CONSTRUCTION	J. J. [unclear]	[unclear]

MATCH LINE SEE SHEET NO. 22C-5500-P-00708
 MATCH LINE SEE SHEET NO. 22C-5500-P-00710
 MATCH LINE SEE SHEET NO. 22C-5500-P-00709





ENVIRONMENTAL MANAGEMENT CO. OF OHIO PERMALO OHIO ENVIRONMENTAL MANAGEMENT PROJECT U.S. DEPARTMENT OF ENERGY		GRID ID UNDERGROUND UTILITIES SCALE 1"=20' 890699 4
NOTE: 1. ALL UTILITIES SHOWN ARE BASED ON RECORD DRAWINGS AND FIELD SURVEY. 2. UTILITIES NOT SHOWN ARE NOT TO BE CONSIDERED. 3. ALL UTILITIES SHOWN ARE TO BE MAINTAINED. 4. ALL UTILITIES SHOWN ARE TO BE PROTECTED. 5. ALL UTILITIES SHOWN ARE TO BE REPAIRED. 6. ALL UTILITIES SHOWN ARE TO BE REPLACED. 7. ALL UTILITIES SHOWN ARE TO BE REMOVED. 8. ALL UTILITIES SHOWN ARE TO BE ABANDONED. 9. ALL UTILITIES SHOWN ARE TO BE PRESERVED. 10. ALL UTILITIES SHOWN ARE TO BE RESTORED. 11. ALL UTILITIES SHOWN ARE TO BE REINSTALLED. 12. ALL UTILITIES SHOWN ARE TO BE RECONNECTED. 13. ALL UTILITIES SHOWN ARE TO BE RELOCATED. 14. ALL UTILITIES SHOWN ARE TO BE REDESIGNED. 15. ALL UTILITIES SHOWN ARE TO BE RECONSTRUCTED. 16. ALL UTILITIES SHOWN ARE TO BE REFINISHED. 17. ALL UTILITIES SHOWN ARE TO BE REPAINTED. 18. ALL UTILITIES SHOWN ARE TO BE RESEALING. 19. ALL UTILITIES SHOWN ARE TO BE REGRADING. 20. ALL UTILITIES SHOWN ARE TO BE REVEGETATING. 21. ALL UTILITIES SHOWN ARE TO BE REEQUIPPING. 22. ALL UTILITIES SHOWN ARE TO BE REINSURING. 23. ALL UTILITIES SHOWN ARE TO BE REINSURING. 24. ALL UTILITIES SHOWN ARE TO BE REINSURING. 25. ALL UTILITIES SHOWN ARE TO BE REINSURING.	DATE: 10/1/88 DRAWN BY: J. J. JONES CHECKED BY: J. J. JONES APPROVED BY: J. J. JONES SCALE: 1"=20' SHEET NO. 4 TOTAL SHEETS: 4	



NOTES:
 1. REFER TO THE PLAN SHEETS
 2. ELECTRICAL AND TELEPHONE
 3. CHEMICAL WASTE

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PERMAL, OHIO	
ENVIRONMENTAL MANAGEMENT PROJECT U.S. DEPARTMENT OF ENERGY	
GRID # 22C-5500-P-09070 5	
SCALE 1/2" = 1'-0"	
UNDERGROUND UTILITIES	
DATE: 11/17/70	
DRAWN BY: [Name]	
CHECKED BY: [Name]	
APPROVED BY: [Name]	
TITLE: [Title]	
PROJECT NO.: [Project No.]	
SHEET NO.: [Sheet No.]	
TOTAL SHEETS: [Total Sheets]	
DATE: [Date]	
SCALE: [Scale]	
PROJECT: [Project Name]	
CLIENT: [Client Name]	
ADDRESS: [Address]	
CITY: [City]	
STATE: [State]	
ZIP: [ZIP Code]	
PHONE: [Phone Number]	
FAX: [Fax Number]	
E-MAIL: [Email Address]	
WEBSITE: [Website]	
COMMENTS: [Comments]	

2nd St. S 19+25

8th Street E 42+00

E 48+50

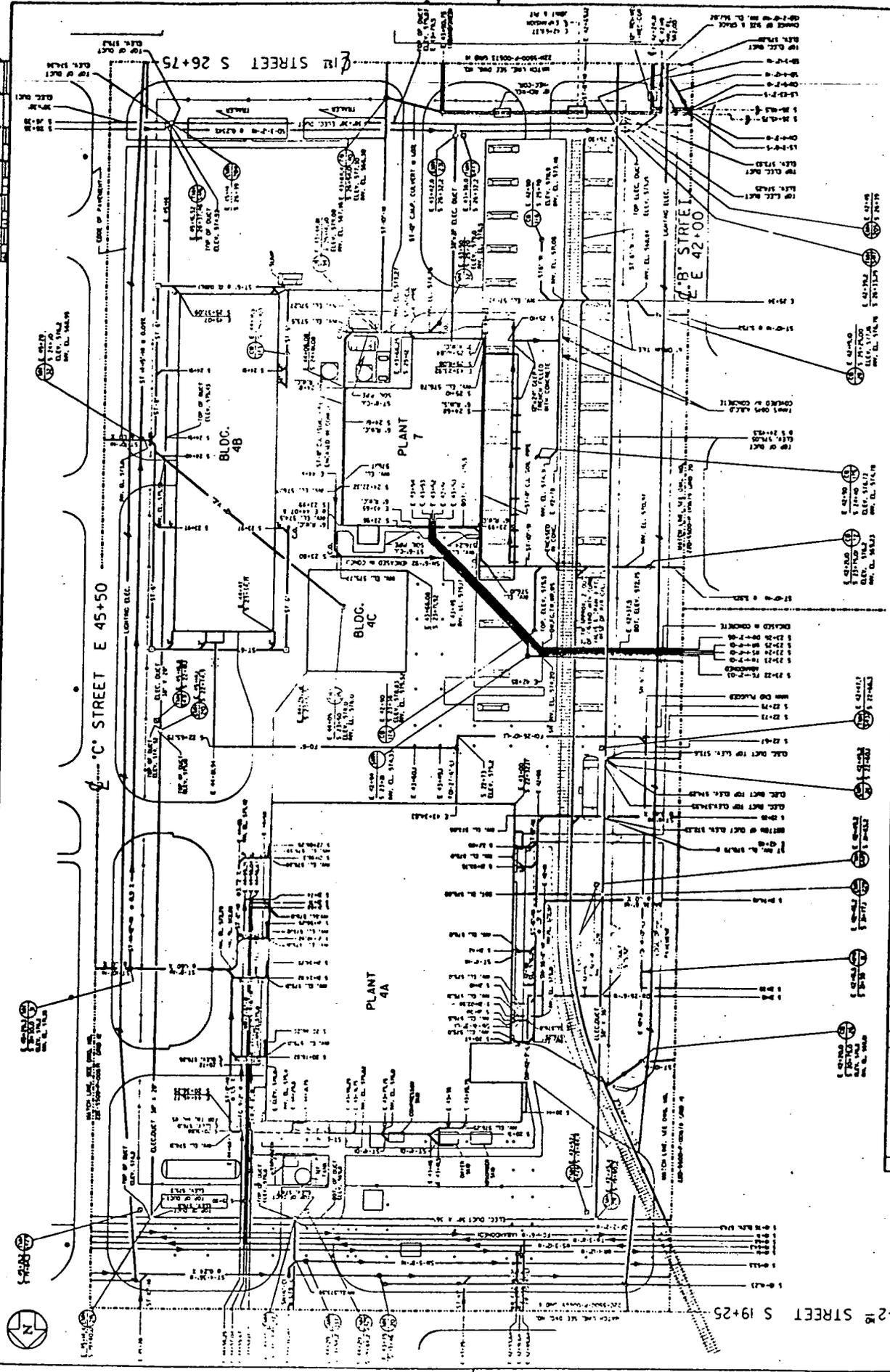
PLANT 7-1
 CHD 13
 UNDERGROUND UTILITIES
 SCALE 1"=20'

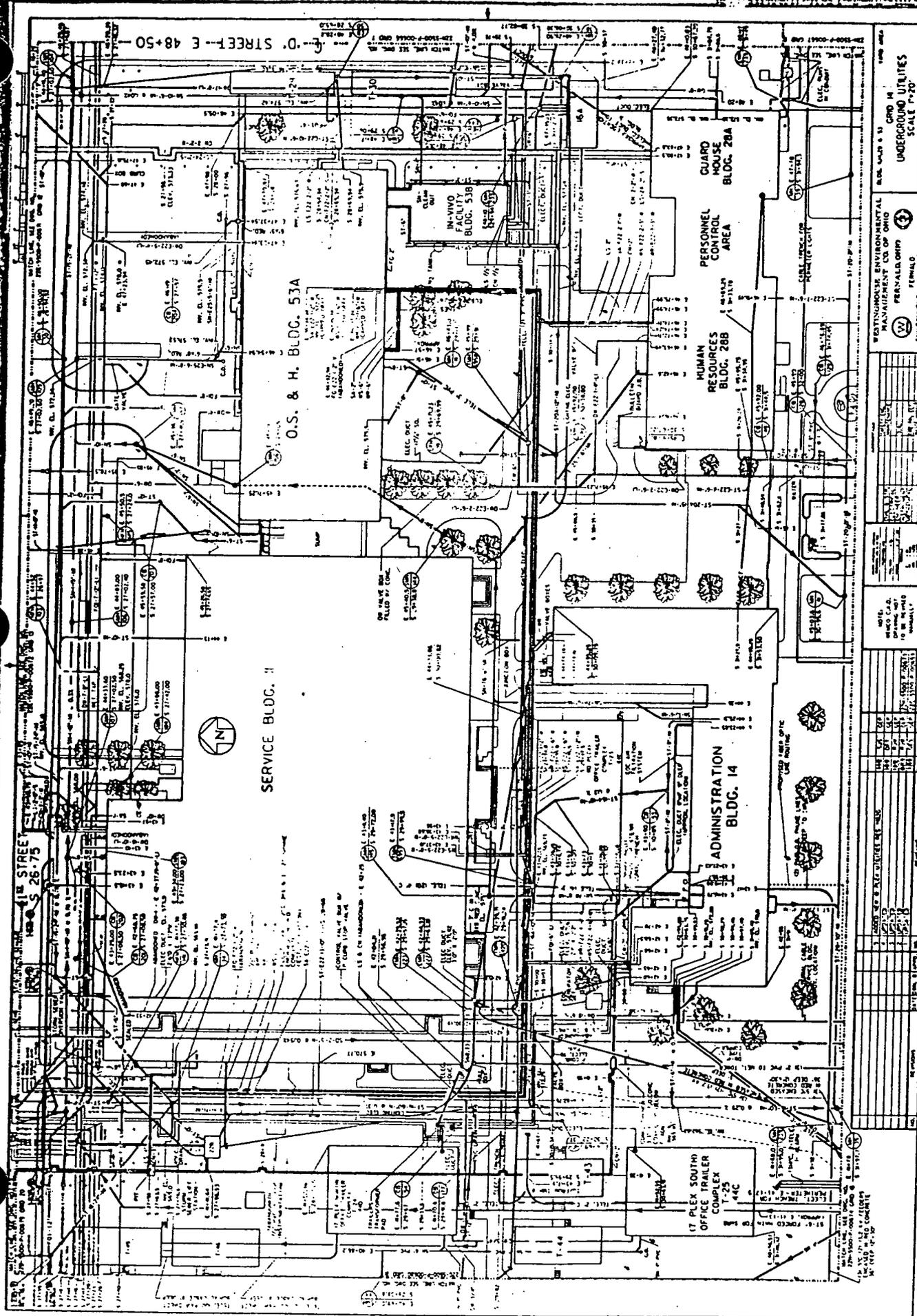
WATKINSON ENVIRONMENTAL
 MANAGEMENT CO. OF OHIO
 FERNALD, OHIO
 FEDERAL
 NATIONAL MANAGEMENT PROJECT
 U.S. DEPARTMENT OF ENERGY

NO.	DESCRIPTION	DATE	BY	CHKD.
1	ISSUED FOR PERMITS	11-15-78	J. J. ...	J. J. ...
2	ISSUED FOR CONSTRUCTION	12-15-78	J. J. ...	J. J. ...
3	ISSUED FOR RECORD	1-15-79	J. J. ...	J. J. ...
4	ISSUED FOR RECORD	2-15-79	J. J. ...	J. J. ...
5	ISSUED FOR RECORD	3-15-79	J. J. ...	J. J. ...
6	ISSUED FOR RECORD	4-15-79	J. J. ...	J. J. ...
7	ISSUED FOR RECORD	5-15-79	J. J. ...	J. J. ...
8	ISSUED FOR RECORD	6-15-79	J. J. ...	J. J. ...
9	ISSUED FOR RECORD	7-15-79	J. J. ...	J. J. ...
10	ISSUED FOR RECORD	8-15-79	J. J. ...	J. J. ...
11	ISSUED FOR RECORD	9-15-79	J. J. ...	J. J. ...
12	ISSUED FOR RECORD	10-15-79	J. J. ...	J. J. ...
13	ISSUED FOR RECORD	11-15-79	J. J. ...	J. J. ...
14	ISSUED FOR RECORD	12-15-79	J. J. ...	J. J. ...
15	ISSUED FOR RECORD	1-15-80	J. J. ...	J. J. ...
16	ISSUED FOR RECORD	2-15-80	J. J. ...	J. J. ...
17	ISSUED FOR RECORD	3-15-80	J. J. ...	J. J. ...
18	ISSUED FOR RECORD	4-15-80	J. J. ...	J. J. ...
19	ISSUED FOR RECORD	5-15-80	J. J. ...	J. J. ...
20	ISSUED FOR RECORD	6-15-80	J. J. ...	J. J. ...
21	ISSUED FOR RECORD	7-15-80	J. J. ...	J. J. ...
22	ISSUED FOR RECORD	8-15-80	J. J. ...	J. J. ...
23	ISSUED FOR RECORD	9-15-80	J. J. ...	J. J. ...
24	ISSUED FOR RECORD	10-15-80	J. J. ...	J. J. ...
25	ISSUED FOR RECORD	11-15-80	J. J. ...	J. J. ...
26	ISSUED FOR RECORD	12-15-80	J. J. ...	J. J. ...
27	ISSUED FOR RECORD	1-15-81	J. J. ...	J. J. ...
28	ISSUED FOR RECORD	2-15-81	J. J. ...	J. J. ...
29	ISSUED FOR RECORD	3-15-81	J. J. ...	J. J. ...
30	ISSUED FOR RECORD	4-15-81	J. J. ...	J. J. ...
31	ISSUED FOR RECORD	5-15-81	J. J. ...	J. J. ...
32	ISSUED FOR RECORD	6-15-81	J. J. ...	J. J. ...
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34	ISSUED FOR RECORD	8-15-81	J. J. ...	J. J. ...
35	ISSUED FOR RECORD	9-15-81	J. J. ...	J. J. ...
36	ISSUED FOR RECORD	10-15-81	J. J. ...	J. J. ...
37	ISSUED FOR RECORD	11-15-81	J. J. ...	J. J. ...
38	ISSUED FOR RECORD	12-15-81	J. J. ...	J. J. ...
39	ISSUED FOR RECORD	1-15-82	J. J. ...	J. J. ...
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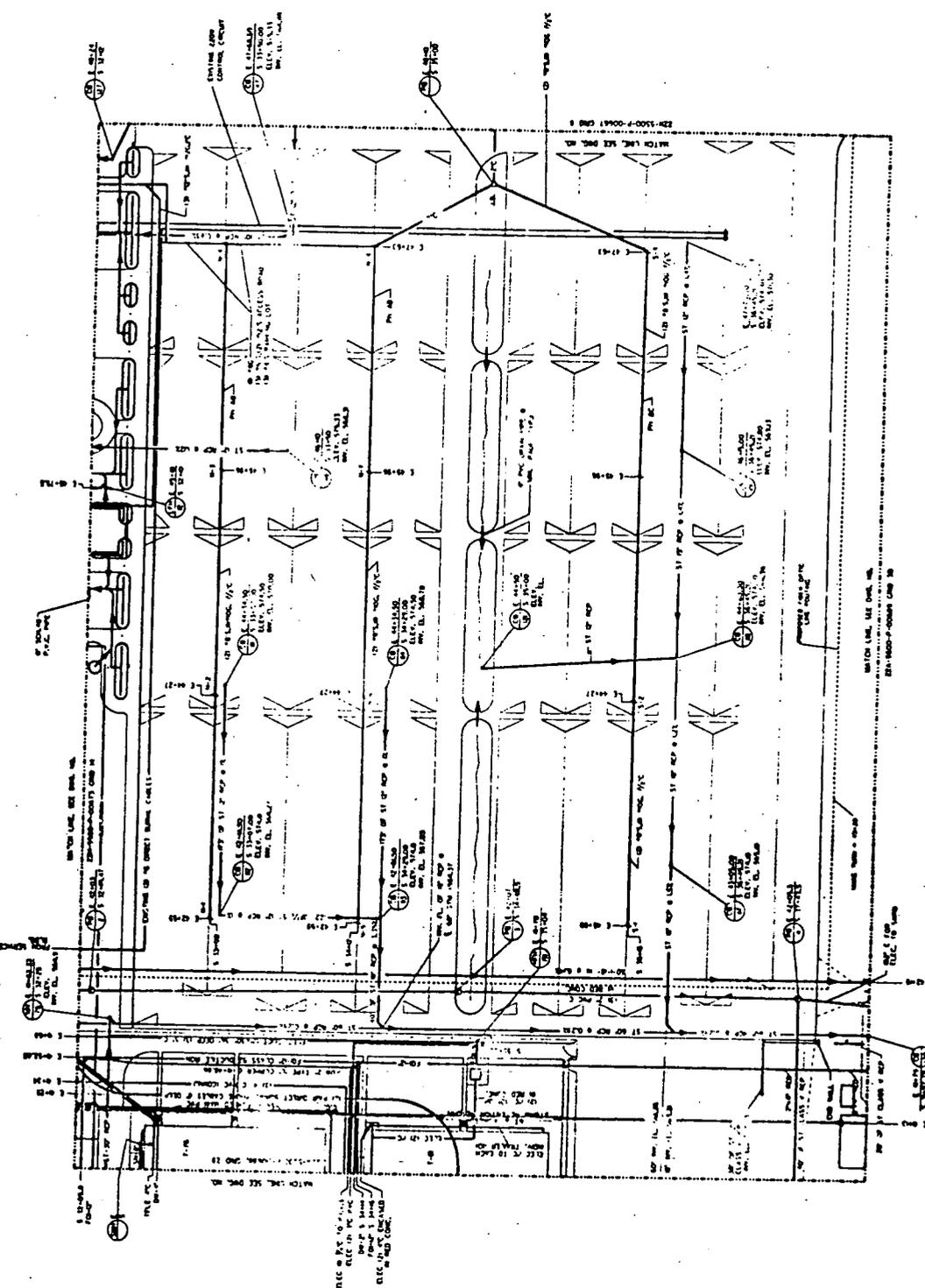
NOTE: REVISIONS TO BE MADE MANUALLY

NO.	DESCRIPTION	DATE	BY	CHKD.
1	ISSUED FOR PERMITS	11-15-78	J. J. ...	J. J. ...
2	ISSUED FOR CONSTRUCTION	12-15-78	J. J. ...	J. J. ...
3	ISSUED FOR RECORD	1-15-79	J. J. ...	J. J. ...
4	ISSUED FOR RECORD	2-15-79	J. J. ...	J. J. ...
5	ISSUED FOR RECORD	3-15-79	J. J. ...	J. J. ...
6	ISSUED FOR RECORD	4-15-79	J. J. ...	J. J. ...
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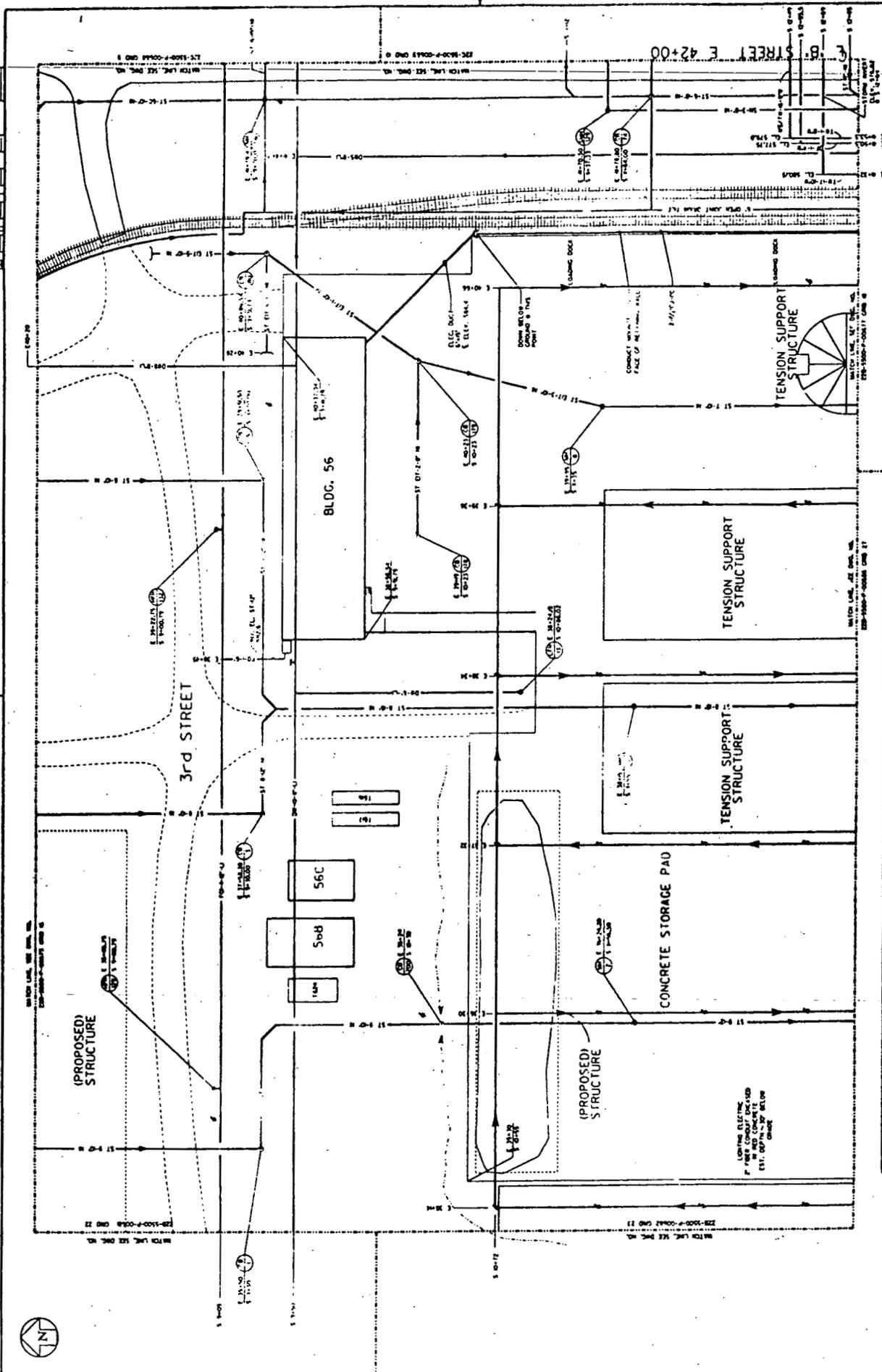




PERMANENT ENVIRONMENTAL MANAGEMENT AND RESTORATION UNIT (FIELD) U.S. DEPARTMENT OF ENERGY	
GND 14 UNDERGROUND UTILITIES SCALE 1"=20' 22M-5500-P-006(1) 5	
PREPARED BY: [Name] CHECKED BY: [Name] DATE: [Date]	
TITLE: [Title] PROJECT: [Project Name]	
SHEET NO. [Number] OF [Total]	
DRAWING NO. [Number]	
REVISIONS: [List of revisions]	

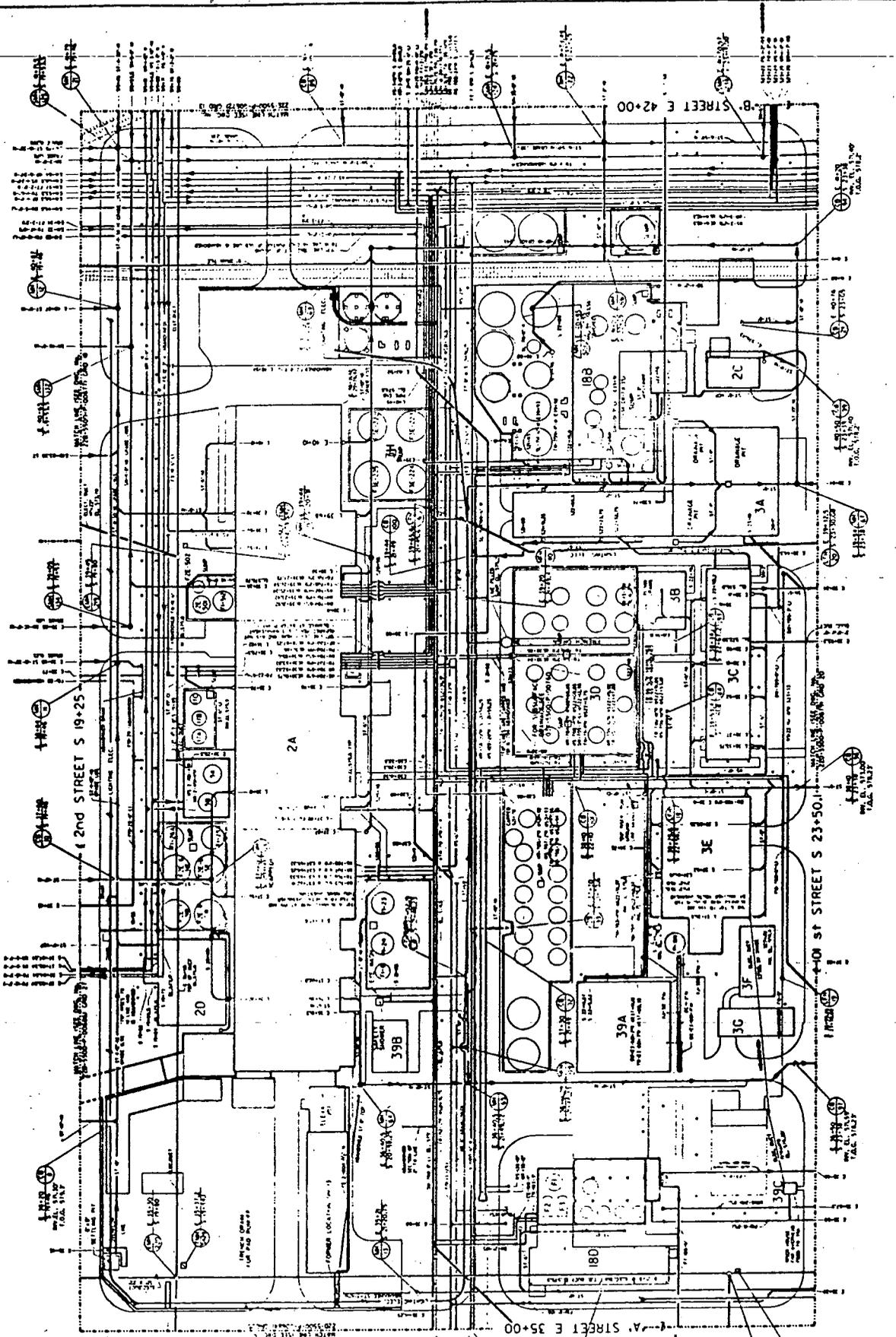


WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO		CARD IS UNDERGROUND UTILITIES		SCALE 1"=30'		224-5500-P-00674	
PERMALA OHIO		PERMALA OHIO		PERMALA OHIO		PERMALA OHIO	
ENVIRONMENTAL MANAGEMENT PROJECT		ENVIRONMENTAL MANAGEMENT PROJECT		ENVIRONMENTAL MANAGEMENT PROJECT		ENVIRONMENTAL MANAGEMENT PROJECT	
U.S. DEPARTMENT OF ENERGY		U.S. DEPARTMENT OF ENERGY		U.S. DEPARTMENT OF ENERGY		U.S. DEPARTMENT OF ENERGY	
DATE: 11/15/70		DATE: 11/15/70		DATE: 11/15/70		DATE: 11/15/70	
DRAWN BY: J. J. ...		DRAWN BY: J. J. ...		DRAWN BY: J. J. ...		DRAWN BY: J. J. ...	
CHECKED BY: ...		CHECKED BY: ...		CHECKED BY: ...		CHECKED BY: ...	
APPROVED BY: ...		APPROVED BY: ...		APPROVED BY: ...		APPROVED BY: ...	
REVISIONS:		REVISIONS:		REVISIONS:		REVISIONS:	
NO.		DATE		BY		DESCRIPTION	
1		11/15/70		J. J. ...		ISSUED FOR CONSTRUCTION	
2		11/15/70		J. J. ...		CORRECTED DRAWING	
3		11/15/70		J. J. ...		CORRECTED DRAWING	
4		11/15/70		J. J. ...		CORRECTED DRAWING	
5		11/15/70		J. J. ...		CORRECTED DRAWING	
6		11/15/70		J. J. ...		CORRECTED DRAWING	
7		11/15/70		J. J. ...		CORRECTED DRAWING	
8		11/15/70		J. J. ...		CORRECTED DRAWING	
9		11/15/70		J. J. ...		CORRECTED DRAWING	
10		11/15/70		J. J. ...		CORRECTED DRAWING	
11		11/15/70		J. J. ...		CORRECTED DRAWING	
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37		11/15/70		J. J. ...		CORRECTED DRAWING	
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40		11/15/70		J. J. ...		CORRECTED DRAWING	
41		11/15/70		J. J. ...		CORRECTED DRAWING	
42		11/15/70		J. J. ...		CORRECTED DRAWING	
43		11/15/70		J. J. ...		CORRECTED DRAWING	
44		11/15/70		J. J. ...		CORRECTED DRAWING	
45		11/15/70		J. J. ...		CORRECTED DRAWING	
46		11/15/70		J. J. ...		CORRECTED DRAWING	
47		11/15/70		J. J. ...		CORRECTED DRAWING	
48		11/15/70		J. J. ...		CORRECTED DRAWING	
49		11/15/70		J. J. ...		CORRECTED DRAWING	
50		11/15/70		J. J. ...		CORRECTED DRAWING	



WASHINGTON ENVIRONMENTAL MANAGEMENT CO. OF G.D.O. FEDERAL U.S. DEPARTMENT OF ENERGY		CARD 17 UNDERGROUND UTILITIES SCALE 1"=20' 22-1500-P-0040 22-1500-P-0041 22-1500-P-0042 22-1500-P-0043 22-1500-P-0044 22-1500-P-0045 22-1500-P-0046 22-1500-P-0047 22-1500-P-0048 22-1500-P-0049 22-1500-P-0050	
DATE: 1/27/78 DRAWING NOT TO BE USED UNLESS APPROVED MANUALLY	SHEET NO. 17 OF 20	PROJECT NO. 22-1500-P-0040 THROUGH 22-1500-P-0050	DRAWING NO. 22-1500-P-0044 OMB 21

FEDERAL BUREAU OF INVESTIGATION U.S. DEPARTMENT OF JUSTICE		ENVIRONMENTAL MANAGEMENT FEDERAL BUREAU OF INVESTIGATION U.S. DEPARTMENT OF JUSTICE		PROJECT NO. 220-5500-P-00678 2	
TITLE GRO 19 UNDERGROUND UTILITIES SCALE 1/2"=20' DATE		DRAWN BY CHECKED BY APPROVED BY		DATE SCALE SHEET NO.	
PROJECT NO. 220-5500-P-00678 2		DRAWN BY CHECKED BY APPROVED BY		DATE SCALE SHEET NO.	
TITLE GRO 19 UNDERGROUND UTILITIES SCALE 1/2"=20' DATE		DRAWN BY CHECKED BY APPROVED BY		DATE SCALE SHEET NO.	

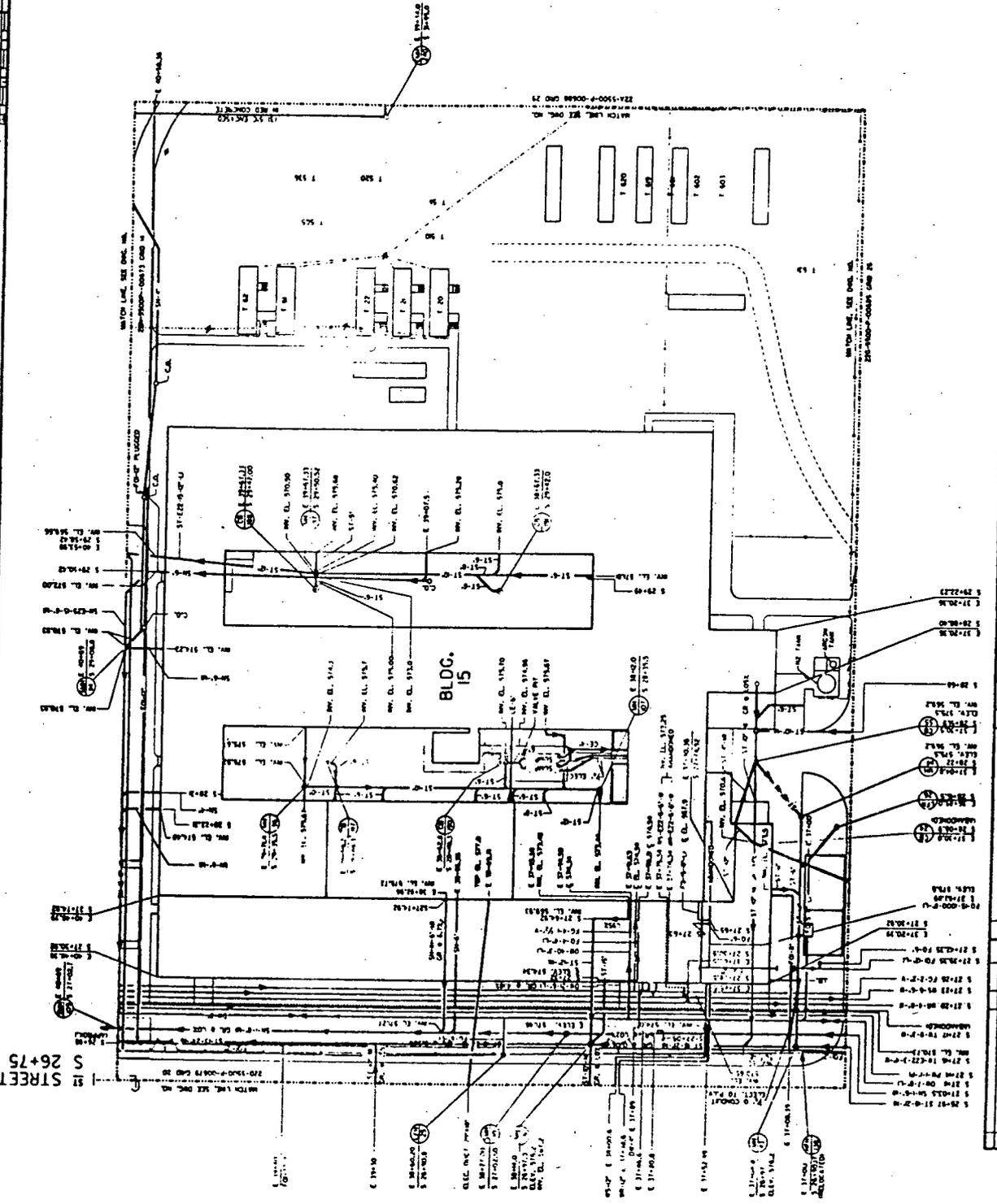


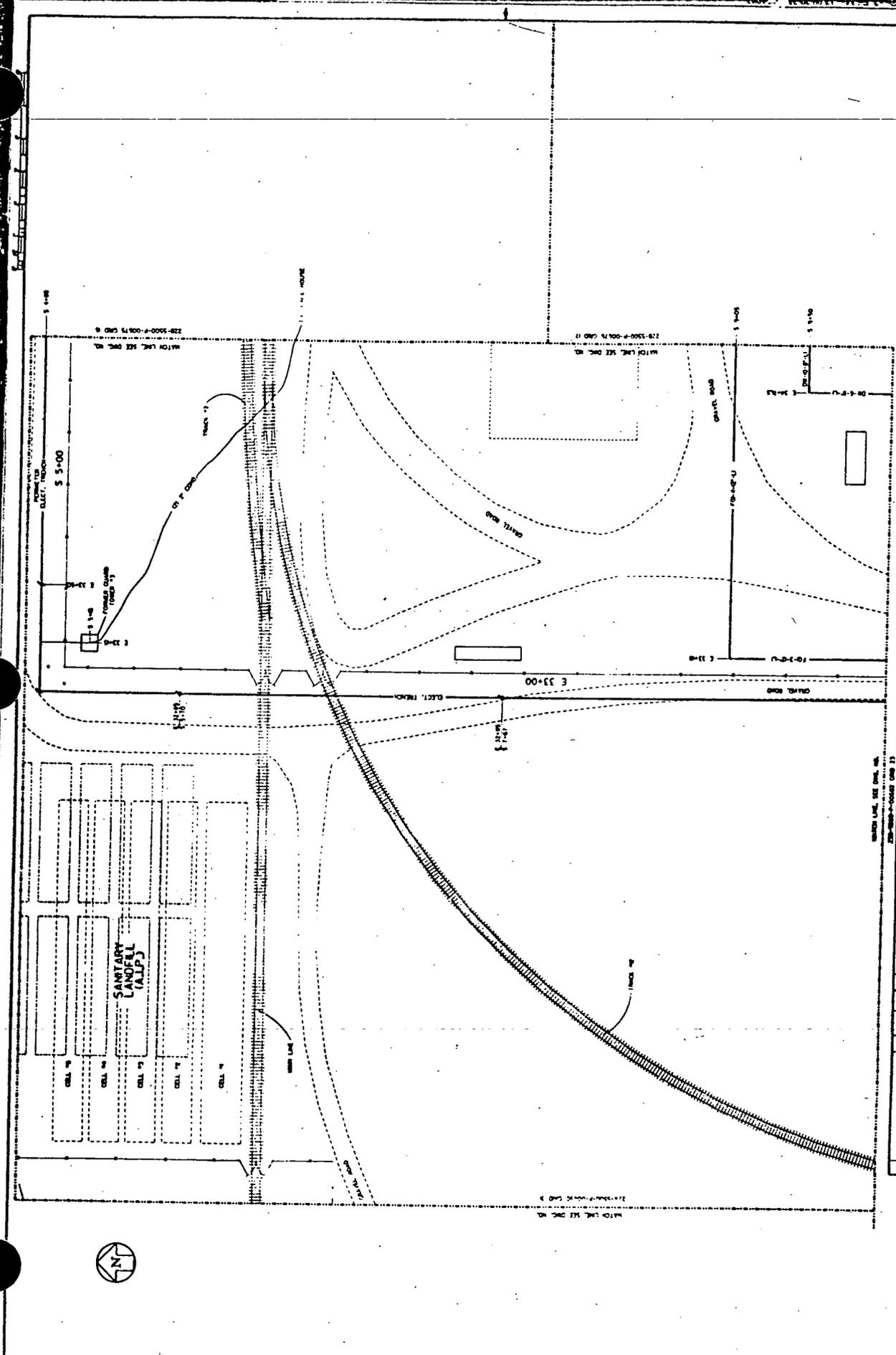
WESTINGHOUSE ENVIRONMENTAL
MANAGEMENT CO. OF OHIO
PERNARD, OHIO
UNDERGROUND UTILITIES
SCALE 1"=20'
220-5500-P-00680

NO.	DATE	DESCRIPTION
1	11/15/78	ISSUED FOR PERMITS
2	12/15/78	REVISED TO SHOW CHANGES
3	01/15/79	REVISED TO SHOW CHANGES
4	02/15/79	REVISED TO SHOW CHANGES
5	03/15/79	REVISED TO SHOW CHANGES
6	04/15/79	REVISED TO SHOW CHANGES
7	05/15/79	REVISED TO SHOW CHANGES
8	06/15/79	REVISED TO SHOW CHANGES
9	07/15/79	REVISED TO SHOW CHANGES
10	08/15/79	REVISED TO SHOW CHANGES
11	09/15/79	REVISED TO SHOW CHANGES
12	10/15/79	REVISED TO SHOW CHANGES

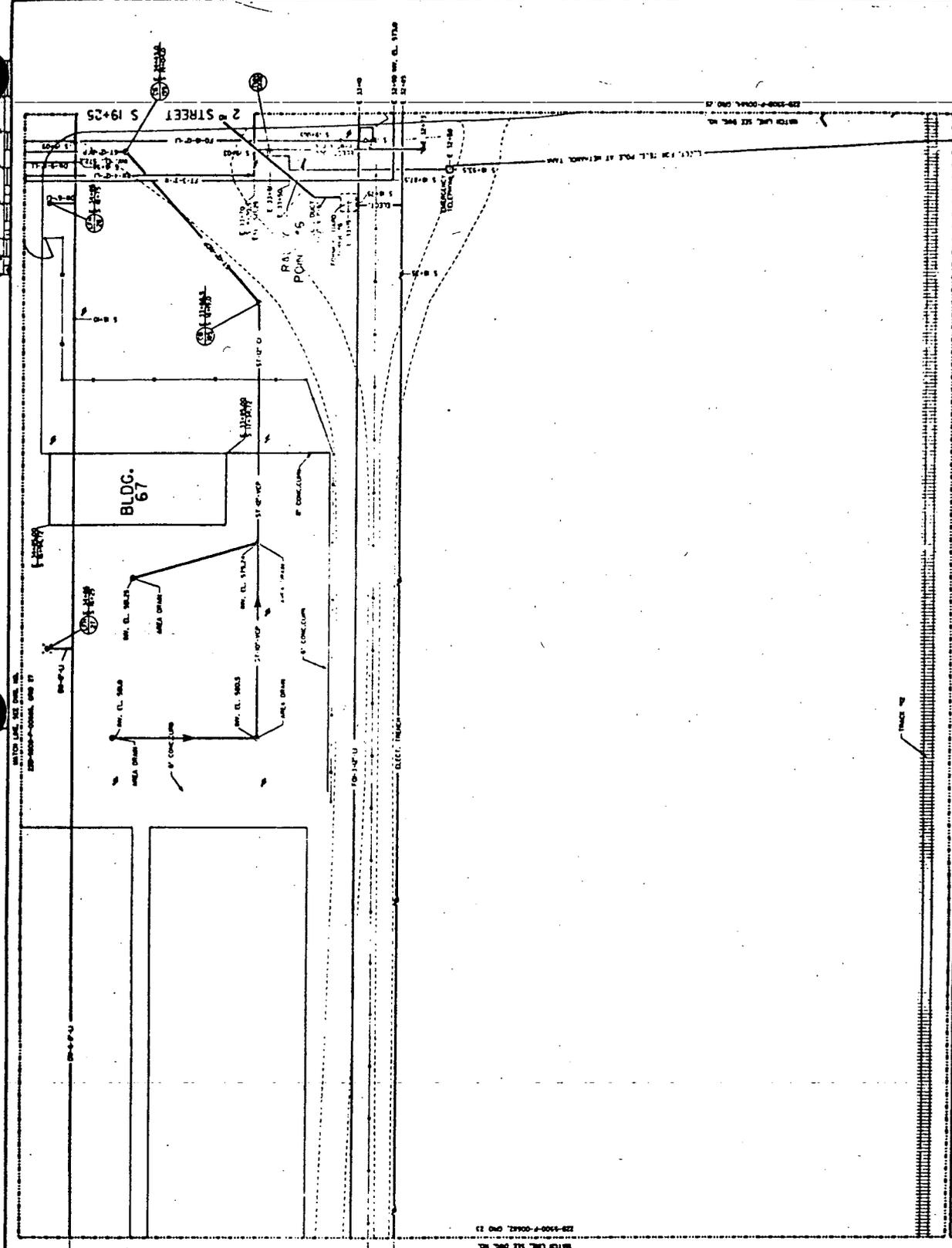
NOTES:
1. ALL UTILITIES SHOWN ARE BASED ON FIELD SURVEY DATA.
2. UTILITIES NOT SHOWN ARE TO BE LOCATED BY FIELD SURVEY.
3. SEE SHEET 220-5500-P-00680-1 FOR GENERAL NOTES.

NO.	DATE	DESCRIPTION
1	11/15/78	ISSUED FOR PERMITS
2	12/15/78	REVISED TO SHOW CHANGES
3	01/15/79	REVISED TO SHOW CHANGES
4	02/15/79	REVISED TO SHOW CHANGES
5	03/15/79	REVISED TO SHOW CHANGES
6	04/15/79	REVISED TO SHOW CHANGES
7	05/15/79	REVISED TO SHOW CHANGES
8	06/15/79	REVISED TO SHOW CHANGES
9	07/15/79	REVISED TO SHOW CHANGES
10	08/15/79	REVISED TO SHOW CHANGES
11	09/15/79	REVISED TO SHOW CHANGES
12	10/15/79	REVISED TO SHOW CHANGES





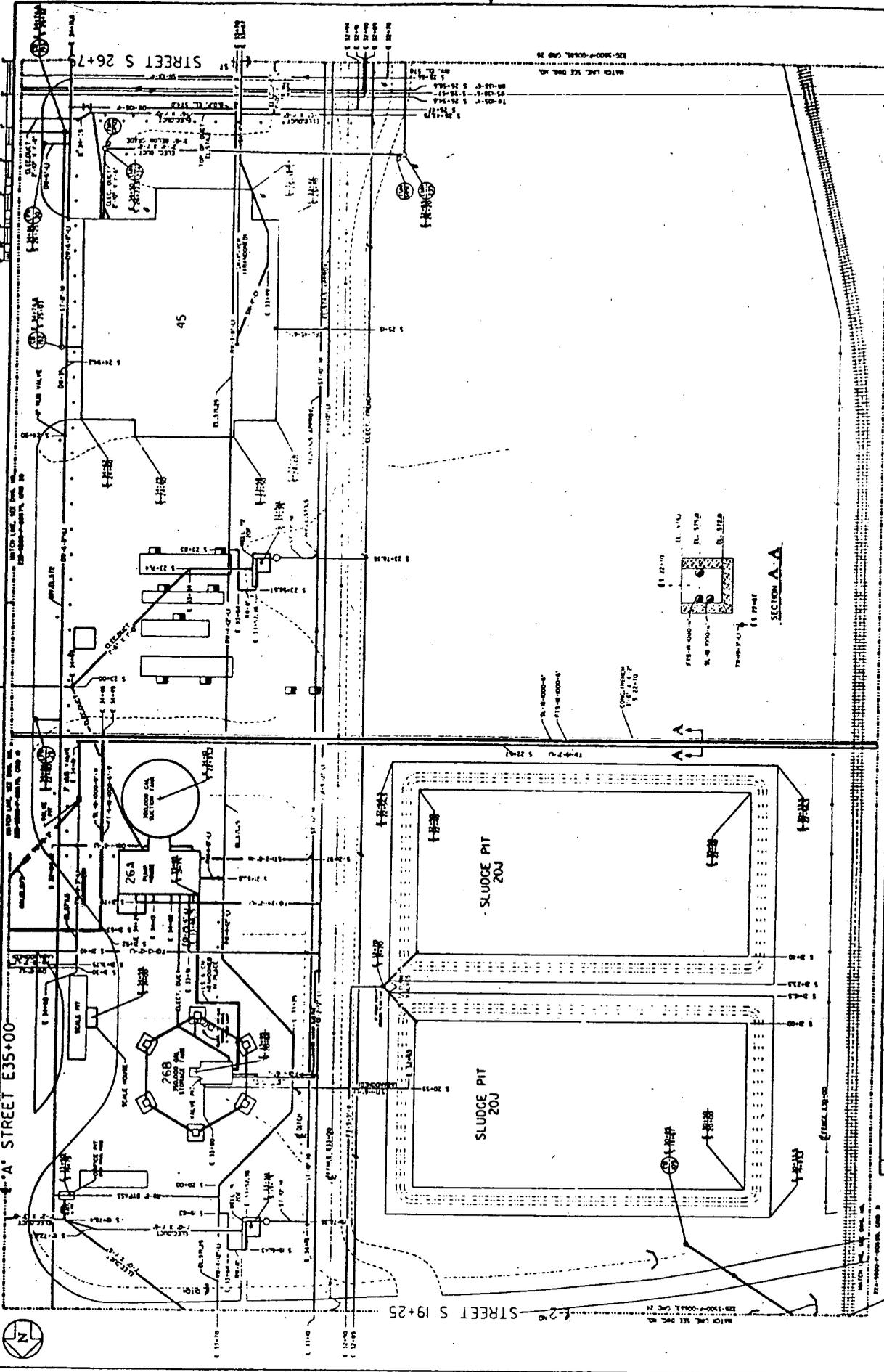
WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PENNA. OHIO ENVIRONMENTAL MANAGEMENT PROJECT U.S. DEPARTMENT OF ENERGY		PROJ. NO. 228-5500-P-0088B SHEET NO. 1	
TITLE: SHEET NO. DATE: DRAWN BY: CHECKED BY:		U.S. DEPARTMENT OF ENERGY ENVIRONMENTAL MANAGEMENT PROJECT PENNA. OHIO PROJ. NO. 228-5500-P-0088B SHEET NO. 1	
NOTE: REVISIONS TO BE MADE MANUALLY		REVISIONS NO. DATE BY	



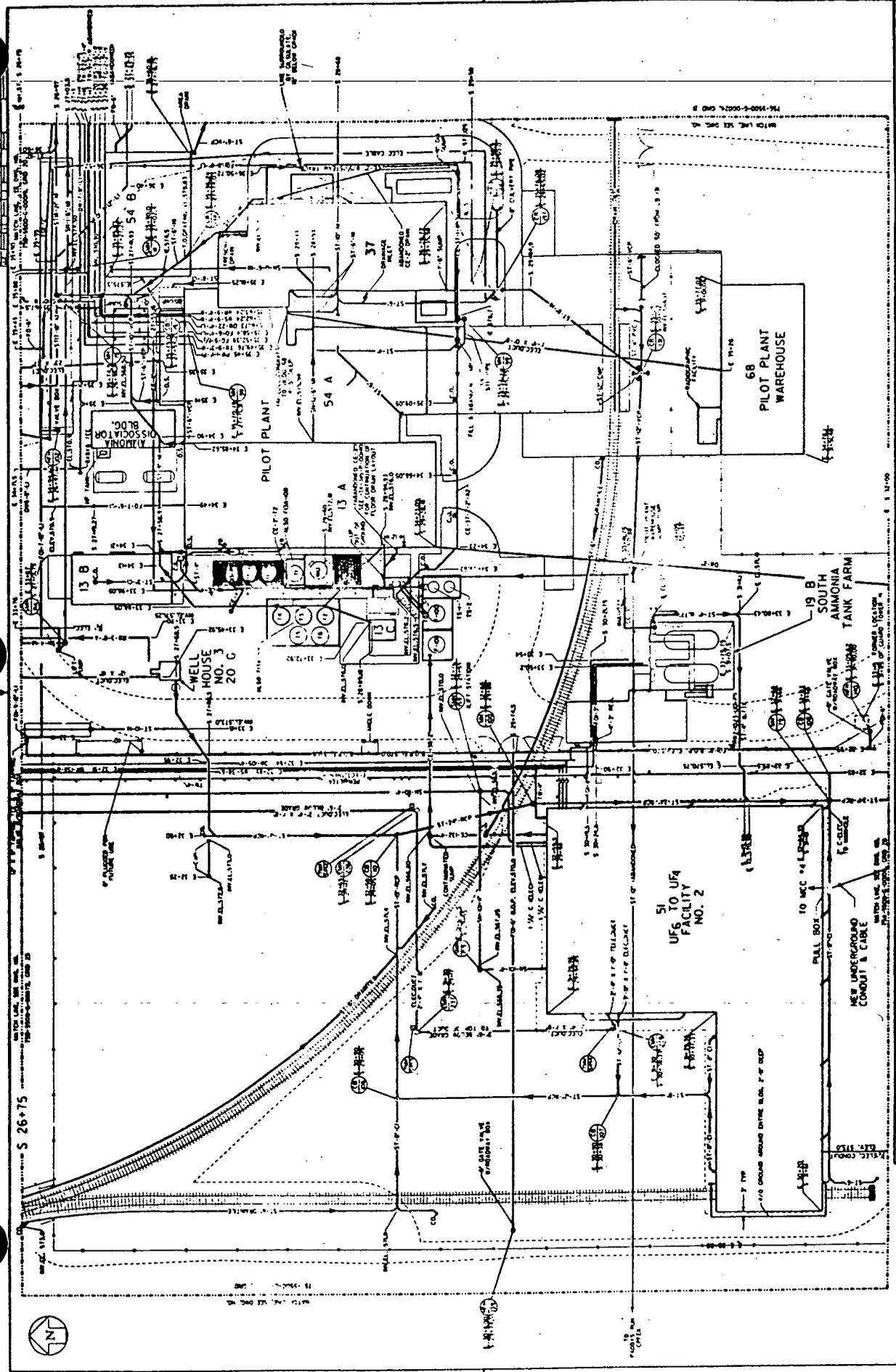
WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PENNA. OHIO ENVIRONMENTAL MANAGEMENT PROJECT U.S. DEPARTMENT OF ENERGY		GRID 24 UNDERGROUND UTILITIES SCALE 1"=20' 228-5500-P-00683 2	
NO. 1	NO. 2	NO. 3	NO. 4
NO. 5	NO. 6	NO. 7	NO. 8
NO. 9	NO. 10	NO. 11	NO. 12
NO. 13	NO. 14	NO. 15	NO. 16
NO. 17	NO. 18	NO. 19	NO. 20
NO. 21	NO. 22	NO. 23	NO. 24
NO. 25	NO. 26	NO. 27	NO. 28
NO. 29	NO. 30	NO. 31	NO. 32
NO. 33	NO. 34	NO. 35	NO. 36
NO. 37	NO. 38	NO. 39	NO. 40
NO. 41	NO. 42	NO. 43	NO. 44
NO. 45	NO. 46	NO. 47	NO. 48
NO. 49	NO. 50	NO. 51	NO. 52
NO. 53	NO. 54	NO. 55	NO. 56
NO. 57	NO. 58	NO. 59	NO. 60
NO. 61	NO. 62	NO. 63	NO. 64
NO. 65	NO. 66	NO. 67	NO. 68
NO. 69	NO. 70	NO. 71	NO. 72
NO. 73	NO. 74	NO. 75	NO. 76
NO. 77	NO. 78	NO. 79	NO. 80
NO. 81	NO. 82	NO. 83	NO. 84
NO. 85	NO. 86	NO. 87	NO. 88
NO. 89	NO. 90	NO. 91	NO. 92
NO. 93	NO. 94	NO. 95	NO. 96
NO. 97	NO. 98	NO. 99	NO. 100

MATCH LINE SEE GRID NO. 228-5500-P-00683, GRID 23
 MATCH LINE SEE GRID NO. 228-5500-P-00683, GRID 21
 MATCH LINE SEE GRID NO. 228-5500-P-00683, GRID 25
 MATCH LINE SEE GRID NO. 228-5500-P-00683, GRID 27

200



WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PEP WALD, OHIO		UNDERGROUND UTILITIES SCALE 1"=20' 220-5500-P-00684 2	
WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PEP WALD, OHIO FEDERAL ENVIRONMENTAL MANAGEMENT PROJECT U.S. DEPARTMENT OF ENERGY		DATE: 11/11/77 DRAWING NO.: 220-5500-P-00684 SHEET NO.: 2 TOTAL SHEETS: 2 PROJECT NO.: 220-5500-P-00684 SCALE: 1"=20' DRAWN BY: J. J. [unreadable] CHECKED BY: [unreadable] APPROVED BY: [unreadable]	
NO. 1 NO. 2 NO. 3 NO. 4 NO. 5 NO. 6 NO. 7 NO. 8 NO. 9 NO. 10 NO. 11 NO. 12 NO. 13 NO. 14 NO. 15 NO. 16 NO. 17 NO. 18 NO. 19 NO. 20 NO. 21 NO. 22 NO. 23 NO. 24 NO. 25 NO. 26 NO. 27 NO. 28 NO. 29 NO. 30 NO. 31 NO. 32 NO. 33 NO. 34 NO. 35 NO. 36 NO. 37 NO. 38 NO. 39 NO. 40 NO. 41 NO. 42 NO. 43 NO. 44 NO. 45 NO. 46 NO. 47 NO. 48 NO. 49 NO. 50 NO. 51 NO. 52 NO. 53 NO. 54 NO. 55 NO. 56 NO. 57 NO. 58 NO. 59 NO. 60 NO. 61 NO. 62 NO. 63 NO. 64 NO. 65 NO. 66 NO. 67 NO. 68 NO. 69 NO. 70 NO. 71 NO. 72 NO. 73 NO. 74 NO. 75 NO. 76 NO. 77 NO. 78 NO. 79 NO. 80 NO. 81 NO. 82 NO. 83 NO. 84 NO. 85 NO. 86 NO. 87 NO. 88 NO. 89 NO. 90 NO. 91 NO. 92 NO. 93 NO. 94 NO. 95 NO. 96 NO. 97 NO. 98 NO. 99 NO. 100		NO. 1 NO. 2 NO. 3 NO. 4 NO. 5 NO. 6 NO. 7 NO. 8 NO. 9 NO. 10 NO. 11 NO. 12 NO. 13 NO. 14 NO. 15 NO. 16 NO. 17 NO. 18 NO. 19 NO. 20 NO. 21 NO. 22 NO. 23 NO. 24 NO. 25 NO. 26 NO. 27 NO. 28 NO. 29 NO. 30 NO. 31 NO. 32 NO. 33 NO. 34 NO. 35 NO. 36 NO. 37 NO. 38 NO. 39 NO. 40 NO. 41 NO. 42 NO. 43 NO. 44 NO. 45 NO. 46 NO. 47 NO. 48 NO. 49 NO. 50 NO. 51 NO. 52 NO. 53 NO. 54 NO. 55 NO. 56 NO. 57 NO. 58 NO. 59 NO. 60 NO. 61 NO. 62 NO. 63 NO. 64 NO. 65 NO. 66 NO. 67 NO. 68 NO. 69 NO. 70 NO. 71 NO. 72 NO. 73 NO. 74 NO. 75 NO. 76 NO. 77 NO. 78 NO. 79 NO. 80 NO. 81 NO. 82 NO. 83 NO. 84 NO. 85 NO. 86 NO. 87 NO. 88 NO. 89 NO. 90 NO. 91 NO. 92 NO. 93 NO. 94 NO. 95 NO. 96 NO. 97 NO. 98 NO. 99 NO. 100	



26+75 S

WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PERMALA 080 CINCINNATI, OHIO 45202 ENVIRONMENTAL MANAGEMENT PROJECT U.S. DEPARTMENT OF ENERGY	
PILOT PLANT & UFG NO. 2 UNDERGROUND UTILITIES SCALE: 1"=20' 220-5500-P-00685 2	
DATE: 1-24-75 DRAWN BY: J. J. [unclear] CHECKED BY: [unclear] APPROVED BY: [unclear]	SHEET NO. 2 OF 2

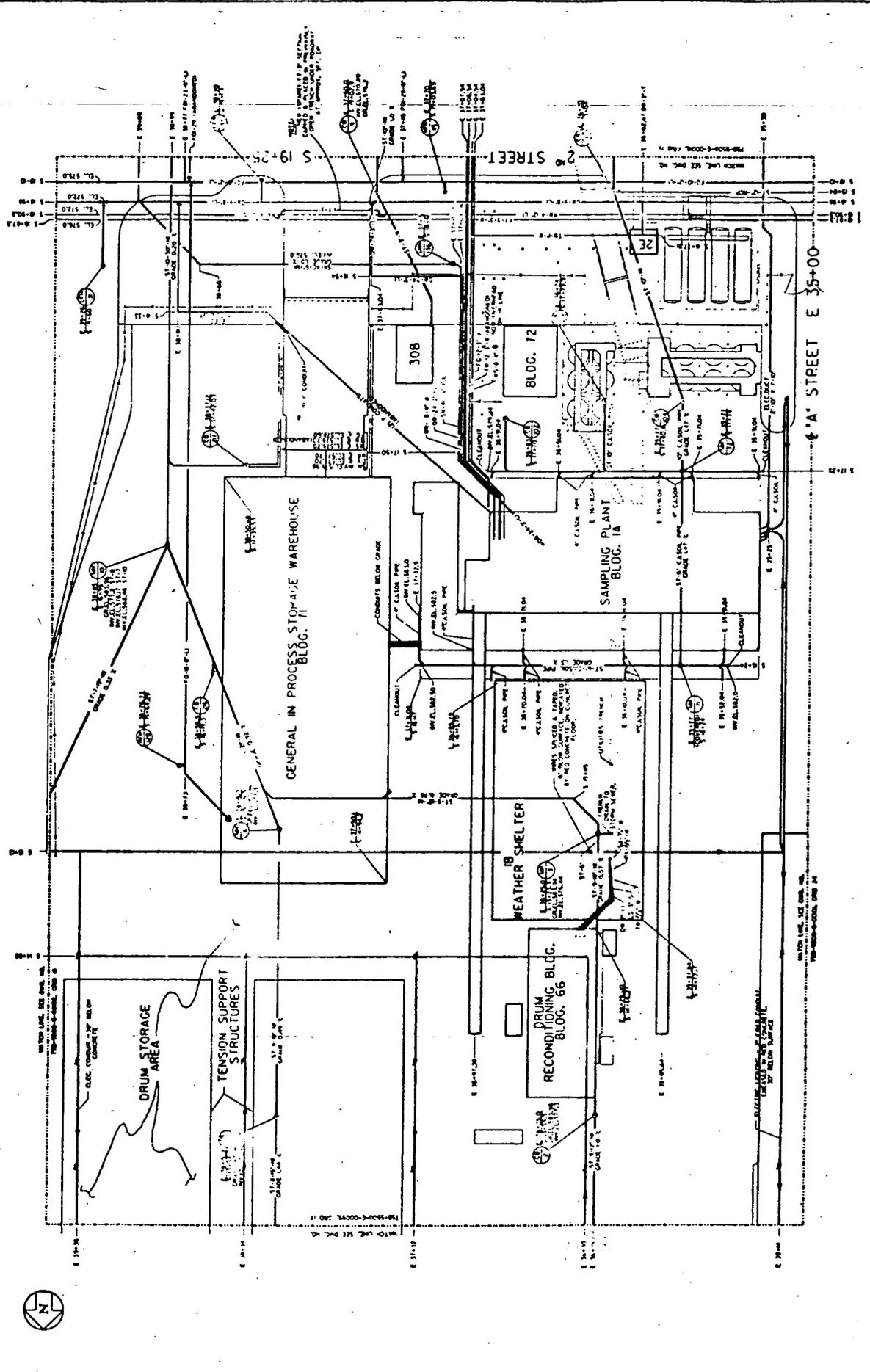
WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO
 FERNALDO OHIO
 ENVIRONMENTAL MANAGEMENT PROJECT
 U.S. DEPARTMENT OF ENERGY

GRID 27
 UNDERGROUND UTILITIES
 SCALE 1"=20'

278-5500-P-00686 2

NO.	DATE	DESCRIPTION	BY	CHKD.
1	10/10/78	ISSUED FOR CONSTRUCTION	J. J. ...	J. J. ...
2	11/15/78	REVISED TO SHOW ...	J. J. ...	J. J. ...
3	12/15/78	REVISED TO SHOW ...	J. J. ...	J. J. ...
4	01/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
5	02/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
6	03/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
7	04/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
8	05/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
9	06/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
10	07/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
11	08/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
12	09/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
13	10/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
14	11/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
15	12/15/79	REVISED TO SHOW ...	J. J. ...	J. J. ...
16	01/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
17	02/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
18	03/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
19	04/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
20	05/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
21	06/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
22	07/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
23	08/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
24	09/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
25	10/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
26	11/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
27	12/15/80	REVISED TO SHOW ...	J. J. ...	J. J. ...
28	01/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
29	02/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
30	03/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
31	04/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
32	05/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
33	06/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
34	07/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
35	08/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
36	09/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
37	10/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
38	11/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
39	12/15/81	REVISED TO SHOW ...	J. J. ...	J. J. ...
40	01/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
41	02/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
42	03/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
43	04/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
44	05/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
45	06/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
46	07/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
47	08/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
48	09/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
49	10/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
50	11/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
51	12/15/82	REVISED TO SHOW ...	J. J. ...	J. J. ...
52	01/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
53	02/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
54	03/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
55	04/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
56	05/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
57	06/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
58	07/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
59	08/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
60	09/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
61	10/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
62	11/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
63	12/15/83	REVISED TO SHOW ...	J. J. ...	J. J. ...
64	01/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
65	02/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
66	03/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
67	04/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
68	05/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
69	06/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
70	07/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
71	08/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
72	09/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
73	10/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
74	11/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
75	12/15/84	REVISED TO SHOW ...	J. J. ...	J. J. ...
76	01/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
77	02/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
78	03/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
79	04/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
80	05/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
81	06/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
82	07/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
83	08/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
84	09/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
85	10/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
86	11/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
87	12/15/85	REVISED TO SHOW ...	J. J. ...	J. J. ...
88	01/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
89	02/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
90	03/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
91	04/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
92	05/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
93	06/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
94	07/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
95	08/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
96	09/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
97	10/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
98	11/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
99	12/15/86	REVISED TO SHOW ...	J. J. ...	J. J. ...
100	01/15/87	REVISED TO SHOW ...	J. J. ...	J. J. ...

NOTES:
 1. DRUM STORAGE AREA TO BE REVISED MANUALLY.
 2. ...
 3. ...



SOUTH OF WEST PLANT
 GRID 28
UNDERGROUND UTILITIES
 SCALE: P. 30'
 22A-5500-P-00687 2

PENNSYLVANIA ENVIRONMENTAL
 MANAGEMENT CO. OF GRID
 PENNSYLVANIA
 FEDERAL
 ENVIRONMENTAL PROJECT
 U.S. DEPARTMENT OF ENERGY

NO.	DATE	DESCRIPTION	BY	CHKD.
1	10/1/81	ISSUED FOR CONSTRUCTION	...	...
2	10/1/81	...	...	...
3	10/1/81	...	...	...
4	10/1/81	...	...	...
5	10/1/81	...	...	...

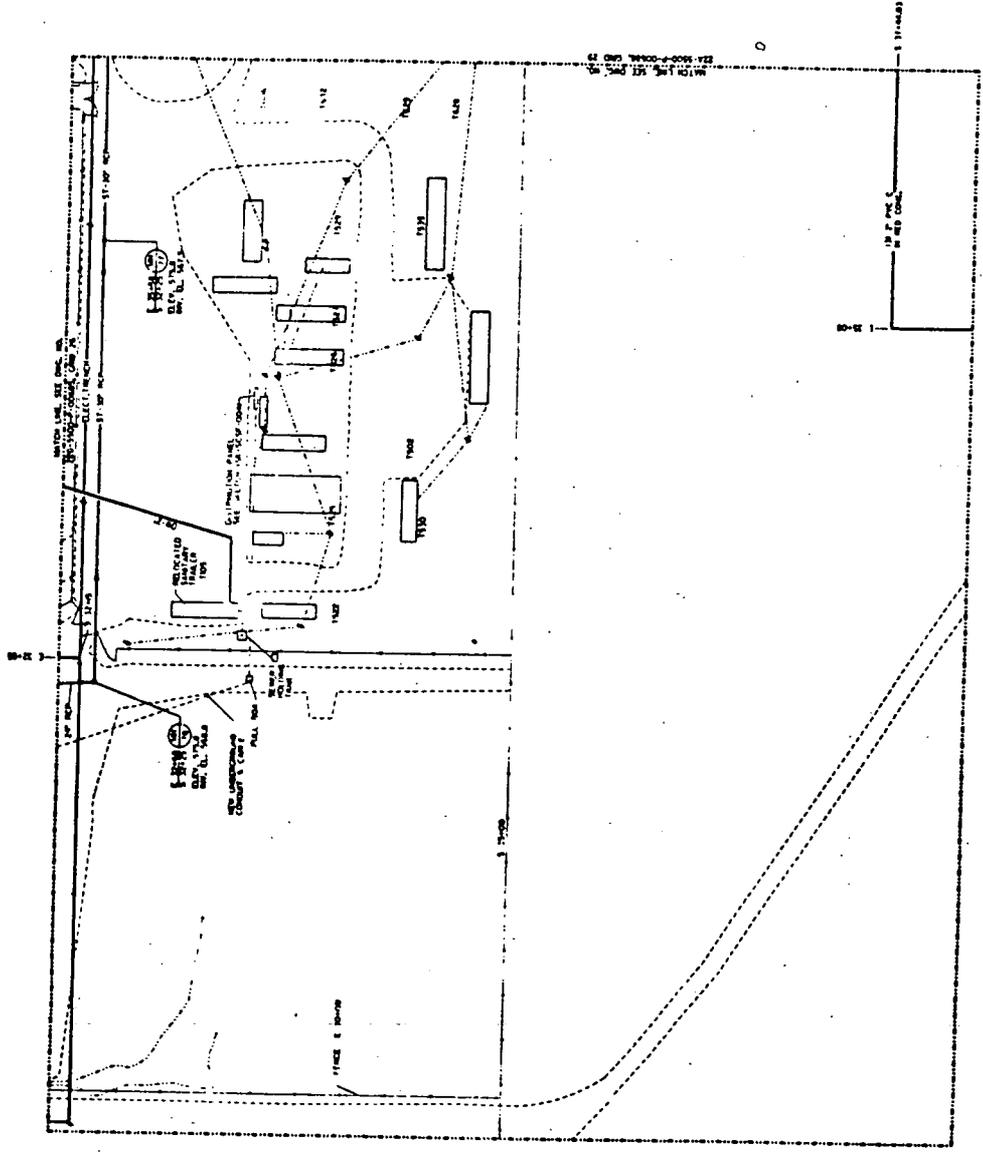
THE INFORMATION CONTAINED
 HEREIN IS UNCLASSIFIED
 DATE 10/1/81 BY 1043/STP/STP
 EXCEPT WHERE SHOWN
 OTHERWISE

NO.	DATE	DESCRIPTION	BY	CHKD.
1	10/1/81	ISSUED FOR CONSTRUCTION	...	...
2	10/1/81	...	...	...
3	10/1/81	...	...	...
4	10/1/81	...	...	...
5	10/1/81	...	...	...

NO.	DATE	DESCRIPTION	BY	CHKD.
1	10/1/81	ISSUED FOR CONSTRUCTION	...	...
2	10/1/81	...	...	...
3	10/1/81	...	...	...
4	10/1/81	...	...	...
5	10/1/81	...	...	...

NO.	DATE	DESCRIPTION	BY	CHKD.
1	10/1/81	ISSUED FOR CONSTRUCTION	...	...
2	10/1/81	...	...	...
3	10/1/81	...	...	...
4	10/1/81	...	...	...
5	10/1/81	...	...	...

NO.	DATE	DESCRIPTION	BY	CHKD.
1	10/1/81	ISSUED FOR CONSTRUCTION	...	...
2	10/1/81	...	...	...
3	10/1/81	...	...	...
4	10/1/81	...	...	...
5	10/1/81	...	...	...



DATE: 11/15/82
 DRAWN BY: J. J. [unclear]
 CHECKED BY: [unclear]
 PROJECT NO.: 222-15500-P-00680 3

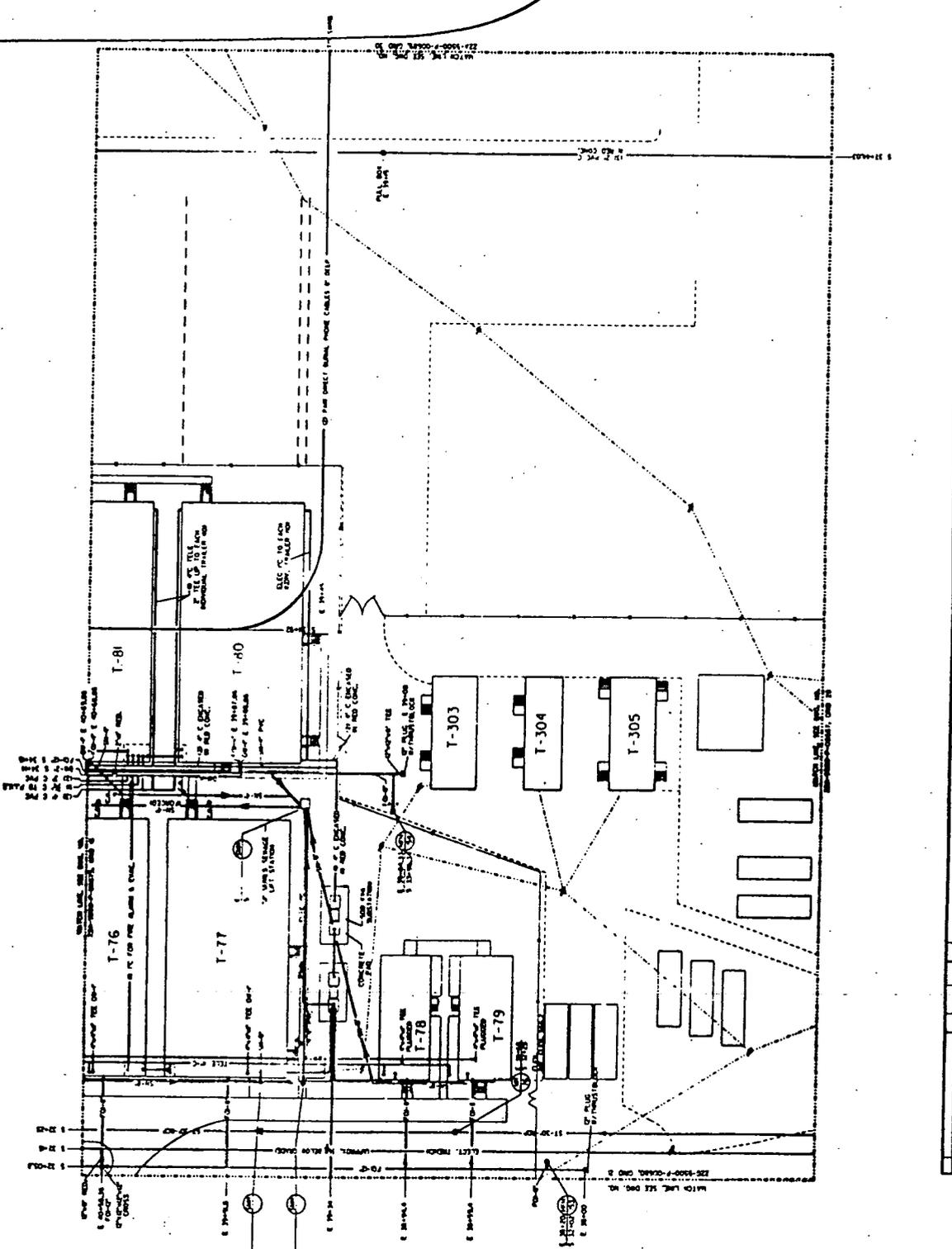
STATE OF OHIO
 DEPARTMENT OF ENERGY
 ENVIRONMENTAL PROJECT
 PERMITS AND REGULATORY SERVICES
 PERMITS AND REGULATORY SERVICES
 PERMITS AND REGULATORY SERVICES

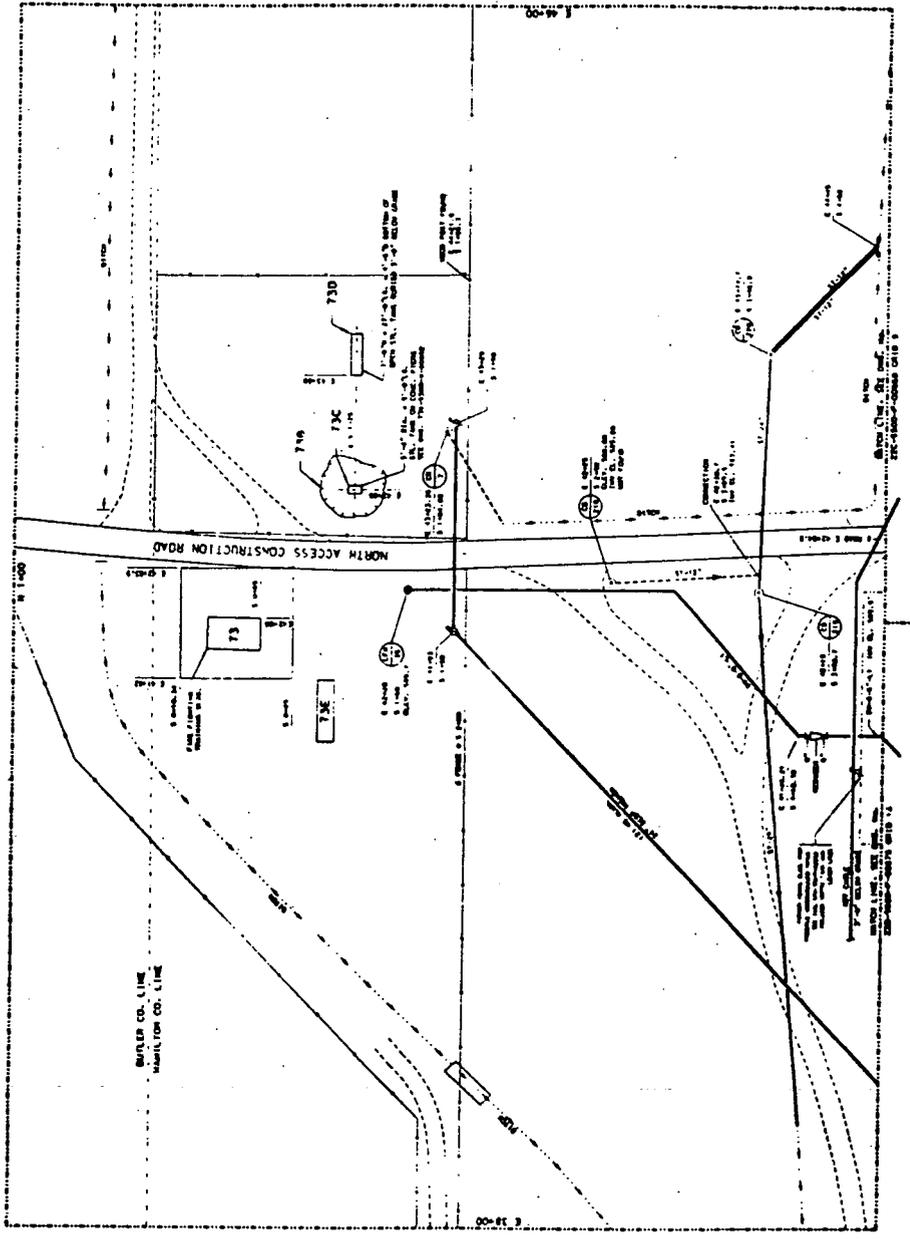
MANAGEMENT CO. OF OHIO
 ENVIRONMENTAL PROJECT
 PERMITS AND REGULATORY SERVICES

SCALE: 1" = 20'

UNDERGROUND UTILITIES
 SCALE: 1" = 20'

DATE: 11/15/82
 DRAWN BY: J. J. [unclear]
 CHECKED BY: [unclear]
 PROJECT NO.: 222-15500-P-00680 3





WESTINGHOUSE ENVIRONMENTAL MANAGEMENT CO. OF OHIO PERMAID, OHIO ENVIRONMENTAL MANAGEMENT PROJECT U.S. DEPARTMENT OF ENERGY		ORDER NUMBER 22A-5500-P-00760 0	
PROJECT TITLE UNDERGROUND UTILITIES SCALE: 1" = 30'-0"		DATE 11/11/80	
DRAWN BY J. J. ...		CHECKED BY ...	
REVISIONS NO. 1 DATE 11/11/80		NO. 2 DATE ...	
NO. 3 DATE ...		NO. 4 DATE ...	
NO. 5 DATE ...		NO. 6 DATE ...	
NO. 7 DATE ...		NO. 8 DATE ...	
NO. 9 DATE ...		NO. 10 DATE ...	
NO. 11 DATE ...		NO. 12 DATE ...	
NO. 13 DATE ...		NO. 14 DATE ...	
NO. 15 DATE ...		NO. 16 DATE ...	
NO. 17 DATE ...		NO. 18 DATE ...	
NO. 19 DATE ...		NO. 20 DATE ...	
NO. 21 DATE ...		NO. 22 DATE ...	
NO. 23 DATE ...		NO. 24 DATE ...	
NO. 25 DATE ...		NO. 26 DATE ...	
NO. 27 DATE ...		NO. 28 DATE ...	
NO. 29 DATE ...		NO. 30 DATE ...	
NO. 31 DATE ...		NO. 32 DATE ...	
NO. 33 DATE ...		NO. 34 DATE ...	
NO. 35 DATE ...		NO. 36 DATE ...	
NO. 37 DATE ...		NO. 38 DATE ...	
NO. 39 DATE ...		NO. 40 DATE ...	
NO. 41 DATE ...		NO. 42 DATE ...	
NO. 43 DATE ...		NO. 44 DATE ...	
NO. 45 DATE ...		NO. 46 DATE ...	
NO. 47 DATE ...		NO. 48 DATE ...	
NO. 49 DATE ...		NO. 50 DATE ...	
NO. 51 DATE ...		NO. 52 DATE ...	
NO. 53 DATE ...		NO. 54 DATE ...	
NO. 55 DATE ...		NO. 56 DATE ...	
NO. 57 DATE ...		NO. 58 DATE ...	
NO. 59 DATE ...		NO. 60 DATE ...	
NO. 61 DATE ...		NO. 62 DATE ...	
NO. 63 DATE ...		NO. 64 DATE ...	
NO. 65 DATE ...		NO. 66 DATE ...	
NO. 67 DATE ...		NO. 68 DATE ...	
NO. 69 DATE ...		NO. 70 DATE ...	
NO. 71 DATE ...		NO. 72 DATE ...	
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