June 21, 2002

From: Juana E. Rojo Juana E Rojo
To File: **U.S. Defense Supply Center, Columbus, (DSCC), OH6 210 020 222**
Subject: Site Visit Re: Need for further corrective action

I conducted a site visit at DSCC in the company of David Hommann of the Ohio EPA Central District Office on the afternoon of May 20, 2002, and then during the entire day on May 21, 2002. The tour of the facility was provided by DSCC representatives, Michael Mott and Gary Canfield.

The PA/VSI conducted by the U.S. EPA in 1989 identified 77 SWMUs and 1 AOC. During my visit I visually inspected all the SWMUs and the 1 AOC. DSCC has done a lot of environmental work (investigation, cleanup and/or removal) on most of those SWMUs. This facility closed its container storage area in 1995, and it is now listed as a generator. Except for the areas of concern discussed below, no visible signs of releases were observed at this facility.

Many of the SWMUs identified at DSCC in 1989 were underground storage tanks (UST), or areas from where USTs had been removed. DSCC began addressing its USTs and adjacent contaminated areas in the early 1990s. Most cleanup activities involved the removal of old gasoline or diesel tanks, in coordination with the Ohio Bureau of Underground Storage Tank Regulations (BUSTR). There were also a few other tanks that managed paint or solvents that were cleaned up as voluntary actions.

During my visit I observed that all the tank areas (underground and above-ground) were clean, with no stains, and in most cases had been covered by concrete or asphalt (e.g., paved parking lots). It should be noted that DSCC does not have (BUSTR) closure certifications for all the tanks. In some cases they have not yet received the closure reports for some of the tank areas. Some of these cleanups included groundwater sampling and at least in one case, the Army Corps of Engineers did not inform DSCC of the results of its review of the groundwater data. The U.S. EPA UST group will also be reviewing in the near future the closure reports for 3 USTs that are not covered by BUSTR.

DSCC also has several other SWMUs for which very little information is available. However, no visible contamination could be observed at those SWMUs. For example, there is no available documentation about the two old incinerators at the facility (one of them, SWMU No. 5 was demolished and the area where it was located looks clean). Also, the information provided regarding the SWMUs related to discharges from Building 14 floor drains, and the storm sewer is very limited. Specifically, there is not any available data regarding the concentrations of contaminants (in particular metals) contained in the discharges from these SWMUs to the Mason Run prior to the year when DSCC obtained a discharge permit from Ohio EPA. It is possible that high levels of metals could still be found in the sediments located at the point of discharge into the Mason Run. There is also the Round House Locomotive Cleaning Area where no soil sampling appears to have been conducted. Specific information about the operation of this area has never been provided. However, metals released as a result of washing the locomotives at high pressure could be present in the soils. DSCC representatives indicated that they will search for information regarding the above-referenced areas. They stated that as far as they know all the documented spills that may have occurred at this facility were reported and remediated at the time of the occurrence.

DSCC has at least two sumps in the Pesticides Shop. I observed that one of these in-ground units still contains (dry) wastes which have not been properly identified or sampled. DSCC could not show

me the second sump existing in the shop because of problems with a lock. [These sumps are located in two locked areas.] DSCC representatives assured us that they will address these sumps as soon as possible and will provide a report.

DSCC representatives also showed us other areas of the facility. I observed large dark stains near the railroad tracks. It is not clear if all of these stained areas, at least three, are within the facility's property boundaries. These could be considered new Areas of Concern (AOCs). There was also a dump site near the railroad tracks. Again, very little information is available about this area also. However, only pieces of equipment and construction debris could be observed in the area. No visual signs of contamination were observed.

In general, there is a lack of information about several of the SWMUs at this facility. Other than the large stains near the railroad tracks, the disposal area (solid waste apparently), and the dry waste in the Pesticides Shop sumps, I did not observe any other visible signs of discarded waste or contamination. DSCC will be sending additional information to answer my questions and the concerns expressed in the 1989 PA/VSI report. DSCC representatives have indicated that they will submit additional information in an effort to demonstrate that DSCC has practically completed all the corrective action work needed for most of the SWMUS. However, I believe that additional investigative work is necessary. For example, we need information about the large stains near the tracks, and sampling data from specific points at the Mason Run.

Conclusion: Many SWMUs at the DSCC facility were satisfactorily addressed under the UST program or as voluntary actions, and further action does not appear to be necessary for most of those areas. However, we still need additional information regarding several SWMUs at the DSCC facility. Review of available data (groundwater and soil) is necessary. Some of the additional information that the facility will be submitting may indicate that DSCC does not need a great deal of additional environmental work. However, I believe that there is still a need to obtain additional groundwater and soil data at this facility. Also, sediment sampling at the Mason Run appears to be necessary. I believe that a Voluntary Corrective Action Agreement between DSCC and the U.S. EPA may be the best course of action to complete all the necessary work at this facility.

JUL 27 1990

5HR-13

Mr. Mike Mott
PCSC-WI
P.O. Box 3990
Columbus, Ohio 43216-5000

Dear Mr. Mott:

Per our telephone conversation of July 17, 1990, in which we discussed the Preliminary Review/Visual Site Inspection (PR/VSI), report for the Defense Construction Supply Center in Columbus, Ohio, enclosed you will find a copy of the PR/VSI report prepared and submitted by our contractor A.T. Kearney, Inc.

As we discussed, the report contains suggested further actions that are the opinion of the contractor. These suggested further actions are not necessarily the viewpoint of the United States Environmental Protection Agency (U.S. EPA). The U.S. EPA will form its own course of action and is not limited to the suggested further actions submitted in the PR/VSI report. If you have any further questions, you may contact me at, (312) 886-7569.

Sincerely,

Stephen Bouchard
Geologist

Enclosure

5HR:13:BOUCHARD:bd:07/25/90:6-7569 Mott.ltr

RCRA PERMITS	TYP.	AUTH.	IL. CHIEF	IN. CHIEF	MI. CHIEF	MN/WI CHIEF	OH. CHIEF	RPB CHIEF	O.R. A.D.D.	WMD DIR
INIT. DATE	BBB 07/27	CMB 7/27								

MAY 18 1990

5HR-13

Chris Scott
ERC Environmental
3325 Perimeter Hill Drive
Nashville, Tennessee 37211

Dear Mr. Scott:

Per our telephone conversation of May 9, 1990, in which we discussed the Preliminary Review/Visual Site Inspection (PR/VSI), report for the Defense Construction Supply Center in Columbus, Ohio, enclosed you will find a copy of the PR/VSI report prepared and submitted by our contractor A.T. Kearney, Inc.

As we discussed, the report contains suggested further actions that are the opinion of the contractor. These suggested further actions are not necessarily the viewpoint of the United States Environmental Protection Agency (U.S. EPA). The U.S. EPA will form its own course of action and is not limited to the suggested further actions submitted in the PR/VSI report. If you have any further questions, you may contact me at, (312) 886-7569.

Sincerely,

Stephen Bouchard
Geologist

Enclosure

5HR:13:BOUCHARD:bd:05/18/90:6-7569 scott-ltr

RCRA PERMITS	TYP.	AUTH.	IL. CHIEF	IN. CHIEF	MI. CHIEF	MN/WI CHIEF	OH. CHIEF	RPB CHIEF	O.R. A.D.D.	WMD DIR
INIT. DATE	BOU 05/18/90	SMB 5/18/90								

Kearney/Centaur Division
A.T. Kearney, Inc.
P.O. Box 1438
225 Reinekers Lane
Alexandria, Virginia 22313
703 683 7932

Management Consultants

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OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V

AT KEARNEY

August 31, 1989

Mr. Bernie Orenstein
Regional Project Officer
U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

Reference: EPA Contract No. 68-W9-0040; Work Assignment No. R05-01-22; Defense Construction Supply Center; Columbus, OH; EPA I.D. No. OH6210020222; Final Deliverable PR/VSI Report

Dear Mr. Orenstein:

Enclosed please find the final deliverable PR/VSI Report for the above-referenced facility. This document follows the same format as the PR/VSI Report most recently outlined by Region V, with specific exceptions as requested by the EPA WAM, Mr. Bruce Sypniewski. The descriptions of Solid Waste Management Units in the report include Suggested Further Actions as part of the description, along with a table outlining these actions.

A total of 77 units were identified as a result of the PR and VSI (77 SWMUs and one AOC). A general discussion of the facility and its units may be found in the Executive Summary at the front of the report.

As agreed to with Mr. Sypniewski, this deliverable is being submitted one week late.

Please call me or Joe Atchue, the Kearney Team Work Assignment Manager (who can be reached at 703/548-4700), if you have any questions.

Sincerely,

Ann L. Anderson

Ann L. Anderson
Technical Director

Enclosure

cc: B. Sypniewski, EPA Region V
L. Adelsderger, OEPA
A. Glazer
L. Poe
J. Atchue
W. Rohrer, DPRA
A. Williams (w/o attacment)

Kearney/Centaur Division
A.T. Kearney, Inc.
225 Reinekers Lane
P.O. Box 1438
Alexandria, Virginia 22313
703 548 4700
Facsimile 703 683 2407

Management Consultants

ATKEARNEY

June 29,1989

Mr. Bernie Orenstein
Regional Project Officer
U.S. EPA Region V
230 South Dearborn Street
Chicago, IL 60604

Reference: EPA Contract No. 68-W9-0040; Work Assignment No. R05-01-~~21~~ 22; U.S. DOD Defense Construction Supply; Columbus, Ohio; EPA I.D. No. OH6210020222; Preliminary Review Deliverable

Dear Mr. Orenstein:

Enclosed please find the Preliminary Review (PR) for the U.S. DOD Defense Construction Supply facility (DCSC) in Columbus, Ohio. The PR deliverable is a "Working Document" and should be used for internal review only. This deliverable follows the same format as the preliminary review/visual site inspection (PR/VSI) Report with the exception of the descriptions of solid waste management units (SWMUS) (a checklist will be used). The checklist is handwritten and includes a brief description of the unit, period of operations, wastes managed, description of release controls, history of any releases from the unit, and information needs to be obtained through the VSI. The EPA Work Assignment Manager has approved use of the handwritten checklist.

Forty-seven SWMUS have been identified in the PR. Very little information was found in the file information collected from the Ohio EPA. Most of the information for this PR was found in the DCSC Environmental Assessment, dated March 1981. Major information gaps exist with regard to location, volume of waste managed, period of operations, and release history of the units. In addition, there are major time gaps in the regulatory history.

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Waste Management Division
U.S. EPA, REGION V

Please call me or Dorothy La Russo, the Kearney Work Assignment Manager (who can be reached at 703/548-4700), if you have any questions.

Sincerely,

Ann L. Anderson

Ann L. Anderson
Technical Director

Enclosure

cc: B. Sypniewski, EPA Region V
L. Adelfberger, OEPA
A. Glazer
D. Bean
D. La Russo

A.T. Kearney, Inc.
222 South Riverside Plaza
Chicago, Illinois 60606
312 648 0111

Management
Consultants

June 20, 1989

ATKEARNEY

Mr. Stephen Kovash
U.S. Environmental Protection Agency
401 M Street, S.W.
Rm MR-214F
Washington, D.C. 20460

Reference: U.S. EPA Contract 68-W9-0040; Work Assignment No. R05-01; Conducting RCRA Facility Assessments

Dear Mr. Kovash:

This letter is to confirm that file searches for the 26 facilities listed in Work Assignment R05-01 have been completed in the State of Ohio district offices.

To assure orderly preparation and submittal of work plans for these 26 facilities, we are requesting an extension of the fifteen day deadline for submittal of the work plans. We believe that by staggering the deadlines, we may be most effective at staffing the projects and managing the work assignment budget. We propose the following schedule for work plan submittals subject to your approval:

Week Ending June 23

	FACILITY
R05-01-03	Chevron Chemical Co.
R05-01-04	Clark Oil Products, Inc.
R05-01-05	Diamond International
R05-01-06	G.E. - Evendale
R05-01-10	Hobart Corporation
R05-01-14	Monsanto Co.
R05-01-17	Shell Chemical Co.
R05-01-20	Union Camp Corp.
R05-01-21	AFB Plant 85
R05-01-22	DOD Defense Construction Supply

Week Ending June 30

	FACILITY
R05-01-09	Harshaw Chemical Co.
R05-01-12	Liberty Solvent & Chemical Co., Inc.
R05-01-13	Occidental Chemical Co.
R05-01-23	LTV Steel
R05-01-24	Marley - Ingrid
R05-01-25	Paxton Landfill
R05-01-26	Chicago Refineries

Week Ending July 7

	FACILITY
R05-01-01	Ashland Chemical
R05-01-02	Battelle Memorial Institute
R05-01-08	GSX Chemical Services
R05-01-15	PPG Industries - Barberton
R05-01-16	PPG Industries - Delaware
R05-01-18	Teledyne Monarch Rubber
R05-01-19	Timken Company

At the Region's request, we have cancelled two facilities as listed below:

R05-01-07	G.E. - Coshocton
R05-01-11	Harshaw Chemical Company

HWKill

We will be submitting close-out notification on these projects in the very near future.

I have discussed this schedule with Mr. Bernie Orenstein on June 20, 1989, and received his verbal approval. Please do not hesitate to call me should you have any questions regarding this request for deadline extension.

Sincerely,

Ann L. Anderson

Ann L. Anderson
Technical Director

cc: A. Pearce, EPA OSW
B. Orenstein, EPA Region V
A. Glazer
G. Bennsky
D. Bean

3033E-CH

Kearney/Centaur Division
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Alexandria, Virginia 22313
703 548 4700
Facsimile 703 683 2407

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Waste Management Division
U.S. EPA, REGION V

AT KEARNEY

June 19, 1989

Defense Construction Service Center - WI
P.O. Box 3990
Columbus, OH 43216-5000
Attention: Michael Mott

Reference: EPA Contract No. 68-W9-0040; Work Assignment No. 05-01-22; U.S. DOD, Defense Construction Supply Center, Columbus, Ohio; EPA ID OH6210020222; Visual Site Inspection Agenda

Dear Mr. Mott:

At the request of Mr. Bruce Sypniewski, EPA Region V, A.T. Kearney is enclosing a proposed Visual Site Inspection (VSI) Agenda for the Defense Construction Supply Center that is scheduled for July 10 and 11, beginning at 9:00 a.m. Included for your review are lists of the potential Solid Waste Management Units (SWMUs) and information needs which we have developed based on our Preliminary Review of available file materials.

Please do not hesitate to call me at (703) 548-4700, if you have any questions.

Sincerely,

Dorothy K LaRusso

Dorothy K. LaRusso
Work Assignment Manager

Enclosure

cc: B. Sypniewski, U.S. EPA
L. Adelsdergre, OEPA
A. Kubalak, OEPA
J. Grieve
A. Glazer
A. Anderson

RCRA FACILITY ASSESSMENT
VISUAL SITE INSPECTION AGENDA

FACILITY: Defense Construction Supply Center (DCSC)
Columbus, Ohio 43216

EPA I.D. NO.: OH6210020222

FACILITY CONTACT: Mike Mott

DATE OF INSPECTION: July 10 and 11, 1989

PERSONNEL: J.A. Atchue III, Kearney/Centaur
Donald Bowie, Kearney/Centaur

PURPOSE OF INSPECTION:

The Hazardous and Solid Waste Amendments of 1984 (HSWA) broaden the scope of EPA's authority under RCRA by requiring corrective action for releases of hazardous wastes and constituents at facilities that manage hazardous wastes. The RCRA Facility Assessment (RFA) is conducted to evaluate the potential for releases to the environment and the need for corrective action.

The RFA includes a desk-top preliminary review (PR) of available file information, a visual site inspection (VSI) of the facility and, if necessary, a sampling visit. Based on the review of available data for this facility, a visual site inspection (VSI) has been determined to be necessary. The purpose of the VSI is to:

1. Identify Solid Waste Management Units (SWMUs).

2. Survey the site for hydrologic, geologic, and surficial features.

3. Review site information with facility representatives. Photographs are to be taken of all SWMUs and other areas of concern.

INSPECTION ORGANIZATION

A.T. Kearney personnel will form a two-member team to perform a two-day inspection tour of the facility., The team will inspect the storage areas of the facility including container storage area(s) tank(s) and any other areas where waste may have been managed; and release pathways for migration of wastes to soil, ground water, surface water, and air. An interview with facility representatives will be performed to develop a better understanding of past waste disposal practices. Pertinent geologic information consisting of well logs, USGS topographic maps, plat and zoning maps, and surrounding land use patterns will be reviewed if available. The team will collect relevant information on all SWMUs at the facility, confirming their identification, location, age, material of construction, operational status and potential for release

of hazardous constituents to the environment. A review of the regional hydrogeology and site specific data will be performed to make an assessment of depth to ground water and its flow direction in the proximity of the Solid Waste Management Units.

The overall rationale of this inspection plan is to enable the team to trace waste streams from process through treatment and disposal. Some adjustments to the agenda may be necessary to accommodate facility staff, geographical location of units, and/or operational constraints.

A list of SWMUs identified in the PR has been submitted as Attachment I. Preliminary information meeds have been submitted as Attachment II to aid DCSC in preparing for the site visit. These issues will be discussed in an introductory meeting during the VSI. A more specific agenda may be arranged at that time to ensure that all SWMUs will be inspected.

DEFENSE CONSTRUCTION SUPPLY CENTER
Columbus, Ohio

Visual Site Inspection
July 10-11, 1989

PROPOSED INSPECTION SCHEDULE

July 10-11, 1989: 9:00 a.m. - 5:00 p.m.

Inspection Team will meet with DCSC representatives to discuss:

- Purpose of visit;
- Agenda;
- Safety and health considerations;
- Transportation arrangements (if appropriate)
- Facility history and operations; and
- Additional information needs pertaining to the Solid Waste Management Units and Areas of Concern identified during the Preliminary Review (PR) including production processes which may result in the generation of waste streams.

July 10, 1989

9:00 a.m. - 10:30 a.m.	Introductory meeting to discuss agenda, safety and health considerations, transportation arrangements, access, and data needs. (This includes past and present facility operations, waste disposal methods, and identification of additional SWMUs and AOCs not found in the PR.)
10:30 a.m. - 12:30 p.m.	Begin tour of facility. Inspect production areas, waste collection devices and systems, and waste accumulation areas.
12:30 p.m. - 1:30 p.m.	Lunch
1:30 p.m. - 5:00 p.m.	Continue inspection

PROPOSED INSPECTION SCHEDULE (cont.)

July 11, 1989

9:00 a.m. - 10:00 a.m.	Meeting to discuss previous day's inspection and today's tour of facility
10:00 a.m. - 12:30 p.m.	Continue inspection
12:30 p.m. - 1:30 p.m.	Lunch
1:30 p.m. - 4:00 p.m.	Continue inspection
4:00 p.m. - 5:00 p.m.	Wrap up meeting with facility to discuss any additional data needs

Defense Construction Supply Center
Columbus, Ohio

Visual Site Inspection
July 10 and 11, 1989

ATTACHMENT I

POTENTIAL SOLID WASTE MANAGEMENT UNITS (SWMUs)
IDENTIFIED

1. Coal storage area (concrete pad)
2. 4 catch basins (for coal pile runoff)
3. Ash handling system settling basin
4. Aircraft washing area
5. Lime sludge beds
6. Oil/water separators
7. 2 coal-fired boilers
8. 4 solvent spray cleaning rooms
9. 1 open top vapor degreaser
10. 3 incinerators
11. 1 central sump
12. Loading/unloading areas (shipping area)
13. Underground storage tanks (not regulated)
14. Container storage area for DRMO, Bldg. T-83
15. HM Storage Area, Bldg. 312
16. Zirconium ore piles
17. Methyl bromide (aerosol cans) burial site
18. 3 open burning areas
19. Photography process lab
20. Health clinic
21. Pesticide control facilities, Bldg. 308, 39, T-326, T-80, T-423
22. Drum storage area (open, dirt based)
23. Disposal area (used in 1950's)
24. Bldg. 306 (impregnation and de-impregnation area for explosives)
25. PCB storage (23 transformers) area, Bldg. T-82
26. DDT storage, Warehouse 13-Bay 1
27. Leaky container storage area
28. Waste oil and solvent tank, Bldg. 14
29. Paint thinner & sludge disposal area
30. Battery disposal area, Bldg. 14
31. Vehicle washing area
32. Vehicle washing area holding tank (DCSC has applied for permit)
33. Pistol range
34. Wood firefighting training area
35. Bldg. 14, discharge of waste chemicals to Mason Run
36. Mercury storage location (unknown)
37. 2 above ground storage tanks
38. Radium instrument repair shop, Bldg. 30
39. Mixed wastes, Warehouse 41-42
40. Mixed wastes, Warehouse 27, Sections 2, 13
41. Sanitary landfills
42. Ammunition Storage Area

Defense Construction Supply Center
Columbus, Ohio

ATTACHMENT II
ADDITIONAL DATA NEEDS FOR
RCRA FACILITY ASSESSMENT

I. General Facility Information

a. Describe past and current waste management practices.

b. Furnish an up-to-date general facility map.

c. Furnish an up-to-date sanitary sewer and stormwater sewer map.

d. Furnish a well location map.

e. Furnish operating details for the Water Treatment Plant.

f. Provide a list of all current tenants.

g. Provide information on any groundwater monitoring wells which are in place on the facility. (Include boring logs and analytical data).

h. Provide copies of the most recent Part A and Part B permit applications.

i. Identify any areas on the facility which have undergone closure (Furnish information on the units purpose and any analytical data).

j. Furnish the most recent sanitary sewer wastewater discharge application.

k. Furnish underground storage tank registration information required under 40 CFR 280.

l. Provide a copy of the facilities most recent NPDES application.

m. Identify any other units which you believe may be SWMUs or AOCs.

n. Provide aerial photographs of facility.

o. Provide a copy of most recent report by the Army Environmental Hygiene Agency (AEHA) on monitoring of sites and results.

II. Specific Information on Potential SWMUs

a. For each SWMU in Attachment 1 (and those identified under "n" above). Please furnish the following information:

1. Location on facility;

2. Dates of operation;

3. Design features (e.g., material of construction, capacity)

4. Description of wastes managed and their volumes;

5. Removal schedules;

6. History of releases; and

7. Regulatory status.

b. Please furnish inventory and results of the most recent integrity test for the underground storage tanks.

A.T. Kearney, Inc.
222 South Riverside Plaza
Chicago, Illinois 60606
312 648 0111

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U.S. EPA, REGION V

AT KEARNEY

June 19, 1989

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Waste Management Division
U.S. EPA, REGION V

Mr. Bernie Orenstein
Regional Project Officer
U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

Reference: EPA Contract No. 68-W9-0040; Work Assignment No. R05-01-22; U.S. DOD Defense Construction Supply, Columbus, Ohio; EPA I.D. No. OH6210020222; Work Plan

Dear Mr. Orenstein:

Enclosed please find the proposed work plan which you requested for the above-referenced work assignment. This work plan calls for the Kearney Team to perform a file search, to conduct a Preliminary Review (PR) and Visual Site Inspection (VSI) at the U.S. DOD Defense Construction Supply, and complete a PR/VSI report.

The proposed level of effort is based on a cursory review of the Ohio EPA files. It is anticipated that approximately 30 to 40 SWMUs exist at this 570 acre facility. If, during the VSI, additional SWMUs are found, then the EPA Work Assignment Manager will be notified and the work plan will be amended to incorporate the additional level of effort as necessary to complete the PR/VSI.

All applicable A.T. Kearney Conflict of Interest Avoidance procedures have been adhered to for the proposed firms and staffs.

Also enclosed is a work plan approval sheet which you should sign and return to Allen Pearce. In accordance with the procedure for this contract, if the contracting Officer has not provided written approval of this work plan by July 17, 1989, A.T. Kearney will not resume work until the Contracting Officer approves the work plan.

In order to determine the need for a health and safety plan, or to prepare such a plan, the Kearney Team may need to obtain additional information from EPA or the facility personnel regarding the potential hazards at this facility. If information is not provided to the level of detail required to properly assess potential hazards, A.T. Kearney reserves the right to delay proceeding with the VSI until the information is provided.

In cases where the Kearney Team must delay a site visit due to circumstances beyond the Team's control, A.T. Kearney will accommodate the schedule change to the maximum extent possible. However, A.T. Kearney reserves the right to charge EPA for expenses incurred as a direct result of the delay. Any such expenses will be brought to EPA's attention as quickly as possible and will be properly documented.

Please feel free to call me or Dorothy LaRusso, the Kearney Work Assignment Manager (who can be reached at 703/548-4700), if you have any questions.

Sincerely,

Ann L. Anderson

Ann L. Anderson
Technical Director

Enclosure

cc: A. Pearce, EPA OSW
S. Kovash, EPA Contracts
B. Sypnewski, EPA Region V
A. Glazer
D. Bean
D. LaRusso
D. Bowie
J. Atchue
D. Scholz
P. Martz
M. Greenwood
P. Williams
A. Williams
K. Allison
M. Ritter
W. Rohrer, DPRA

3023E

FINAL

RCRA FACILITY ASSESSMENT

Preliminary Review/Visual Site Inspection

of

Defense Construction Supply Center
Columbus, Ohio

EPA I.D. OH6210020222

Prepared for:

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Prepared by:

Kearney/Centaur Division
of A.T. Kearney Inc.
225 Reinekers Lane
Alexandria, Virginia 22313

Contract No. 68-W9-0040
Work Assignment No. R05-01-22

August 31, 1989

DEFENSE CONSTRUCTION SERVICE CENTER
COLUMBUS, OHIO

EPA I.D. No. OH6210020222

PRELIMINARY REVIEW/VISUAL SITE INSPECTION

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DEFENSE CONSTRUCTION SERVICE CENTER
COLUMBUS, OHIO

EPA I.D. No. OH6210020222

PRELIMINARY REVIEW/VISUAL SITE INSPECTION

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EXECUTIVE SUMMARY

A PR/VSI was performed at the Defense Construction Supply Center (DCSC) located in Columbus, Ohio. This report details and synthesizes the information obtained during the Preliminary Review and the Visual Site Inspection at the facility.

The DCSC is a warehousing facility for the U.S. Department of Defense operated under the authority of the Defense Logistics Agency (DLA). Its mission is to supply a wide variety of military and non-military supplies to all services of the DOD. The facility has acted in this capacity since its creation as a U.S. Army Quartermaster Depot in the early 1900s. The facility is approximately 500 acres in size and is located in a mixed residential/commercial and light industrial area.

As might be expected from such a facility, the bulk of the operations are warehouses. There are also facilities for the repair of military equipment (located in Building 9) and for maintaining facility vehicles (Building 11). In addition, there is a Defense Reutilization and Marketing Office (DRMO), which is responsible for managing all hazardous waste generated at DCSC and several other Federal facilities within the region. The DRMO is one of the several tenant activities located on the facility.

A total of 77 Solid Waste Management Units and 1 Area of Concern were identified through the PR and the VSI. The majority of these units either do not manage hazardous waste or constituents, or are managed in such a way as to minimize the possibility of a release to the environment. For these 51 units, the Suggested Further Action was that no further action be conducted at this time. There were a total of 7 units for which sampling was recommended. These units are suspected of having managed hazardous waste or constituents at some point during their operational lifetimes. The remaining units are all associated with the tanks at the facility. Two of these units were above ground tanks which are the subject of routine systematic releases due to poor filling practices. These two units are recommended for a RCRA Facility Investigation in order to characterize the extent of the release. The remaining 16 tanks are all inoperative or excavated underground storage tanks (USTs). The facility initiated a tank integrity testing program in 1988 and

51
7
58
77
-58
19
1
-2
17
USTs?
or
16?

found at that time virtually all its USTs were releasing to the environment. They immediately began a tank removal program and to date have removed all but two of the leaking units (These two units have both been emptied). These tanks are all in need of further investigation and possible remediation and the suggested further actions for the units are to initiate a subsurface investigation program in conjunction with both OEPA's UST Program and EPA Region V's RCRA program.

The AOC is a unit which was used to impregnate and de-impregnate explosives. It was identified during the course of the PR. During the VSI, we were able to locate the building in which the operations took place, but were unable to locate the actual site of operations. The facility was requested to locate additional file information about this unit in order to determine [illegible] fact waste was managed there.

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The DCSC facility is a well-run organization with an obvious commitment to protecting the environment to the fullest extent possible. In general, waste management practices at the facility are of the highest standard. Although several problem areas do exist, the facility is aware of most of them and is responding in a responsible manner. One problem area of which the facility appears to be unaware is associated with their warehouse bay doors. There are over 100 of these doors at the facility, each approximately 20 by 30 feet in area. Most of these doors are over twenty years old, and as such have several coats of lead-based paint covering them. It was noted, during the VSI, that the paint on most of the doors was chipping and cracking. If this was an isolated case it probably would not be an issue worth raising. However, given the potential amount of lead-based paint available from these doors, we believe the facility should be made aware of the potential problem of managing the paint chips.

I. INTRODUCTION

The 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) authorize EPA to require corrective action for releases of hazardous wastes and/or hazardous constituents from solid waste management units (SWMUs) and other areas of concern (AOCs) at all operating, closed, or closing RCRA facilities. The intent of this authority is to address previously unregulated releases to air, surface water, soil, and groundwater and to determine the potential for subsurface gas generation. The first phase of the corrective action program as established by EPA is performance of a RCRA Facility Assessment (RFA). The RFA includes a Preliminary Review (PR) of all relevant documents, a Visual Site Inspection (VSI), and, if appropriate, a Sampling Visit (SV).

This report summarizes the results of the preliminary review/visual site inspection (PR/VSI) of the Defense Construction Supply Center (DCSC) located in Columbus, Ohio. The Facility EPA I.D. No. is OH6210020222. The Facility is operated by the Defense Logistics Agency for the Department of Defense. The DCSC's primary mission is the warehousing, repair and supply of various military and non-military components and equipment for the armed forces.

The information used in preparing this report was compiled from information obtained during the file search at Ohio EPA (OEPA) in Columbus, Ohio, and EPA Region V. Files reviewed included those from the RCRA, CERCLA, Air and Water Programs. Information from a visual site inspection of the facility that was performed July 10-12, 1989, is also incorporated in the report.

The purpose of this report is to validate the SWMUs and AOCs identified in the PR, inspect all units identified and locate additional units, and to determine the potential for release of the SWMUs and AOCs present on the facility, and make appropriate suggestions with regard to further action. The report is organized with an introduction (Chapter I) which discusses the authority for and purpose of the report, a facility description (Chapter II) which discusses facility history, process descriptions and waste management practices, regulatory history, and the environmental setting of the facility, and a

description of Solid Waste Management Units (SWMUs), and their potential for release and suggested further actions, which is found in Chapter III. Chapter IV is a table of suggested further actions for each SWMU. A list of references used in preparing this report is presented in Chapter V.

II. FACILITY DESCRIPTION

A. Location and General Information

The Defense Construction Supply Center is located 7 miles east of downtown Columbus, Ohio at 3990 East Broad Street in Whitehall, Ohio (Figure 1). The physical facility occupies 566 acres of urban-developed land and consists of 121 buildings, 736,000 square feet of office space, and 5.1 million square feet of warehouse space (Reference 4). The buildings are heated from one coal-fired central heating plant and the administrative offices are cooled by over 2000 tons of air conditioning systems.

relevance?

DCSC is bounded on the north by Conrail tracks, on the east by Yearling Road, to the south by Broad Street and to the west by James Road. The land to the south and west of the facility is occupied by light industrial, residential, and commercial areas (Figure 2). DCSC is owned and operated by the Department of Defense (DOD). The entire facility is enclosed within a 7-foot high chain link fence topped with barbed wire, and is not open to the public. It is a distribution center for DOD which contains numerous large warehouses and support buildings. Each warehouse is equipped with dry type automatic sprinklers that are monitored by fire alarms connected to a central station. DCSC has its own fire department and security forces that patrol the facility 24 hours per day 7, days a week. (Reference 4)

DCSC originated in 1918 and was named the Columbus Quartermaster Reserve Depot. Since then, the name has changed many times. The most significant name changes were:

1930 -- Columbus General Depot
1942 -- Columbus Quartermaster Depot
1943 -- Columbus Army Service Forces Depot
1946 -- Columbus General Depot
1947 -- Columbus General Distribution Depot, U.S. Army
1948 -- Columbus General Depot, U.S. Army
1962 -- Columbus Army Depot
1963 -- Defense Construction Supply Center

B. Regulatory History

DCSC submitted an original Part A permit application to the Ohio EPA in November 1980. Several Part A permit applications have been submitted between 1980 and 1988 because of the variation in the amounts and types of waste that are turned into the Defense Reutilization and Marketing Office (DRMO) by off-site DOD facilities in the area (See Appendix A, Reference 4). The DRMO is a tenant activity at the DCSC. DCSC submitted another revised Part A permit application on April 1, 1988 to change the design capacity requirements of the DRMO container storage area from 500 to 10,000 gallons (Reference 80). EPA determined that the most recent requested change could not be granted because the facility did not meet the requirements of 40 CFR 270.72 and 270.10(f). Under 40 CFR 270.72, increases in the design capacity of processes at a facility may be made if the owner or operator submits a revised Part A permit application prior to these increases in addition to a justification for the change. Section 270.10(f) states that DCSC must obtain a final hazardous waste permit prior to increasing the capacity (Reference 47). DCSC was issued a Revised Ohio Hazardous Waste Installation and Operation Permit (No. 01-15-0306) in September, 1985. The revisions to this permit included the deletion and addition of certain hazardous waste codes from the "Part A" portion of the permit (Reference 31).

DCSC was issued a Revised Ohio Hazardous Waste Installation and Operation Permit (No. 01-15-0306) in September 1985 (Reference 31). DCSC has submitted a Part B permit application for the conforming storage facility that is to be operated by the DRMO. This facility has not been constructed to date (Reference 52).

A final environmental assessment of DRMO's proposal to build and operate a conforming storage facility was received and approved by OEPA in October, 1988 which paved the way for construction of the DRMO conforming storage facility at DCSC (Reference 85).

DCSC applied for a National Pollution Discharge Elimination System (NPDES) permit in January 1980 to discharge cooling tower waters and the coal-pile

runoff into Turkey Run that empties into Mason Run approximately one half mile south of the facility. EPA granted DCSC a NPDES permit by public notice on April 7, 1981 (Reference 4).

On March 16, 1989, DCSC was granted a NPDES permit (No. 4I00000*BD) that will expire on March 13, 1994. This permit limits the discharges to runoff from the non-contact cooling water, coal pile, and uncontaminated storm water from the storm water sewer system (SWMU 72). The outfalls for this permit are summarized in Table 1 (Reference 50).

A spill was reported anonymously to the Ohio EPA in April 1978 involving an apparent fuel oil surface residue on Turkey Run. It was determined to be a leaking underground storage tank at Building 16 and resulted in an NOV by Ohio to DCSC. The tank was removed in June 1978 after the fuel was pumped out and replaced with a 4,000-gallon fiberglass tank in 1979. Ohio released DCSC from the NOV in July, 1978 (Reference 4).

In March 1981, an assessment was made of the facility for the purpose of identifying any areas requiring initiation of restoration programs. Small deficiencies were noted in DCSC's spill prevention, hazardous waste and pest management plans. These plans were reviewed and updated by DCSC's Directorate of Installation Services (References 4, 12 and 24).

A compliance investigation was conducted at DCSC on August 6, 1986 by EPA Region V for the air pollution sources, which are coal-fired boilers and a solvent spray cleaning room. At this inspection, the facility appeared to be in compliance with all applicable air pollution regulations (Reference 37).

On October 24, 1986, a RCRA inspection was conducted by the EPA Region V at the hazardous waste storage area in Building T-83 and the hazardous materials storage area in Building 312. Some containers in Building T-83 were not marked or labeled according to 40 CFR 262.34. No problems were found in the Building 312 area. EPA inspected DCSC again (inspection report cited in

letter but not in file material) and acknowledged that the generators were marking and labeling hazardous waste containers as required (References 39, 40).

The OEPA conducted another RCRA inspection at the facility on December 23, 1986 for compliance with the Ohio Administrative Code (OAC) and 40 CFR Part 265. An NOV was sent to DCSC on January 13, 1987. Violations were found for disposing of hazardous wastes not included in the Part A permit; design capacity of the storage unit was exceeded; personnel training was inadequate; daily inspections of loading/unloading zones were not done; and the contingency plan was deficient in several areas (Reference 41). DCSC responded to the violations and was relieved of all deficiencies except the design capacity exceedance, disposal of wastes not on the Part A, and the training requirements (Reference 42). Subsequently, DCSC responded to the remaining violations in a letter to OEPA on February 5, 1987 (Reference 44). DCSC was relieved of all violations on June 29, 1987 (Reference 76).

DCSC also received a Notice of Violation on September 29, 1988 from a RCRA inspection on October 20, 1987 with respect to land disposal restrictions and its waste analysis plan requirements (Reference 82). DCSC responded to this NOV and was granted relief on November 15, 1988 (Reference 84).

C. Waste Management Activities and Process Description

Since World War I, DCSC's mission has been to facilitate the logistics of the supply management function for the Department of the Army both within the continental United States (CONUS) and overseas. The management function encompasses item classification, supply control, acquisition, quality assurance, storage, inventory control, distribution, transportation, maintenance, value engineering and item standardization. In 1963, the mission was expanded to include all branches of the Department of Defense (Reference 4).

DCSC is a field installation of the Defense Logistics Agency (DLA) with the mission to implement policy, procedures, methods, and guidance for the

management and distribution of construction materials, automotive and construction equipment components, replacement parts and supplies for equipment used by the Military Services and other Federal Agencies. These items are divided into functional categories called commodity groupings. These commodity groups range from items such as lumber, lawn mowers, tractors, plumbing accessories to complex replacement parts for military aircraft, construction equipment, ships, submarines, combat vehicles and missile systems. An estimated 40,000 items are handled at DCSC which represents about 10 percent of the items managed by all of DLA. Less than 1 percent of the total number of these items are chemicals (Reference 4, 52).

Other Federal agencies operate as tenant activities on the facility. Table 2 presents a current tenant list. One tenant is the Defense Reutilization and Marketing Office (DRMO) which has the responsibility for the disposal, reutilization and marketing of used and excess surplus properties of DCSC and other activities within the region. Other DLA tenant activities on site at DCSC are the DLA Systems Automation Center (DSAC) and the DLA Civilian Personnel Service Support Center. Non-DLA tenant activities at the facility include the DOD Inspector General Audit Office, Defense Industrial Security Clearance Office, 83rd U.S. Army Reserve Command, and the General Services Administration (GSA) Quality Control Office (Reference 60).

D. Waste Management Activities

Hazardous wastes are managed at DCSC by the DRMO. This organization is a tenant activity at DCSC and is operated under the direction of the Defense Reutilization and Marketing Service (DRMS). In addition to managing wastes generated within the facility, the DRMO also accepts waste from other Federal facilities within its area of responsibility (Reference 89).

There are a total of 32 wastes listed on the most recent Part-A submission by the facility (see Table 3). The wastes include characteristic wastes, wastes from process streams, and U listed wastes. All of the hazardous wastes managed at the facility are stored in one of three buildings prior to their shipment off-site. These are Building T-82 (SWMU 7), Building T-83 (SWMU 8),

and Building 312 Hazardous Waste Storage (SWMU 9). Offsite shipments which arrive at the DRMO are immediately transferred to one of these units (Reference 89). Hazardous wastes generated at the facility appear to make up a relatively small fraction of the total volume of waste managed at the DRMO. These wastes are generated at the DIPEC facility in Building 9, the Motor Pool Operations in Building 11 (formerly in Building 14), the Graphics Arts Section in Building 12 and various paint shops located throughout the facility.

For the most part all of these wastes are containerized in drums ranging from five to 55 gallons in volume and transported to the appropriate DRMO storage building (SWMU 7, 8, or 9) on an as needed basis. There are, on a number of instances when wastes were not managed in this manner. These are discussed below.

The Building 14 Floor Drains (SWMU 68) at one time reportedly discharged to the Facility's Storm Sewer System (SWMU 72) at Mason River. These two units reportedly managed oil and grease, and battery acid (D002, D008) until sometime in the late 1980s when the drains were connected to the Sanitary Sewer (SWMU 77). Three other units, SWMUs 11, 12, and 15 (Building 12 Color Process Unit, Building 12 Black and White Process unit, and the X-Ray Process Unit) directly discharge their wastes to the Sanitary Sewer (SWMU 77). Also, the Clinical Waste Storage Can (SWMU 14) transfers its waste (which may be pathological) to the Security Incinerator (SWMU 4). There are a number of USTs on the facility which have been removed. These units, SWMUs 21 through 36, are all currently managing waste solvent, gasoline, diesel, or fuel oil as a result of these releases. They have not yet completed the process of remediation. Finally, there are two large areas west and north of the Naval Reserve Facility (SWMUs 75 and 76) which were used by the facility for a number of years for either solvent burning or disposal.

Solid wastes at DCSC are usually managed in Dumpsters (SWMU 51) which are scattered throughout the facility. These wastes are non-hazardous and include material such as paper, sawdust, debris, and food wastes which are transported to municipal landfills by a contractor. The vendor for this service currently is Ohio Disposal Systems.

E. Environmental Setting

i. Meteorology

DCSC and Columbus are located in an area of temperate continental climate and changeable weather conditions, which are influenced by air masses from all directions. Air masses from central and northwest Canada frequently affect this region. Occasional weather changes occur due to cool outbreaks from the Hudson Bay Region, especially during the spring months. Tropical Gulf masses often reach the area during the summer and, at infrequent intervals, the general circulation brings showers or snow from the Atlantic. The temperatures vary from 20°F in the winter to 85°F in summer. The lowest temperature on record is -19°F, which occurred in January 1977. The highest recorded temperature is 104°F which occurred on July 14, 1974 (Reference 51) (See Table 4).

The average date of the last freezing temperature is May 2, while the average date of the first freezing temperature is October 12. Although the area does not have a "wet" or "dry" season as such, average precipitation is generally greater in the spring and early summer and lower in fall. Rainfall is evenly spread over the year, with slightly higher amounts falling in the summer. The average annual precipitation is 37 inches of rainfall and 34 inches of snow (See Table 4). The average relative humidity is 70 percent (References 4, 87).

ii. Floodplain and Surface Waters

The Scioto River lies approximately 10 miles south of the facility and flows southward through downtown Columbus toward the Ohio River. Tributary streams near DCSC include the Olentangy River, and Alum and Big Walnut Creeks. Alum Creek and Big Walnut Creek are approximately 2 miles west and 5 miles south, respectively, of the facility. DCSC is not located within the 100-year floodplain. The nearest floodplain area is near Alum Creek which is about 2 miles west of the facility (References 4, 52).

Surface drainage is facilitated by a storm drainage system consisting of storm drains, catch basins, lined and unlined ditches, and reinforced concrete pipe and corrugated pipes. DCSC has two surface drainageways, Mason Run and Turkey Run, which flow southward into Big Walnut Creek.

Mason Run originates northeast of DCSC, passes under the railroad tracks, parallels the east side of 16th Street, crosses under A Street, then flows west for some 50 feet at which point it turns south as it crosses the southern boundary. Mason Run is unlined from the north boundary to the intersection of 16th and A Streets, but contains a good grass cover. The remainder of the drainageway is concrete-lined.

Turkey Run originates northwest of DCSC and flows south through the western portion of DCSC. This drainageway parallels the western side of Foyle Avenue to the intersection of Foyle Avenue and Roosevelt Avenue. At this intersection, the open ditch connects with the underground storm drainage system that continues to the south. The exposed sections of Turkey Run are lined with either concrete or mortared stone. The discharge from Turkey Run ranges from approximately 1900 to 2800 gallons per minute during fair weather and increases to approximately 6400 to 10,000 gallons per minute after it has rained. Turkey Run joins Mason Run about one half mile below the southern boundary which in turn flows into Big Walnut Creek. (References 4 and 70).

iii. Soils and Geology

The soils surrounding DCSC are described by USDA as Bennington soils, and the soils within the installation have been classified as Urban land-Bennington complex soils. Bennington soil is a dark grayish-brown silt loam about 8 inches thick. The subsoil that extends to a depth of about 36 inches is yellowish brown, mottled, firm silty clay, and clay that is underlain to a depth of 70 inches by a brown, mottled, firm clay. The Urban land-Bennington complex soils are basically the same as the Bennington soils, except the soil profile has been disturbed by construction activity. These soils exhibit poor characteristics for shallow excavations and landfill cover due to the high moisture content. This results from a higher water table, which is generally

less than 6.5 to 10 feet below the surface. The shallow water table conditions are probably influenced by the underlying impervious clays. Below the 8-inch depth, the permeability values for these soils range from 0.15 to 0.5 centimeters per hour (cm/hr). (References 4, 51, 70).

In general, the soils on DCSC have not been well characterized. There have been two sets of borings conducted within the past eight years. An Installation Assessment report, dated 1981, identifies that three soil borings were completed at the southwest section of the facility near Buildings 41 and 42 and one boring on the east side of the facility near Yearling Road north of the U.S. Navy Reserve Center. Soil descriptions from foundation boring logs indicate that soils down to depths of 103 feet consist of gray to brown gravelly, sandy clay with rock fragments and large zones of sand, gravel, and clay. No drilling logs were included in this assessment. The locations are identified in Figure 3 (References 4, 51, 70).

The second set of soil borings were conducted in July 1988 during the drilling of four ground-water monitoring wells to document the presence or absence of ground-water contamination. All of these borings were conducted on the east side of the facility. Two were done in the northeast section and two in the southeast section. Soil descriptions from these borings show, for the northeast section, the surface consists of cobbles and gravel (chert and limestone) with some fill material. The uppermost area from the surface to 15 feet consists of medium to dark brown silty, sandy clay with some gravel that is moist and plastic. From 15 to 25 feet, the soil consists of medium to dark gray-brown silty sandy clay that is somewhat moist and somewhat plastic. The borings from the southeast section show the upper surface to be gravel. From just below the surface (0.5 feet) to 15 feet, the soil consists of light to dark brown silty, sandy clay with some gravel layers at the bottom ranging from dry to moist and plastic. Some zones contained thin black varves that are moist and plastic. From 15 to 25 feet, the soil consists of light grayish to medium brown sandy, silty, gravelly saturated clay. The four borings for the installation of monitoring wells did not reach bedrock (Reference 70).

Most of Ohio, except the southeastern and east-central portions, has been affected by glacial action. During the last glacial stage (the Wisconsin), two ice sheets advanced into the area. The first advance occurred about 50,000 years ago and left a layer of till as it retreated. The second and last advance occurred about 16,000 years ago and deposited another layer of till over the first layer. The eastern and southern limits of the ice occurred approximately 50 miles south and east of DCSC. The surface deposits of the installation and surrounding area consist of glacial till, which is composed of heterogeneous mixtures of clays, sands, gravels, and some boulders varying widely in size and shape. The thickness of the glacial deposits within the installation is approximately 98 feet, as determined from the contours at the base of the glacial material. The deepest of five water wells drilled on the installation (100 feet) did not encounter rock, and it is presumed that the drilling stopped just above the rock (Reference 4).

The first rock encountered beneath the glacial deposits is shale of Devonian Age. These rocks are assigned to the Olentangy and Ohio Formations and identified as bluish to dark green shale, containing bituminous material from the overlying formations (which are absent under the installation). This shale is reported to reach 348 feet in thickness in the vicinity of DCSC. The formations underlying the Olentangy and Ohio shales in succession are: Columbus and Delaware limestone and shale, also of Devonian Age; Monroe limestone, lower Devonian/upper Silurian Age; and Niagara limestone and shale of Silurian Age, all of which dip in an easterly direction between 26 to 37 ft./mile (References 4 and 51).

iv. Ground Water

Although the ground-water hydrogeology is not well characterized throughout the facility, the static water level at DCSC was between 30 and 40 feet below the surface, as determined from four wells drilled near the golf course in the northwest section of the facility in the late 1930s and early 1940s. Another well was drilled in 1954 in the immediate vicinity of the other wells, but the

static level in this well was measured 12 feet below the surface. The first four wells were about 80 to 102 feet deep. No groundwater flow maps have been found for the facility (References 4, 70).

The static water level measured in the four ground-water monitoring wells drilled in 1988 in the northeast and southeast sections ranges from approximately 8 to 13 feet from ground level. There are no data available in any file material to explain the wide range of static water levels at the facility (Reference 70).

v. Regional Hydrogeology

Regional groundwater flow is thought to be to the west and southwest, following the contours of the underlying bedrock, to discharge into Alum Creek. The approximate depth of the groundwater table varies from 10 feet in the eastern portion of the plant (References 90, 91).

The principal groundwater aquifer at the plant is in the glacial deposits overlying the low permeabiling shales. For the most part, recharge to this aquifer occurs through infiltration from creeks during the spring, including Mason Run, Turkey Run, Alum Creek, and Big Walnut Creek. Minor recharge also occurs as direct infiltration of precipitation through the glacial deposits. Groundwater discharges to major for the most part streams during the fall. Hence, the water table usually declines persistently throughout the summer, reaching its lowest stage in the fall and its highest stage in the early spring (References 90, 91).

The shape of the groundwater table is controlled by both surface and bedrock topography. The groundwater table generally follows the slope of the overlying topography, being higher in the uplands than in the valleys. Groundwater flow is therefore generally towards major streams. During periods of heavy precipitation or flooding, however, groundwater flow may be reversed, raising the groundwater table adjacent to streams. The relatively low permeability shale bedrock also affects the direction of groundwater flow as a result of the bedrock divides and buried valleys (References 90, 91).

Perched groundwater is present within the clayey glacial till deposits above the regional groundwater table. This perched groundwater is of limited thickness and extent, but results in saturated soil conditions near the ground surface in many areas. The perched groundwater is recharged by infiltration of precipitation and discharges locally to streams such as Turkey Run and Mason Run, or vertically to the underlying groundwater table (References 90, 91).

Franklin County has an appreciable water supply consisting of both surface water and ground water. Columbus and the surrounding suburbs are the largest consumers of water in the county. Columbus uses both surface water from reservoirs and ground water from municipal wells. There are 100 private wells within a 3-mile radius of DCSC (Reference 88). Pumpage rates from 100 to 500 gallons per minute are common in all but the northeast part of the county. The wells in the northeast section have pumpage rates from 5 to 25 gallons per minute and the aquifers south of Columbus can pump as much as 1000 gallons per minute (Reference 51).

In and around DCSC, ground water is available from the interbedded and gravel deposits that overlie the shale. Where sands and gravels are recharged by a major stream, ample yields of water should be available. Although shale formations are not a major contributor to the water supply in the vicinity of the installation, in the Columbus area some wells are producing from rock formations and provide sufficient water for industrial and domestic use after proper treatment. DCSC has received its water supply from the City of Columbus since 1977. The source of the water supply is from Hoover Reservoir located northeast of the city and from wells in the vicinity of the facility (References 4, 51).

vi. Receptors

Pathways for the potential migration of hazardous wastes and constituents within and beyond the boundaries of DCSC are Mason and Turkey Runs and the former swampy area that is bounded on the east by 18th Street, on the west by 16th Street and to north and south by Pershing Avenue and A Street. This swampy area was filled in the early 1950's with broken concrete and rubble, covered with soil and graded to prevent ponding. The thick clay zones underlying DCSC have low permeabilities, thus retarding the vertical movement of contaminants into the ground water bearing sands and gravels. (Reference 4).

The DCSC facility is surrounded by residential and commercial areas. Immediately north of the DCSC property line is railroad property owned by Conrail. U.S. Air Force Plant 85, an Air Force defense plant, is located directly north of the railroad property. The communities of Whitehall and Bexley lie to the south and west of the facility. Within one mile of the facility there are seven schools, one playground, and two churches. Immediately to the west and within walking distance of DCSC, there are several commercial areas consisting of retail stores, restaurants, and a variety of commercial establishments. Beyond the commercial areas are residential areas of private homes and apartment complexes. (Reference 4)

F. RELEASE PATHWAYS

i. Soil

Soil borings at the facility indicate a relatively thick clay zone which may be continuous over the facility. This zone would tend to inhibit migration to the water bearing gravels and sands in the lower reaches of the facility if it is continuous throught. However, the surface soil in the eastern part of the facility is fill brought in to raise the elevation and remove a swamp, suggesting that the clay is not continuous (References 4, 70).

ii. Ground Water

The static water levels vary within the DCSC, ranging from 8 to 13 feet on the east side of the facility and 30 to 40 feet on the northwest section. Therefore, the potential for a release to groundwater is much greater on the eastern side of the facility than from any other section. (References 4, 70)

wetland?

The higher water table at the eastern side of the facility is due to the fact that the area is fill over a former swamp. The area was filled in with broken concrete and rubble, covered with soil, and graded to prevent ponding (Reference 4). There are no data in the file material describing characterization of the soil and groundwater in the central part of the facility, which contains for the most part buildings and paved areas.

iii. Surface Water

Surface pathways for the potential release of hazardous wastes or constituents within and beyond the boundaries of the facility are Mason Run to the east and Turkey Run to the west. Storm water drains into both waterways. In previous years, effluents from Building 14 flowed directly into Turkey Run. These effluents reportedly included oil and battery acid. This has been corrected and now any effluent goes directly to the sanitary sewer system. (References 4, 52, 89)

iv. Air

The overall potential for releases to air is generally low under the normal operating conditions seen at the facility. Most of the units are located indoors or are closed to the atmosphere (e.g., the underground storage tanks). There are no open burning areas or surface impoundments currently operating and most of the SWMUs do not routinely emit to the atmosphere. There is a moderate potential for a release to the air from SWMUs 20 through 35, which will become high when remediation activities are initiated.

v. Subsurface Gas Generation

The overall potential for subsurface gas generation at the facility is low. There are few organic wastes managed at the facility that would be prone to microbial biodegradation with subsequent methane formation. Volatile gases from SWMUs 20 through 35 are present in the soils due to the fact that these units released gasoline, fuel oil, solvent and diesel oil to the soil over long time periods.

III. DESCRIPTION OF SOLID WASTE MANAGEMENT UNITS

This section provides detailed descriptions of each SWMU identified during the PR and VSI. These profiles consist of unit descriptions, dates of operation, dates of closure, wastes managed, release controls, history of releases, and observed releases during the VSI. Also, the unit's release potential to soil, ground water, surface water, and air, and the potential for the generation of subsurface gas are discussed. Finally, suggested further actions are discussed individually for each unit.

Unit No.: SWMU No. 1 (Photo 19)

Unit Name: Coal Pile Run-off Catch Basins (5)

Unit Location: The Coal Pile Run-off Catch Basins are located outdoors west and south of the 3.25-acre coal pile and north of Building 300 (See Figure 4).

Unit Description: These in-ground units manage runoff from the coal pile generated during rainstorms. They are arrayed around the periphery of the coal pile area which is paved. Each basin is approximately four by eight and two and one half feet deep, of concrete construction with an inlaid metal grate that is approximately two by six feet. Each basin consists of a screen box (sediment filter basket) that traps fines and sediments and is connected to a drain pipe that connects with twelve-inch storm drains. One basin east of Building 300 connects with a drainage manhole at Pershing Avenue. The remaining basins west of the building drain to a twelve-inch sewer main on Pershing Avenue. Discharges eventually flow to outfalls covered under the facility, NPDES Permit (No. 4ID00000*BD). The sediment baskets are emptied by contractor services that dispose of the sediment in the Franklin County Sanitary Landfill (References 4, 5, 89).

Dates of Operation: These units have been in operation since about 1959 and are currently active.

Wastes Managed: The catch basins trap fines and sediments from the coal-pile runoff. The unit does not currently manage hazardous constituents (References 5, 27).

Release Controls: There are no secondary release controls in these basins. However, the coal pile was covered sometime in 1988 with a plastic tarpaulin that has effectively reduced the amount of sediment run-off during rainstorms or high wind conditions. Also, the filter baskets have been emptied more frequently since the cover installation. The run-off is passed through the sediment filter basket prior to discharge into the storm sewer (Reference 4).

History of Releases: DCSC has had periodic NPDES permit violations for the release of suspended solids caused by the coal pile run-off during 1978 and 1979. The testing of samples entering and leaving Turkey Run show no significant differences in the concentration of contaminants. See Table 7 for a summary of these test results. There is no documentation of releases to the air, surrounding soil, or groundwater in the file material reviewed.

VSI Observations: Other than staining of the concrete by the iron content of the coal, no other signs of release were observed during the VSI.

Conclusions: Soil/Groundwater: There is low potential for a release to the soil and groundwater since most of this coal-pile runoff is carried off by surface waters (Turkey Run).

Surface Water: Since the frequency of cleaning the sediment filter baskets has been increased and the coal pile is covered with a plastic tarpaulin, there is a low potential for NPDES violations to Turkey Run. Prior to these actions, the potential was moderate.

Air: Since the coal pile is currently kept covered there is low potential for any airborne release.

Subsurface Gas: The wastes generated by the coal pile run-off have a low potential for the generation of subsurface gas due to the dilute concentration of organics involved in the wastes.

Suggested Further Action: No further action is suggested for this unit at this time. The facility should continue in compliance with its NPDES permit.

Unit No.: SWMU No. 2 (Photo 20)

Unit Name: Central Heating Plant Ash Handling System

Unit Location: This unit is located in Building 300. (See Figure 4).

Unit Description: This unit consists of a pneumatic ash transfer system which moves ash from the furnaces to the baghouse (described in SWMU 52). Return air from the pneumatic transfer system is directed to a 12 foot square by six foot deep concrete sump which allows the fines to settle. This tank is emptied once a month basis by a contractor and the waste is transported to the Franklin County Landfill, during heating season (Reference 89).

Dates of Operation: This unit has been in operation since about 1959.

Wastes Managed: The unit manages fly ash (non-RCRA waste) from four coal-fired boilers (References 56, 72).

Release Controls: The unit is of steel and concrete construction. Integral steel piping discharges to an in-ground concrete sump which when overfilled discharges to the Storm Sewer (SWMU 72).

History of Releases: No specific dates of violations were documented in the file material. The units could not be directly observed during the VSI. Their covers were observed to be of metal construction and intact.

VSI Observations: There were no visual indications of any releases during the VSI.

Conclusions: Soil/Groundwater: The potential for release to the soil or ground water is low due to the wastes management practices at the unit.

Surface Water: Currently the potential for release is low due to the non-hazardous nature of the waste.

Air: The potential for a release to air is low due to the present covers on the unit and the non-volatile nature of the waste.

Subsurface Gas: The potential for the release of subsurface gas is low due to the nature of the waste.

Suggested Further Action: No further action is suggested for this unit at this time; however the facility should inspect the sump's integrity regularly.

Unit No.: SWMU No. 3

Unit Name: Solvent Spray Cleaning Room System

Unit Location: The Solvent Spray Cleaning Room is located inside Building 9. (See Figure 4).

Unit Description: The unit is approximately twenty by thirty-five feet and consists of a degreasing operation for construction machinery that is undergoing maintenance. These machine parts and equipment are cleaned using a high pressure aerosol of compressed air and a solvent furnished by Safety Kleen. One wall of the room is a bank of fine mesh metal filters with exhaust fans approximately nine feet tall and which runs the entire length (35 feet) of the room. Vapors from this operation are exhausted out of the building by these fans and ducts. A trench approximately two feet by thirty feet that is situated in the center of the room collects the runoff from the degreasing operation. The runoff is collected by tanks located outside the building. The tank is constructed of steel, and passed an integrity test in 1988. The solvent collected in the tank is recycled through the operation. Safety Kleen pumps the sludge out of the tank on an as-needed basis. On the other side of the room are located two large vats that serve as repositories for the clean solvent used in the spray operation. Pumps connected to these vats are used for the spray operation. Also located on this side of the room are eight 55-gallon drums that are used to collect contaminated solvent. During operations, the room is closed off with a heavy plastic curtain from the floor to the ceiling. Safety Kleen pumps out the waste tanks and brings clean solvent on an as needed basis. The waste solvent is redistilled by Safety Kleen and then resold (References 4, 89)

Dates of Operation: The solvent spray operation has been in existence since 1984, but the outside collecting tanks have been in existence since the 1960s. This unit is currently active.

Wastes Managed: This operation generates waste Stoddard Solvent (D001) and mineral spirits (D001) that are contaminated with lubricating oils, dirt and other associated sludges that result from the spray cleaning operation.

Release Controls: Secondary release controls are the central trench or sump that catches runoff from the operation and drains into the underground storage tank located outside the building.

History of Releases: There was no documentation of any releases in the file material reviewed or from DCSC personnel interviewed. No releases were observed during the VSI.

VSI Observations: The unit was observed during the VSI to be a large room capable of being closed off with curtains. Although some liquid was present on the floor, none was visible outside the unit.

Conclusions: Soil/Groundwater: There is a low potential for any release to the soil and groundwater because the collecting trench drains to an underground storage tank outside the building which recently passed a tank tightness test.

Surface Water: There is a low potential for release to surface water due to the construction and location of the unit.

Air: The ongoing potential for a release to air is low to moderate because solvent spray is collected by the bank of exhaust fans and is contained by the walls of the unit.

Subsurface Gas: The ongoing potential for the generation of subsurface gas is low due to enclosed nature of the unit and the fact that waste drains directly to underground storage tanks outside the building.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 4 (Photo 45)

Unit Name: Security Incinerator

Unit Location: The unit is located at the southern end of Building 13. (See Figure 4). The Security Incinerator is a diesel-fired Waste Industries Model DR 250.

Unit Description: The unit consists of primary and secondary incinerator chambers that feed emissions to an exhaust port (after burner) that is connected to stack approximately sixty to seventy feet high. The unit is generally operated twice per month to incinerate confidential trash and some medical waste. Since this is not a unit that burns hazardous waste, there are no air pollution control devices included in the system (References 4, 87).

Dates of Operation: This unit has been in operation since 1983.

Wastes Managed: This incinerator burns non-RCRA waste such as paper, microfilm and a small quantity of medical waste (approximately 20 pounds per month). The amount of paper burned is about 200 pounds per month.

Release Controls: The incinerator is located indoors and is built on a concrete rise that would catch any ash that would spill when the incinerator chamber is emptied. This incinerator is exempt from the requirements for air pollution devices under the Clean Air Act because the amount of waste burned per day is under 50 tons.

History of Releases: No documentation of releases was found in the file material reviewed or from interviewing DCSC personnel. There was no evidence of any release at the time of the VSI (Reference 87).

VSI Observations: At the time of the VSI, the incinerator was not in operation. The burner is in a locked building with a concrete floor. There was little ash or other debris in the unit or its room.

Conclusions: The potential for release to any media or for the generation of subsurface gas is low based on the wastes managed at the unit.

According to OEPA, the burning of the medical wastes is not regulated as long as it is treated on site. However, draft regulations for infectious waste include that the incinerator must have secondary and primary combustion chambers that operate between 1400-1800°F and 1800°F, respectively, with a minimum residence time of 2 seconds in the secondary chamber (Reference 88).

Suggested Further Action: Verify that the unit's design and operating characteristics are appropriate for pathological wastes.

Unit No.: SWMU No. 5 (Photo 25)

Unit Name: Former Incinerator (North)

Unit Location: This unit was formerly located on the north central section of the facility north of Building 10. (See Figure 4).

Unit Description: This incinerator was used to dispose of installation trash. The unit was demolished sometime in the late 1970s or early 1980s. The facility representatives could not furnish any information about the design and operation of the unit, or on the location where the ash was disposed.

Dates of Operation: This unit operated during the 1950s through the 1970s, before it was demolished.

Wastes Managed: This unit managed installation trash, paper and wood.

Release Controls: The facility representative was unable to furnish any information about release controls for this unit.

History of Releases: The facility representative was unable to furnish any information about possible releases from this unit.

VSI Observations: The unit is no longer in existence and was not observed during the VSI.

Conclusions: The potential for release cannot be determined for this unit.

Suggested Further Action: The facility should furnish information about the volume and nature of the waste burned at this unit. Information should also be furnished about the disposal site for the unit's ash.

Unit No.: SWMU No. 6

Unit Name: Former Incinerator (Location Unknown)

Unit Location: The location of this unit is unknown to the facility. (See Figure 4).

Unit Description: This unit, according to file material reviewed, was supposedly located near Building 46, which is now the fire house. According to the DCSC personnel interviewed during the VSI, there was no recollection of an incinerator having been located in the area of Building 46. No information on the units' operations or waste management practices could be furnished by the facility representative (References 4, 89).

Dates of Operation: The facility representative could not furnish any information for this unit. However, the representative stated that SWMU 5 replaced this unit.

Wastes Managed: The facility representative could not furnish any information about the unit; however, it is assumed that the same waste management practices occurred at both units.

Release Controls: The facility representative was unable to furnish any information about release controls for this unit.

History of Releases: The facility representative was unable to furnish any information about possible releases from this unit.

VSI Observations: The unit is no longer in existence and was not observed during the VSI.

Conclusions: The potential for release cannot be determined for this unit.

Suggested Further Action: The facility should furnish information concerning the volume, and nature of the waste burned at this unit. Information should also be furnished on the disposal site for the unit's ash.

Unit No.: SWMU No. 7

Unit Name: Building T-82, Hazardous Waste Storage

Unit Location: Building T-82 is located on 6th Street midway between Pershing Avenue and A Street. (See Figure 4).

Unit Description: The unit is constructed of corrugated steel with a large sliding door on the north side. The building is approximately 40 by 250 feet. The unit serves as the storage area for transformers containing PCBs, and other PCB contaminated material. The storage area in the back half of the building consisted of packed clay on a 10-mil polyethylene liner and is surrounded on four sides with railroad ties (8 by 8 inches). At the time of the VSI, one half of this bermed storage area is enclosed with a six foot chain link fence that was locked at all times. Behind this fence were approximately twenty transformers. The other half of the area contained six transformers. The transformers behind the fence are stored prior to turn-in to DRMO and the transformers outside are awaiting disposal by DRMO (References 4, 48, 89).

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Date of Operation: The unit is currently active and has been active since the early 1980s.

Wastes Managed: This unit stores PCB-contaminated transformers and other equipment that have been taken out of service. The transformers within the fenced-in area contain greater than 50 ppm PCBs. The transformers located outside the fenced-in area but still within the bermed area contain less than 50 ppm PCBs.

Release Controls: The transformers in Building T-82 are placed in secondary containment systems which are galvanized metal drip pans of sufficient capacity to contain any release of PCBs from the transformers. In addition the entire PCB storage area is situated on packed clay about a 10 mil polyethylene liner over a dirt floor that is surrounded by eight by eight inch railroad ties.

History of Releases: The clay floor within the containment area was oil stained. Analytical samples were taken May 18-20, 1987 and the results indicated PCB concentrations of less than 1 ppm. There is no evidence of releases outside the containment area documented in the file material reviewed or from interviewing DCSC personnel. There was no indication of any release in Building T-82 during the VSI.

VSI Observations: The unit was observed to be an area approximately 30 by 200 feet which was constructed of external railroad polyethylene and approximately eight inches of packed clay. A total of approximately 40 PCB-contaminated items were in the unit (Reference 48).

Conclusions: The potential for release to any media or subsurface gas generation is low due to the release controls in place at the unit.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 8

Unit Name: Building T-83 Hazardous Waste Storage

where Bldg.

Unit Location: Building T-82 is located on 6th Street midway between Pershing Avenue and A Street. (See Figure 4).

Unit Description: This is an interim status RCRA-regulated unit. The building is 40 by 250 feet long and is constructed of corrugated steel. The building serves as a temporary conforming storage area for the DRMO. The northern part of the building consists of a concrete pad approximately twenty by thirty feet divided into six modules, each diked by a four-foot-high concrete wall. The modules are six inches below the central grade. Each module is provided with a blind sump (1 foot deep and two feet wide) located centrally and running its width. Containers are stored on pallets and are positioned such that any leak or spill will drain to the sump (References 39, 89).

The middle part of the building is graveled and is used to store empty drums waiting to be salvaged. The rear of the building is used to store empty battery casings. The batteries are stored, either empty or full, on pallets. All wastes managed here are accumulated until a contractor retrieves it for disposal.

Dates of Operation: The unit has been in operation since the early 1980s.

Wastes Managed: This unit manages a variety of wastes including two 55-gallon drums of PCBs, and waste oils which are non-RCRA wastes. Battery acids (D002) and ignitables (D001) and wastes containing lead (D008) are currently stored in this unit disposed of DRMO contractors. There are three drums of D002 wastes and seven drums of D001 and D008 wastes currently awaiting disposal.

Release Controls: The concrete pad area contains a blind sump in each of the six bays that is sloped to contain any spill or leak. The battery storage area has no secondary containment system. Battery casings are stacked on pallets on a graveled floor.

History of Releases: There are no records available on any spill or leaks in this unit and no history of spills was recalled by DCSC personnel.

VSI Observations: There was no visual indication of any release in this unit during the VSI.

Conclusions: gravel area?

Soil/Groundwater: The potential for a release from the concrete pad area is low due to the structural nature of the catch basins. The battery casings have a moderate potential for releasing to the soil or groundwater.

Surface Water: There is low a potential for any release to nearby Mason River because of the structural nature of the unit, and the distance to surface water.

Air: There is low potential for any release to the air due to the enclosed nature of the unit.

Subsurface Gas: The potential for subsurface gas generation is low due to the wastes managed at the unit.

Suggested Further Action: Soil sampling for pH and lead is suggested for the area of the unit which currently manages waste batteries. gravel?

Unit No.: SWMU No. 9

Unit Name: Building 312 Hazardous Waste/Material Storage Building

Unit Location: The unit is located in the northeast corner of the facility along Pershing Avenue.

Unit Description: This is an interim status RCRA-regulated unit. Wastes stored in this building have been turned into the DRMO by both on-site and off-site DOD generators. Materials included: commodities that have been through the Defense Reutilization, Transfer, Donation and Sales (RTDS) cycle and are in storage awaiting sale, or transport to a hazardous waste treatment and disposal facility. Wastes are stored here for more than 90 days.

The building is a concrete block structure approximately 40 by 90 feet with a concrete floor. The storage area is divided into two bays, and materials are stored on pallets according to DLA's storage compatibility criteria. There are no berms or dikes separating the wastes. There is an overhead sprinkler system in case of fire but there were no sumps or drainage areas to contain wastes in case of a leak or spill (Reference 89).

Dates of Operation: This building was constructed in 1970 and the first bay has been operated by DRMO since 1980. The second bay became operational in 1984. Both bays are currently active.

Wastes Managed: Hazardous wastes stored here included waste battery acids and caustics (D002), oxidizers (D001, D003), flammable liquids (D001), some flammable solids (D001) and some reactives (D003).

Release Controls: The unit is a building with concrete walls and floors and six inches of diking at the entrances. Wastes are segregated by hazard class according to DLA storage compatibility criteria. The wastes are stored on wood pallets on a concrete

floor. There is an overhead sprinkler system, fire extinguishes, and absorbent material located strategically around the building. There are no sumps to contain wastes in case of a spill or leak.

History of Releases: There was no indication in the file material of any release in this building. During the VSI, no stains or other signs of release were observed.

VSI Observations: During the VSI, the unit was observed to consist of several bays which were used to manage hazardous waste. The concrete floor showed cracks which have been sealed.

Conclusions: The potential for a release to all media and for the generation of subsurface gas is low. The unit is of concrete construction and managed in such a way as to minimize the possibility of a release.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 10 (Photo 21)

Unit Name: Methyl Bromide Burial Site

Unit Location: The Methyl Bromide Burial Site is located in the northeast corner of DCSC approximately 200 yards east of Building 423. (See Figure 4).

Unit Description: The area is marked by metal posts and signs that state it is a landfill site. The site is approximately 25 by 15 feet and dark gravel and soil is evident within the area. This is apparently clean fill brought in from elsewhere. Remnants of the plastic liner are evident around the perimeter. The area around the burial site is covered with pea gravel. This unit was used for the landfilling of 552 cases (over 13,000 cans) of methyl bromide (24 16-oz containers/case). The facility reports 60% or more of the cans were empty due to rust deterioration. The excavation was dug to approximately 10 feet and lined with heavy polyethylene. The rusted cans both singly and in cases were dumped into the excavation which was backfilled with earth that appears to have been transported from elsewhere (References 4, 89).

Dates of Operation: The methyl bromide containers were buried at this site in 1971. This site is inactive.

Wastes Managed: Aerosol cans of methyl bromide (U029) (used as a fumigant in the rail cars at DCSC) are managed at the unit.

Release Controls: The unit is lined with a heavy polyethylene liner. No other release controls are utilized at the unit.

History of Releases: The soil has been tested on several occasions and no evidence of a release has ever been detected. There was no evidence of a release during the VSI.

VSI Observations: The unit was observed to be a non-descript area of gravel which was posted with warning signs stating methyl bromide was buried there (Reference 4).

Conclusions: Soil/Groundwater: There is a low potential for a release to the soil or groundwater due to the very volatile nature of the waste and the heavy polyethylene liner which would have reduced the probability of migration into the soil.

Surface Water: There is a low probability of a release to surface water due to the volatile nature of the waste and its moderate solubility in water. The presence of the polyethylene liner would also reduce the migration to the nearby surface waters of Mason Run.

Air: The potential for a release to air is low because testing has shown there is no methyl bromide remaining at the site, however out-gassing would have occurred in the early 1970s, while the cans further deteriorated.

Subsurface Gas: The potential for the subsurface generation of gas is low and since methyl bromide is a biocide, it is unlikely that it would be used as a microbial substrate.

Suggested Further Action: Provide sampling methodology such as location, depth and analytical technique used to sample this unit. Confirm that this methodology is equivalent to EPA methods and that no release has occurred.

0Unit No.: SWMU No. 11

Unit Name: Building 12 Color Process Unit Drain

Unit Location: The unit is located in Building 12, in the Graphics Department. (See Figure 4.)

Unit Description: The unit is a drain which accepts waste developer fluid from a Kodak automatic printer/developer. The drain, two inches in diameter, and of PVC construction, rises approximately six inches above the tile floor and receives the waste from the developer/printer via a plastic hose. The developer/printer works on an overflow principal with fresh fluids being added constantly and waste fluid flowing to the drain. The volume of waste developer and fixer is reportedly on the order of 100 gallons per month. This waste discharges directly to the Sanitary Sewer (SWMU 77) (Reference 89).

Dates of Operation: The unit has been in operation since 1963.

Wastes Managed: The unit manages waste developer and fixer which may be corrosive (D002) and contaminated with silver (D011).

Release Controls: The unit is located indoors and accepts a volume of waste much less than its handling capacity. The unit is connected directly to the facility's sanitary sewer system.

History of Releases: There is no known history of release from this unit, nor were any observed during the VSI.

VSI Observations: This unit was observed during the VSI to be a PVC pipe approximately two inches in diameter which accepted a discharge from a plastic pipe leading from the developer/processor. The discharge appeared to be well within the volume which the drain could manage without overflowing. No evidence of staining was noted.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste managed, the waste management practices, and the indoor location.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 12

Unit Name: Building 12 Black and White Process Unit Drain

Unit Location: The unit is located in Building 12 (89). (See Figure 4).

Unit Description: The unit is a drain which accepts waste developer fluid from a black and white developer unit. The drain, is located in a stainless steel sink which is connected to the facility sanitary sewer system. Since this is not an automated process, the developer is discharged to the drain (and then the sewer system) in a batch mode. The developer operates on as needed basis and reportedly generates less than two gallons per month (References 4, 89).

Dates of Operation: The unit has been in operation since 1963.

Wastes Managed: The unit manages waste developer and fixer which may be corrosive (D002) and contaminated with silver (D011).

Release Controls: The unit is located indoors and accepts a volume of waste much less than its handling capacity. The unit is connected directly to the facility's sanitary sewer system (References 89).

History of Releases: There is no known history of release from this unit, nor were any observed during the VSI.

VSI Observations: This unit was observed during the VSI to be a sink and drain approximately two inches in diameter which accepts waste developer. No evidence of staining was noted.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste managed, the waste management practices, and the indoor location.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 13

Unit Name: Building 12 Varitype Waste Storage

Unit Location: The unit is located in the graphic arts section of Building 12. (See Figure 4.)

Unit Description: This unit is an area approximately two by three feet in dimension. Waste photographic chemicals (hypo, pigments, and developer) are stored here after being used in the Varitype paper processor. The wastes are stored in their original five gallon containers in this area. These solutions are added in batch to the machine on an as-needed basis. When the new solutions are added, the waste solutions are removed to the unit. The facility reports that, generally, 10 to 12 five gallon plastic containers are removed, three to four times per year, to the DRMO where they are sold for salvage (Reference 89).

Dates of Operation: The unit has reportedly been in operation since the early 1980s.

Wastes Managed: Waste photographic solutions including fixer and developer are stored here. These wastes may be corrosive (D002) and contaminated with silver (D011).

Release Controls: The unit is located indoors, in a high traffic area. A potential for knocking over the wastes and spilling exist.

History of Releases: No releases have been noted from this unit, nor was a release noted at the time of the VSI.

VSI Observations: The unit was observed during the VSI to consist of an area in the graphics work room where the plastic jugs containing the waste are placed (Reference 89).

Conclusions: The potential for release to soil, groundwater, surface water, air, and for subsurface gas generation is low based on the waste, and the waste management practices, and the indoor location. However, if a spill were to occur at the unit there is potential for injury to the personnel working in the area.

Suggested Further Action: No further action is suggested. The facility may wish to consider moving the unit to a more secure area.

Unit No.: SWMU No. 14

Unit Name: Clinical Waste Storage Can

Unit Location: The unit is located in the clinic storage room in Building 47. (See Figure 4).

Unit Description: The unit is a 25-gallon metal can with a replaceable liner, which is used to manage clinical waste such as wipes, bandages, and other potentially pathogenic material. The unit does not accept used syringes, or blood tubes or other sharps. These wastes are managed in the Sharps Storage Area (SWMU 16) The can is located indoors on a tiled floor. It has a metal top which is in place when the can is not being emptied or filled. The unit accepts waste from several examining rooms located in the clinic. Waste from the unit is picked up on an on call basis and brought to the Security Incinerator (SWMU 4) for burning approximately twice per month. The current practice of burning the waste has been occurring at least since the early 1980s. Prior to that time, the facility representative was unaware of how the waste was disposed (Reference 89).

Dates of Operation: The unit, or one similar to it, has been in operation since the clinic began operating in the 1940s.

Wastes Managed: Clinical waste with the exception of blood products and sharps, are managed at the unit. This waste is potentially pathogenic.

Release Controls: The unit is a metal trash can with a top and replaceable liner which accepts bagged waste. It is located indoors on a tiled floor.

History of Releases: No history of release was reported for this unit, nor was a release noted during the VSI.

VSI Observations: During the VSI, the unit was observed to be a single 25-gallon trash can with a replaceable liner and metal top. It was placed directly on a tiled floor and located indoors. No stains or other indications of release were noted during the VSI.

Conclusions: The potential for release to soil, groundwater, or air, and for subsurface gas generation is low based on the waste managed, the waste management practices, and the indoor location.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 15

Unit Name: X-Ray Process Unit Drain

Unit Location: The unit is located in the X-ray room of Building 47. (See Figure 4).

Unit Description: The unit is a drain which accepts waste developer fluid from an automatic X-ray film printer/developer. The drain, two inches in diameter, and of PVC construction, rises approximately six inches above the tile floor and receives non-hypo waste from the developer/printer via a plastic hose. The developer/printer works on an overflow principal with fresh fluids being added constantly and waste fluid flowing to the drain. The volume of waste developer is reportedly on the order 20 gallons per month. This waste discharges directly to the sanitary sewer. The waste hypo is generated at a rate of five gallons per month. This is removed to the DRMO where it is sold for its silver content (Reference 89).

Dates of Operation: The unit has been in operation since prior to the 1980s and is currently operational.

Wastes Managed: The unit manages waste developer which may be corrosive (D002) and contaminated with silver (D011).

Release Controls: The unit is located indoors and accepts a volume of waste much less than its handling capacity. The unit is connected directly to the facility's sanitary sewer system.

History of Releases: There is no known history of release for this unit, nor were any observed during the VSI.

VSI Observations: This unit was observed during the VSI to be a PVC pipe approximately two inches in diameter which accepted a discharge from a plastic tube leading from the developer/processor. The discharge appeared to be well within the volume which the drain could manage without overflowing. No evidence of staining was noted.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the volume of waste managed, the waste management practices, and the indoor location.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 16

Unit Name: Sharps Storage

Unit Location: The unit is located in the clinical examination room in Building 47. (See Figure 4.)

Unit Description: The unit is a plastic box, with a top. The dimensions are approximately 18 by 10 by 6 inches. It is located on a counter in the examining room. Used syringes, blood vials, and any other materials contaminated with blood products are deposited in the unit as necessary. The waste is bagged and shipped to Wright-Patterson Air Force Base in Dayton, Ohio where it is reportedly disposed of in an incinerator. The contents of the unit are placed in a separate "biohazard" bag when transported. Waste is shipped to Dayton on an as-needed basis (Reference 89).

Dates of Operation: The unit has reportedly been in operation since at least the early 1980s.

Wastes Managed: Used syringes, blood vials, and other materials believed to be contaminated with blood products are managed at the unit.

Release Controls: The unit is a plastic box with a cover which manages only small volumes of liquid wastes. The unit is located indoors.

History of Release: No releases have been reported from this unit, nor were any observed during the VSI. The unit was observed to be sitting on a counter in the examining room of the clinic. All of the waste observed in the unit at the time of the VSI consisted of needles and syringes with caps placed over them, and various vials used for drawing blood.

VSI Observations: No releases were observed at the time of the VSI.

Conclusions: The potential for release to soil, groundwater, or air, and for subsurface gas generation is low based on the waste managed, the waste management practices, and the indoor location.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 17 (Photo 39)

Unit Name: Building 314 Pesticide Shop Sumps

Unit Location: The unit is located in the northern part of the facility west of the Roundhouse (Building 313). (See Figure 4) (References 55, 85).

Unit Description: The unit consists of four in-floor blind sumps, each located in a room of the Pesticide Shop. The sumps, which are an integral part of the floor, are covered with metal grates and constructed of concrete. The units are approximately one cubic foot in volume. They are used for spill management and cleaned on an as-needed basis. Since no formulation of pesticides occurs in the building, the sumps are seldom if ever used for spill management (Reference 89).

Dates of Operation: These units became operational with the Pesticide Shop in 1984.

Wastes Managed: The sumps comprising this unit could manage any of the pesticides or herbicides which the facility uses in its pest control program. These would include Carbaryl, Malathion and others. The solvent in some of these waste pesticides may be ignitable (D001).

Release Controls: The unit consists of four blind sumps which are an integral part of the building floor.

History of Releases: No known release have occurred or were observed to have occurred from this unit, at the time of the VSI.

VSI Observations: The four separate drains comprising this unit were observed during the VSI and appeared to have no cracks or holes. The units are located in grade on a sealed concrete floor. They are blind sumps with no outlet to any of the facility sewers. It was reported that the sumps were poured at the same time as the floor and that the floor and sumps are a single unit.

Conclusions: The potential for releases to soil, groundwater, and air, and the potential for subsurface gas generation are all low based on the units design.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 18

Unit Name: Pistol Range Backstop

Unit Location: The unit is located in Building 2. (See Figure 4).

Unit Description: This indoor unit consists of more than 25 sand bags which were placed on the downrange side of a target range. The unit's dimensions are approximately 15 feet by 20 feet by 12 feet in height. The sand bags form a slope of approximately 45 degrees starting 20 feet from the back wall. The unit was used as a backstop for live pistol rounds fired during target practice (Reference 89).

Dates of Operation: The start up date for the unit was reportedly the late 1960s. The unit has not been operational since sometime in the late 1970s.

Wastes Managed: The unit manages expended rounds of small arms ammunition. The rounds will be composed primarily of lead (D008), although some copper may be present.

Release Controls: The unit manages a solid metallic waste and is located indoors on a concrete floor.

History of Releases: No releases have been reported from this unit, nor were any noted at the time of the VSI.

VSI Observations: The unit was observed to consist of sand bags filled with dirt or sand. Puncture holes from target practice were evident in a number of the bags (and the roof), and some dirt was noted on the floor. No evidence of release was noted during the VSI.

Conclusions: The potential for release to soil, groundwater, or air, and for subsurface gas generation is low due to the indoor location of the unit and the wastes managed.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 19 (Photo 33)

Unit Name: Construction Materials Dump Site

Unit Location: The unit is located on an unused railway spur at the north east corner of the facility on the east side of Yearling Road. (See Figure 4) (References 4, 85).

Unit Description: The unit is described in the Installation Assessment Report as an area where construction and other "clean fill" debris were placed in order to fill a low area near the facility railroad spur. The area in question appears to be approximately 50 to 75 yards long and 10 to 20 feet wide. It is a low area between two sets of railroad tracks. Some bricks and concrete blocks were noted, but the area appears for the most part to be undisturbed by any recent dumping activities (References 4, 89).

Dates of Operation: According to the Installation Assessment Report, the unit operated from the late 1950s until the late 1970s. The facility representatives had no personal knowledge of the area since they had only been with the facility for the last several years (Reference 4).

Wastes Managed: The unit reportedly managed construction debris and other "clean fill" materials (Reference 4).

Release Controls: There would have been no release controls associated with the unit.

History of Releases: No releases have been reported from this unit, nor were any noted during the VSI.

VSI Observations: The area observed during the VSI appeared to be a low point between two sets of railroad tracks. Natural vegetation, including several different species of grasses and shrubs were in great abundance throughout the area identified as the unit.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low, based on the type of wastes (mostly construction material solids) reportedly managed there.

Suggested Further Action: Sampling to verify that hazardous constituents are not present, is suggested for this unit.

Unit No.: SWMU No. 20

Unit Name: Building 309 5,000 Gal. Former Solvent UST

Unit Location: The unit is located in the northern part of the facility, north and west of Building 309. (See Figure 4).

Unit Description: The unit is an excavation which formerly housed a steel 5,000-gallon UST which managed clean solvents for the facility. The facility UST Registration for SWMUs 20-35 identifies this as Tank 309B. The excavation is approximately 10 by 12 feet in area. The depth of the excavation was reportedly to be approximately 10 feet. Soils were reportedly removed from around the empty tank which was then removed from the ground. The tank was subsequently removed to a central area in the DRMO scrap yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected high levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The unit became operational in 1942. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed clean solvent that was used at the facility for cleaning of various metal parts. This solvent leaked from the tank for an unknown period of time thus becoming a waste (D001) (References 65, 89).

Release Controls: The tank had neither release controls nor cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing solvent during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6 (References 65, 89)

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. No organic odors were detected at that time (Reference 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Waters: The potential for a release to surface water is low because no surface waters are located nearby.

Air: The potential for release to the air is low to moderate currently due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 21 (Photos 1, 2)

Unit Name: Building 309 15,000 Gal. Former Gasoline UST

Unit Location: The unit is located in the northern part of the facility, south of Building 309. (See Figure 4).

Unit Description: The unit is a fiberglass 15,000-gallon UST which managed gasoline. The facility UST Registration (#20) identifies this as Tank 309C. The unit was taken out of service in late 1988, however it has not yet been excavated and removed. An investigation of the area for soil vapors detected high levels of petroleum hydrocarbons (References 65, 66, 89).

Dates of Operation: The unit became operational in 1980. It failed an integrity test in 1988, and was removed from service in late 1988.

Wastes Managed: The unit managed gasoline that was used at the facility for fueling of vehicles. The gasoline leaked from the tank for an unknown period of time thus becoming a waste (D001, D008).

Release Controls: The tank had no release controls during its operational lifetime.

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6 (References 65, 89).

VSI Observations: During the VSI, the unit was observed to be an area of blacktop with a fill point located on the blacktop surface. No obvious or heavy staining was noted, or organic odors detected at that time.

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the presence of a tar cover, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 22 (Photo 1)

Unit Name: Building 317 15,000 Gal. Former Diesel UST

Unit Location: The unit is located in the northern part of the facility, on the northeast side of Bldg 317. (See Figure 4).

Unit Description: The unit is an excavation which formerly housed a steel 15,000-gallon UST which managed diesel fuel for the facility. The facility UST Registration identifies this as Tank 317. The excavation is approximately 10 by 20 feet in area. The depth of the excavation was assumed to be approximately 15 feet. Soils were reportedly removed from around the empty tank which was then removed from the ground. The tank was subsequently removed to a central area in the DRMO scrap yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected high levels of petroleum hydrocarbons (References 65, 66, 89).

Dates of Operation: The facility was unable to furnish a startup date for the unit. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed diesel fuel, used at the facility for various vehicles. The diesel leaked from the tank for an unknown period of time thus becoming a waste (D001) (References 74, 89).

Release Controls: The tank had no release controls, or cathodic protection during its operational lifetime. The excavation is unlined (References 65).

History of Releases: The tank was found to be releasing diesel during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6 (References 66, 89).

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. No organic odors were detected at that time (Reference 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is low to moderate currently, due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low molecular weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 23 (Photo 3)

Unit Name: Building 14 1,000 Gal. Former Gasoline UST

Unit Location: The unit is located in the northeastern part of the facility, adjacent to Building 14, Section 3. (See Figure 4).

Unit Description: The unit is an excavation which formerly housed a steel 1,000-gallon UST which managed gasoline for the facility. The facility UST Registration indicates this as Tank 14-3. The excavation is approximately 10 by 12 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank which was then removed from the ground. The tank was subsequently removed to a central area in the DRMO shipyard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected high levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The unit became operational in 1942. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed gasoline at the facility. This gasoline leaked from the tank for an unknown period of time thus becoming a waste (D001, D008) (References 65, 89).

Release Controls: The tank had no release controls, or cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. No organic odors were detected at that time (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is low to moderate currently, due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low molecular weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 24 (Photo 8)

Unit Name: Building 14-3 1,000 Gal. Former Gasoline UST

Unit Location: The unit is located on the western side of Building 14, at Section 3. (See Figure 4).

Unit Description: The unit is an excavation which formerly housed a steel 1,000-gallon UST which managed gasoline for the facility. The facility UST Registration indicates this as Tank 14-3. The excavation is approximately 10 by 12 feet in area. Depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank which was then removed from the ground. The tank was subsequently removed to a central area in the DRMO Scrap Yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected low levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility could not furnish a start-up date for this unit. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed gasoline, used at the facility for fueling vehicles. The gasoline leaked from the tank for an unknown period of time thus becoming a waste (D001, D008) (References 65, 89).

Release Controls: The tank had no release controls or cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. No organic odors were detected at that time (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is low to moderate currently, due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 25 (Photo 9)

Unit Name: Building 14-7 1,000 Gal. Former Waste Oil UST

Unit Location: The unit is located on the western side of Building 14 at Section 7. (See Figure 4)

Unit Description: The unit is an excavation which formerly housed a steel 1,000-gallon UST which managed waste oil for the facility. The facility UST Registration indicates this as Tank 14-7. During its operational lifetime, the tank was emptied by a contractor on an as-needed basis. The excavation is approximately 10 by 12 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank which was then removed from the ground. The tank was subsequently removed to a central area at the DRMO Scrap Yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected low levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility could not furnish a start-up date for this unit. The unit was taken out of service in December 1987. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed waste oil that was generated at the facility. The oil leaked from the tank for an unknown period of time (References 65, 89).

Release Controls: The tank had neither release controls nor cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing waste oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. Standing water was observed on and around the area of the excavation site. No organic odors were detected at the time of the VSI (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit. The area is managing waste oil from an earlier release by a UST.

Air: The potential for release to the air is currently low to moderate due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 26 (Photos 4, 7)

Unit Name: Building 22 5,000 Gal. Former Diesel UST

Unit Location: The unit is located on the west side of Building 22, Section 1. (See Figure 4)

Unit Description: The unit is an excavation which formerly housed a steel 5,000-gallon UST which managed diesel fuel for the facility. The facility UST Registration #20 indicates this as Tank 22. The excavation is approximately 15 by 20 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank, which was then removed from the ground. The tank was subsequently removed to a central area at the DRMO Scrap Yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected high levels of petroleum hydrocarbons (References 65, 66, 89).

Dates of Operation: The unit became operational in 1973. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed diesel fuel. This fuel leaked from the tank for an unknown period of time thus becoming a waste (D001) (References 65, 89)

Release Controls: The tank had neither release controls nor cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing diesel fuel during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. No organic odors were detected at that time (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 27

Unit Name: Building 12 1,000 Gal. Former Fuel Oil UST

Unit Location: The unit is located south of Building 12, Section 7. (See Figure 4)

Unit Description: The unit is an excavation which formerly housed a steel 1,000-gallon UST which managed fuel oil for the building. The facility UST Registration identifies this as Tank 12-7. The excavation is approximately 10 by 12 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank, which was then removed from the ground. The tank was subsequently removed to a central area in the DRMO Scrap Yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected low levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility was unable to determine when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed fuel oil that was used to heat the buildings at DCSC. This fuel oil leaked from the tank for an unknown period of time thus becoming a waste (D001) (References 65, 89).

Release Controls: The tank had neither release controls nor cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing fuel oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. No organic odors were detected at that time (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low molecular weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 28 (Photo 11)

Unit Name: Building 18-1 1,000 Gal. Former Gasoline UST

Unit Location: The unit is located north of Building 18, Section 1. (See Figure 4).

Unit Description: The unit is an excavation which formerly housed a steel 1,000-gallon UST which managed gasoline for the facility. The facility UST Registration identifies this as Tank 18-1. The excavation is approximately 10 by 12 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank, which was then removed from the ground. The tank was subsequently removed to a central area at the DRMO Scrap Yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected high levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility is unaware of when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed gasoline, used to fuel heavy construction equipment at the facility. This gasoline leaked from the tank for an unknown period of time thus becoming a waste (D001, D008) (References 65, 89).

Release Controls: The tank had no release controls or cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. No organic odors were detected at that time (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 29 (Photos 13, 14)

Unit Name: Building 2 1,000 Gal. Former Gasoline UST

Unit Location: The unit is located south of Building 2, Section 11. (See Figure 4)

Unit Description: The unit is an excavation which formerly housed a steel 1,000-gallon UST which managed gasoline for the facility. The facility UST Registration identifies this as Tank 2-11. The excavation is approximately 10 by 12 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank, which was then removed from the ground. The tank was subsequently removed to a central area at the DRMO Scrap Yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected high levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility is unaware of when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed gasoline, used to fuel heavy construction equipment at the facility. This gasoline leaked from the tank for an unknown period of time thus becoming a waste (D001, D008) (References 65, 89).

Release Controls: The tank had no release controls or cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. No organic odors were detected at that time (Reference 65, 89).

Conclusions: Soil Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No: SWMU No. 30 (Photo 15)

Unit Name: Building 42 1,000 Gal. Former Fuel Oil UST

Unit Location: The unit is located at the western edge of Building 42. (See Figure 4).

Unit Description: The unit is an excavation which formerly housed a steel 1,000-gallon UST which managed fuel oil for the building. The facility UST Registration identifies this as Tank 41-1. The excavation is approximately 10 by 15 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank, which was then removed from the ground. The tank was subsequently removed to a central area at the DRMO scrap yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected high levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility was unable to determine when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed fuel oil, used to heat the building. This fuel oil leaked from the tank for an unknown period of time thus becoming a waste (D001) (References 65, 89).

Release Controls: The tank had no release controls or cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Release: The tank was found to be releasing fuel oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. The fill appeared to have subsided approximately one to two feet. No organic odors were detected at that time (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 31 (Photo 16)

Unit Name: Building 26 1,500 Gal. Former Fuel Oil UST

Unit Location: The unit is located on the south side of Building 26, Section 1. (See Figure 4).

Unit Description: The unit is an excavation which formerly housed a steel 1,500-gallon UST which managed fuel oil for the building. The facility UST Registration identifies this as Tank 26-1. The excavation is approximately 10 by 15 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank, which was then removed from the ground. The tank was subsequently removed to a central area at the DRMO scrap yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. During the VSI, this fill appeared to have subsided approximately one to two feet. An investigation of the area for soil vapors detected high levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility was unable to determine when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed fuel oil, used to heat the building. This fuel oil leaked from the tank for an unknown period of time thus becoming a waste (D001) (References 65, 89).

Release Controls: The tank had no release controls or cathodic protection during its operational lifetime. The excavation is unlined.

History of Releases: The tank was found to be releasing fuel oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. During the VSI, two puddles of what appeared to be raw product were noted in the western corners of the excavation site. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. The site of the excavation was wet, and there were two small puddles of what appeared to be raw fuel oil. A strong fuel oil smell was noted at the unit (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is high, due to the presence of what appeared to be raw fuel oil at the surface of the excavation site.

Surface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 32 (Photo 17)

Unit Name: Building 26 Tank 26 1,000 Gal. Former Fuel Oil UST

Unit Location: The unit is located on the north side of Building 26, Section 3. (See Figure 4).

Unit Description: The unit is an excavation which formerly housed a steel 1,000-gallon UST which managed fuel oil for the building. The facility UST Registration indicates this as Tank 26-3. The excavation is approximately 15 by 20 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank, which was then removed from the ground. The tank was subsequently removed to a central area at the DRMO Scrap Yard where it was cut up, and finally transported to a sanitary landfill. Two metal plates (capable of bearing traffic loads) were placed over the excavation. An investigation of the area for soil vapors detected low levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility was unable to determine when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed fuel oil, used to heat the building. This fuel oil leaked from the tank for an unknown period of time thus becoming a waste (D001) (References 65, 89).

Release Controls: The tank had no release controls or cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing fuel oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area covered by two steel plates over an excavation. No strong organic odors were noted at the unit (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Gas: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the presence of the metal covers.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low molecular weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 33 (Photo 18)

Unit Name: Building 113 500 Gal. Former Gasoline UST

Unit Location: The unit is located north east of Building 113. (See Figure 4.)

Unit Description: The unit is an excavation which formerly housed a steel 500 gallon UST which managed gasoline for the facility. The facility UST Registration identifies this as Tank 116. The excavation is approximately 10 by 15 feet in area. The depth of the excavation was approximately 10 feet. Soils were reportedly removed from around the empty tank, which was then removed from the ground. The tank was subsequently removed to a central area at the DRMO Scrap Yard where it was cut up, and finally transported to a sanitary landfill. Additional fill was then added to the excavation to bring it up to grade. An investigation of the area for soil vapors detected low levels of organic volatiles (References 65, 66, 89).

Dates of Operation: The facility is unaware of when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

Wastes Managed: The unit managed gasoline. This gasoline leaked from the tank for an unknown period of time thus becoming a waste (D001, D008) (References 65, 89).

Release Controls: The tank had no release controls or cathodic protection during its operational lifetime. The excavation is unlined (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

VSI Observations: During the VSI, the unit was observed to be an area of disturbed soil which appeared to be the remnants of an excavation. The soil had either subsided at this site or had not been filled to grade. No organic odors were detected at that time (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the presence of clean soil over the contaminated soil, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 34 (Photos 22, 23)

Unit Name: DRMO Area 1,000 Gal. Former Waste Solvent/Paint UST

Unit Location: The unit is located in the northern part of the facility, at the northeast quadrant of the DRMO storage area. (See Figure 4.)

Unit Description: The unit is a steel 1,000-gallon UST which initially managed gasoline. At some point, the facility began using the tank for the management of waste solvents and paint. The facility UST Registration designates this as the 18th Street tank. During routine integrity testing in late 1988, the facility found that the tank was not tight. The facility reports that the unit has not been used since the late 1970s. No information on the frequency of waste removal or where wastes were taken could be provided by the facility. The facility is currently planning to remove the tank as soon as possible (References 65, 66, 89).

Dates of Operation: The unit became operational in 1942. It failed an integrity test in 1988, but has not yet been removed. It reportedly stopped accepting waste in the late 1970s (Reference 65).

Wastes Managed: The unit managed waste solvents and paint generated at the facility. This waste leaked from the tank for an unknown period of time thus becoming a waste (D001, D006, D007, D008) (References 65, 89).

Release Controls: The tank had no release controls or cathodic protection during its operational lifetime (Reference 65).

History of Releases: The tank was found to be releasing solvent and waste paint during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI.

VSI Observations: During the VSI, the unit was observed to be a former gasoline filling island with a large metal box which was used as the fill point for placing wastes. The unit itself is underground and could not be observed. No organic odors were detected at that time (References 65, 89).

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented lack of tank integrity and the high water table in the area.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The potential for release to the air is currently low to moderate due to the undisturbed nature of the site, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 35

Unit Name: Building 309 12,500 Gallon Inoperative UST

Unit Location: The unit is located southeast of Building 309 underneath the concrete cap which covers the remaining underground tanks at the facility. (See Figure 4.)

Unit Description: The unit is a steel underground tank originally used to store diesel fuel. The tank is listed in the facility's UST registration as Tank 309A. It is also listed on the registration as a gasoline tank, although the facility representative reported that it last managed diesel fuel. The tank was found to be leaking as the result of a routine tank tightness inspection in late 1988. At that time, the remaining diesel was removed from the unit. The facility has not yet removed the unit from the ground (References 65, 89).

Dates of Operation: The unit is reported to have become operational in 1942 (Reference 65). The unit ceased operation after failing an integrity test in late 1988.

Wastes Managed: The unit released waste diesel fuel (D001).

Release Controls: The facility reported that there were no release controls or cathodic protection associated with the unit.

History of Releases: The unit began releasing sometime prior to late 1988, when it failed an integrity test. No indications of an ongoing release could be noted during the VSI due to the unit's underground location.

VSI Observations: No direct observation of the unit could be made since it is underground.

Conclusions: Soil/Groundwater: The potential for release to groundwater and soil is high, due to the documented presence of organic volatiles in the soil and the high water table in the area.

Surface Water: The potential for release to surface water is low due to the unit's underground location.

Air: The potential for release to the air is currently low to moderate due to the presence of the concrete cap, but would be high during remediation activities.

Subsurface Gas: The potential for subsurface gas generation is moderate, due to the possibility of microbial action on the low-molecular-weight organics.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 36 (Photo 12)

Unit Name: Tank 29 Fill Point Spill Site

Unit Location: The unit is located west of Building 14. (See Figure 4.)

Unit Description: The unit is a highly stained area located directly below the fill point for Tank 29. The tank manages fuel oil, and the unit is managing waste fuel oil from spills that have occurred during filling operations. The stained area is approximately six by three feet in area. A plastic bucket is located approximately below the fill point; however the facility representative could not furnish any details on how waste in the bucket would be managed (Reference 89).

Dates of Operation: This unit is believed to have been in existence since Tank 29 started up in the 1980s.

Wastes Managed: Waste fuel oil (D001) resulting from poor filling practices is managed at the unit.

Release Controls: The unit is the result of routine systematic releases and has no release controls.

History of Releases: This unit is believed to have been releasing throughout the operational history of Tank 29.

VSI Observations: The unit was observed to be an approximately six-square-foot area which was dark brown in color. The area of soil is bounded on one side by the diking surrounding the tank, and on the other side by the street. The staining appears to be the result of poor filling practices for Tank 29. There was a strong petroleum odor in the area of the unit.

Conclusions: Soil/Groundwater: The unit is currently releasing to soil based on the observed staining. The potential for release to groundwater is high based on the ongoing release to the soil. Groundwater is shallow at the facility, and the unit would discharge some waste to the storm sewer during rainfall events.

Surface Water: The potential for release to surface water is low, due to the underground location of the unit.

Air: The unit is currently releasing to the air. A petroleum odor was noted at the unit.

Subsurface Gas: The potential for generation of subsurface gas is moderate. Bacterial action on the organics could contribute to gas generation.

Suggested Further Action: A subsurface investigation to determine the extent of contamination is suggested.

Unit No.: SWMU No. 37 (Photo 10)

Unit Name: Tank 30 Spill Site

Unit Location: The unit is located approximately 100 feet north of SWMU 36.

Unit Description: This unit is a 500-gallon diesel fuel tank located outdoors. The unit serves as an intermediate holding tank for a larger tank located approximately 100 feet to the south. The tank is constructed of steel and stands on a concrete pad approximately 5 by 10 feet that is surrounded by gravel. There is no secondary containment for the tank.

Dates of Operation: This unit has been in operation since the 1980s.

Wastes Managed: This unit manages diesel fuel oil (D001) used to heat Building 13.

Release Controls: There is no secondary containment around this unit.

History of Releases: According to DCSC personnel, there have been intermittent spills at this unit. The fill valve around the bottom of the tank, concrete area of about 3 feet in diameter and the gravel area adjacent to the pad shows evidence of a release.

VSI Observations: At the time of the VSI, the unit was observed to be a stained area of several feet surrounding a tank valve on the tank's north side.

Conclusions: Soil/Groundwater: An ongoing release potential to the soil and groundwater is high because this unit came into being as the result of routine systematic releases.

Surface Water: The ongoing potential for a release to nearby surface waters is moderate to high due to presence of nearby storm sewers which drain to nearby Mason Run.

Air: The potential for a release to air is high. The area is stained and diesel fuel is volatile.

Subsurface Gas: The potential for generation of subsurface gas is moderate to high. The diesel fuel could serve as a substrate for soil microorganisms.

Suggested Further Action: A subsurface investigation to determine the extent of contamination is suggested.

Unit No.: SWMU No. 38 (Photo 5)

Unit Name: Building T-79 Wash Rack System

Unit Location: This unit is located in the northeast corner of the facility along Pershing Avenue. (See Figure 4).

Unit Description: Building T-79 formerly housed the equipment and vehicle wash racks. The unit currently operates as an office for DRMO. The building contains a central grate-covered basin in a concrete floor that collected and directed wash water and residue into a small sump which settled out solids and acted as an oil/water separator. The grated area is approximately 2 by 3 feet and is 18 inches deep. The sump was approximately 12 by 12 inches. The waste oil was skimmed off and put into drums for disposal by the DRMO. (References 4, 89).

Dates of Operation: This unit was in operation prior to 1980 and ceased operating in 1987.

Wastes Managed: The unit formerly managed waste wash water waste oils, and grits that were generated as vehicles were cleaned.

Release Controls: The unit is located indoors. A grated basin managed drainage from the vehicle washing operation. The small sump acted as an oil/water separator. Oil was skimmed off and the aqueous phase drained to a sanitary sewer system, although in the past it reportedly drained directly Mason Run.

History of Releases: The unit reportedly released wastewater to Mason Run. No indication of a release was observed during the VSI.

VSI Observations: During the VSI, the unit was observed to be a grated covered basin with a sump that contains a small amount of liquid.

Conclusions: Soil/Groundwater: The past potential for release to soil or groundwater was low to moderate because of the nature of the wastes formerly managed at this unit. The current potential for a release is low because wastes are no longer managed in this unit.

Surface Water: The past potential for release to surface water was high because oils and grease may have been discharged directly to Mason Run. The current potential is low because wastes are no longer managed in this unit.

Air: The past potential for a release to air was low to moderate due to the low volatility of oils an grease managed in this unit. The current potential for a release is low due to wastes are non longer managed at this unit.

Subsurface Gas: The past potential for the generation of subsurface gas was low to moderate due to the nature of the wastes managed in the unit and contact with any microbes would be unlikely.

Suggested Further Action: Sampling of sediments in Mason Run for the Appendix VIII hazardous constituents is suggested.

Unit No.: SWMU No. 39 (Photos 5, 6)

Unit Name: Building T-78 Steam Cleaning Rack System

Unit Location: This unit is located in Building T-78 which is on the east side of DCSC midway on 17th Street. (See Figure 4).

Unit Description: Building T-78 formerly housed the vehicle steam cleaning rack. Vehicles were passed through and cleaned with high pressure steam hoses. The unit currently operates as an office for DRMO. The building contains a central grate covered basin and a small concrete sump which collected and directed waste wastewater, residues of grit and oil. The small sump that settled out solids acted as an oil/water separator. The grated area is approximately 2 by 3 feet and 1 1/2 feet deep. The sump is approximately 1 foot square (Reference 89).

Dates of Operation: This unit was in operation prior to 1980 and ceased operating in 1987.

Wastes Managed: The unit formerly managed waste wash water, waste oils, and solids that were generated as vehicles were cleaned.

Release Controls: The unit is located indoors. A grated basin accepted drainage from steam cleaning operations. The small sump acted as an oil/water separator. Waste oil was skimmed off and placed in drums. The aqueous phase drained to a sanitary sewer, although in the past, it reportedly drained directly to Mason Run.

History of Releases: The unit reportedly released wastewater to Mason Run. No indication of a release was observed during the VSI.

VSI Observations: During the VSI, the unit was observed to be a grated covered basin with a sump that contains a small amount of liquid.

Conclusions: Soil/Groundwater: The past potential for release to soil or groundwater was low to moderate because of the nature of the wastes formerly managed at this unit. The current potential for a release is low because wastes are no longer managed in this unit.

Surface Water: The past potential for release to surface water was high because oils and grease may have been discharged directly to Mason Run. The current potential is low because wastes are no longer managed in this unit.

Air: The past potential for a release to air was low to moderate due to the low volatility of oils an grease managed in this unit. The current potential for a release is low due to wastes are non longer managed at this unit.

Subsurface Gas: The past potential for the generation of subsurface gas was low to moderate due to the nature of the wastes managed in the unit and contact with any microbes would be unlikely.

Suggested Further Action: Sampling of sediments in Mason Run for the Appendix VIII hazardous constituents is suggested.

Unit No.: SWMU No. 40 (Photos 29, 30)

Unit Name: Building 330 Former Trash Compactor/Burning Grounds

Unit Location: The unit is located adjacent to Building 330 in the north east quadrant of the facility. (See Figure 4).

Unit Description: Trash compacting operations are no longer conducted here. Only a concrete pad with a depression for the compactor and its dumpster is left. The unit is a concrete area approximately 100 feet on a side, with a depression approximately 40 feet long and 15 feet wide which slopes from ground surface to a depth of 9 feet. The depression is located in the northwest corner of the unit. The facility representative could furnish no information on the operations of the unit, other than to state that a compactor had in fact operated at this site in the late 1970s. It is believed that cardboard and wooden boxes were brought here to be compacted prior to being removed to the sanitary landfill. The facility representative also believes that a burning ground was at the location prior to the establishment of the compactor. It is believed that waste solvents and other organics were brought to this area and ignited as a method of disposal. Neither information on the dates of operation nor the amount of waste disposed could be obtained (Reference 89).

Dates of Operation: The trash compactor reportedly operated during the 1970's. The burning ground operated for an unknown time period prior to that.

Wastes Managed: Although the facility could not determine what particular wastes were managed here, it seems likely that wooden and cardboard boxes would have been managed at the unit. Solvents and other ignitable material (D001) would have been managed at the previous unit.

Release Controls: When in operation, the trash compactor was placed on a concrete surface in a depression. No release controls would have been in place for the burning ground.

History of Releases: No releases have been reported from this trash compactor, nor were any observed during the VSI. The waste management practices at the burning ground would have constituted a routine systematic release.

VSI Observations: The trash compactor, in its current state, appears to be a large concrete pad approximately 10,000 square feet in area. The concrete is cracked in some place, and grasses have begun to grow through its surface. There was no staining observed at the trash compactor during the VSI.

Conclusions: Soil/Groundwater: The potential for release to soil, groundwater, surface water, and air by the trash compactor is low due to the secondary containment and the wastes the trash compactor reportedly managed. However, the unit was reportedly built over an old burning ground used by the facility to dispose of waste solvent and oils. The past potential for release to soil and groundwater from this old burning ground would have been high.

Air: The potential for a release to air is low due to the trash compactor's location under a concrete cap.

Surface Water: The potential for a release to surface water is low due to the burning ground's location which is under a concrete cap.

Subsurface Gas: The potential for subsurface gas generation is moderate given the assumed presence of low molecular weight hydrocarbons and soil microbes.

Suggested Further Action: Soil sampling for the Appendix VIII constituents beneath the concrete cap and to the north of the unit is suggested. Soil sampling should be conducted to a depth of not less than 10 feet.

Unit No.: SWMU No. 41 (Photo 31)

Unit Name: Building 330 Classified Document Shredder

Unit Location: The unit is located inside Building 330 which is in the southwest quadrant of the facility. (See Figure 4).

Unit Description: The unit is a paper shredder used for the destruction of classified documents. It is constructed of steel, with a large hopper where paper is placed in order to discharge to a shredding device for the destruction of the documents. A 25-gallon trash barrel to which the confetti-like waste is discharged, is located beneath the unit. The unit is reportedly used only occasionally. The shredded documents are placed in a dumpster for eventual disposal at the sanitary landfill (Reference 89).

Dates of Operation: The unit has been in operation for several years according to the facility representative.

Wastes Managed: The unit manages waste paper which must be shredded because of security considerations.

Release Controls: The unit is located indoors on a concrete floor.

History of Releases: No releases have been reported from this unit, nor were any observed during the VSI.

VSI Observations: The unit was observed during the VSI to be an electrically-powered paper shredder. It is in a room approximately 15 feet square.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste managed there.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 42 (Photo 32)

Unit Name: Building 330 Scrap Pile

Unit Location: The unit is located north and west of Building 330. (See Figure 4).

Unit Description: The unit is an area of bare soil which is used to manage construction and other debris which will not easily fit in dumpsters. The area of the unit is approximately 50 by 30 yards. Debris is brought to the unit whenever necessary. The material is stored at the unit until enough material is available to warrant disposing of it at the sanitary landfill (Reference 89).

Dates of Operation: The unit has reportedly been in operation since prior to the 1980s.

Wastes Managed: Construction and other debris are reported to be managed here. At the time of the VSI, this consisted of piping and old fuel oil tanks.

Release Controls: There are no release controls at this unit.

History of Releases: No releases are reported to have occurred from this unit, nor were any noted at the time of the VSI.

VSI Observations: During the VSI, the area was observed to consist of several small (less than 25 square yards) piles of debris. One pile consisted of what appeared to be piping from the facility's water main system. Another consisted of several rusted out above ground 250 gallon fuel oil tanks. No releases were observed from any of these piles.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste managed at the unit.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 43 (Photo 26)

Unit Name: Fire Department Wash Rack

Unit Location: The unit is located in the parking bay of the fire station, Building 46. (See Figure 4).

Unit Description: The unit is used to manage wash water from vehicle and equipment cleaning activities associated with the fire department. The unit also acts as the garage for the fire truck. The unit is an in-ground system designed to manage wash water from the above-mentioned cleaning activities. An in-ground drainage sump approximately nine square feet in area and five feet in depth acts as the primary receptacle for the wash water. The floor of the garage area is graded so that wash water drains to the sump. This unit, which is of concrete construction and covered by a metal grate, discharges to an underground storage tank located approximately 35 feet north of the sump. The tank is of concrete construction and reportedly has dimensions of seven by ten by five feet. It is reportedly pumped out twice per year according to the facility representatives. The unit would manage detergents and sludge which may be contaminated with oil and grease. The unit would be used, at a minimum, after any fire to which the department responded, and probably more frequently. The facility could not report where the sludge was disposed (Reference 89).

Dates of Operation: The unit has been in continuous operation reportedly since sometime in the 1980s.

Wastes Managed: The unit manages wash water which would contain detergent, and potentially, oil, grease, soot and other materials.

Release Controls: The unit is of concrete construction and appears to be well maintained. No secondary release controls were noted.

History of Releases: No releases have been reported, nor were any noted during the VSI.

VSI Observations: The visible part of the unit consisted of the in-ground access to the sump. This portion was located in the approximate center of the garage. The floor was painted and appeared unstained, and the sump itself appeared uncracked.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste managed and the waste management practices.

Suggested Further Action: The facility should determine that the sludge from the unit is disposed in an appropriate manner.

Unit Nos.: SWMUs No. 44, 45, 46, 47, 48 (Photo 34)

Unit Name: Building 308 Sawdust Collector System (SWMU 44)
Box Shop Sawdust Collector System (SWMU 45)
Building 42-9 Sawdust Collector System (SWMU 46)
Building 17-4 Sawdust Collector System (SWMU 47)
Building 14 Sawdust Collector System (SWMU 48)

Unit Location: These units are located throughout the facility. The unit names identify their locations. (See Figure 4).

Unit Description: These units are used for the management of sawdust generated in the course of general carpentry work carried on at the facility. The units consist of indoor conduit systems which are used to remove sawdust from the air and equipment. A large fan, located above a baghouse, is used to pull a vacuum on the conduits which then remove sawdust from inside the buildings to the baghouse. The bag house sits above a metal dumpster which range in size from two to five cubic yards in volume. The contents of the bag house are discharged to the dumpster on an as needed basis and the dumpsters are then picked up by the facility's solid waste management contractor Ohio Disposal Systems and transported to the Bedford or Franklin County Sanitary Landfill (References 4, 89).

Dates of Operation: These, or similar units have been in operation at the facility since at least the 1970s.

Wastes Managed: The units manage sawdust which is generated during general carpentry activities at the facility.

Release Controls: The units consist of an integral conduit and baghouse system which is then discharged to a dumpster via pipe or hose.

History of Releases: No releases have been reported from these units, nor were any noted at the time of the VSI.

VSI Observations: The units were observed during the VSI to consist of outdoor baghouse and dumpster components, and indoor collection conduits. The outdoor components were all placed on concrete or asphalt surfaces. None of the units was observed to be releasing at that time.

Conclusions: The potential for release to all media is low based on the wastes managed.

Suggested Further Action: No further action is suggested for these units at this time.

Unit Nos.: SWMUs No. 49, 57, 62, 70

Unit Name: Building 308 Paint Spray Booth Filter System (SWMU 49)
Building 9 Paint Spray Booth Filter System (SWMU 57)
Building 11 Paint Spray Booth Filter System (SWMU 62)
Building 14 Former Paint Spray Booth Filter System (SWMU 70)

Unit Location: These units are found throughout the facility in the buildings indicated by their unit names. (See Figure 4).

Unit Description: These units are all impact filters used to remove paint droplets from the air before the air is vented out of the booth. The units consist of two or more flat filters which are approximately four feet by two feet in dimension. The booths are equipped with fans which pull a vacuum in the booth causing the air to move through the filter units and causing the paint mist or droplets to impact on the filters. The filters are changed on an as-needed basis. The used filters are placed in facility dumpsters and eventually deposited at the sanitary landfill (Reference 89).

Dates of Operation: SWMU 49 has been in operation since sometime in the 1970s. SWMU 62 has been in operation since 1988. SWMU 57 has been in operation since prior to the 1980s. SWMU 70 operated from the 1940s until sometime in 1987.

Wastes Managed: Waste paint which may contain cadmium, chromium, and lead (D006, D007, D008) is managed at these units.

Release Controls: The units are (or were) part of an air scrubber system to remove paint mist. Since the paint mist dries on impact there is little likelihood of releases occurring.

History of Releases: No releases have been reported from any of these units, nor were any noted during the VSI.

VSI Observations: SWMUs 49, 57, and 62 were observed during the VSI. SWMUs 49 and 62 were both small units. SWMU 49 was used for sign painting and was a sheet metal booth approximately eight by five feet by eight feet tall, with two filters at the outlet of the top of the unit. The other two units (SWMUs 57 and 70) were larger. They were capable of being used to paint a truck. They had approximately six filters at the outlet point and were also constructed of sheet metal. All three units were indoors, and appeared well managed. SWMU 70 was reported by the facility representative to be much larger and was actually two large bays within the former motor pool at Building 14.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste management practices.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 50 (Photo 35)

Unit Name: Building 308 Paint Shop Outdoor Accumulation Area

Unit Location: The unit is located on the north side of Building 308 immediately next to the Paint Shop door. (See Figure 4).

Unit Description: The unit consists of two 80-gallon drums which are used for the accumulation of waste solvent and paint generated at the paint shop. One of the drums was placed on a pallet while the other drum was placed directly on the asphalt surface. There was no containment structure associated with the drums. The wastes are initially accumulated in a five-gallon can in the shop. When the can is full, it is then poured into one of the two drums using a funnel. The drums are picked up when full and stored at the Building T-82 Hazardous Waste Storage Area (SWMU 7). The waste is then picked up by contractor and either reclaimed or treated prior to disposal (Reference 89).

Dates of Operation: The unit has been in operation since sometime in the 1980s.

Wastes Managed: The unit manages waste paint and solvents which may be ignitable (D001) and contain cadmium, chromium, and lead (D006, D007, D008).

Release Controls: The drums sit on an asphalt surface, however there are no secondary release controls for the unit, and the area where the unit is placed is subject to some vehicular traffic.

History of Releases: No releases have been reported from this unit, nor were any noted at the time of the VSI.

VSI Observations: Both drums appeared to be in good condition at the time of the VSI. Some slight staining was noted on their sides although none was evident on the asphalt around the drums.

Conclusions: Soil/Groundwater: The potential for a release to soil or groundwater is low due to the asphalt surface on which the drums are placed. There is however a potential for the drums to be knocked over in a traffic accident.

Surface Water: The potential for a release to surface water is low; there are no surface water areas nearby.

Air: The potential for a release to air is moderate due to the outdoor location of the unit and the nature of the volatility of solvents that may be in the waste.

Subsurface Gas: The potential for the generation of subsurface gas is low; the unit is on an asphalt surface.

Suggested Further Action: Placing a dike around the unit is suggested.

Unit No.: SWMU No. 51 (Photo 36)

Unit Name: Facility Dumpsters

Unit Location: The units are located throughout the facility. (See Figure 4).

Unit Description: There are approximately 75 dumpsters located throughout the facility. They are all closed top and of metal construction, ranging in size from two to 24 cubic yards. The dumpsters at the facility manage refuse and in some cases construction debris. They are for the most part located on either asphalt or concrete surfaces, although some are found on soil or gravel. The facility has contracted with Ohio Disposal Systems, who furnish the dumpsters and maintain them. The individual units are emptied on a variety of schedules, ranging from daily to monthly. Waste from the dumpsters is deposited at the Bedford and Franklin County Sanitary Landfills (References 67, 89).

Dates of Operation: These units or others of much the same design have reportedly been in operation at the facility since sometime in the 1940s.

Wastes Managed: Non-hazardous solid waste such as office supply refuse is managed at these units.

Release Controls: The units are of solid steel construction with closeable tops. They are located for the most part on impervious surfaces and are not intended to manage liquid wastes.

History of Releases: No releases have been reported from these units, nor were any observed during the VSI.

VSI Observations: Not all units were observed during the VSI. Those which were, appeared to be well maintained and no releases were observed.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste managed and the waste management practices.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 52 (Photos 37, 38)

Unit Name: Central Heating Plant Air Pollution Control System

Unit Location: The unit is located at the Central Heating Plant in the northern part of the facility. (See Figure 4).

Unit Description: The unit is a ducting and electrostatic precipitator system (ESP) which is used to scrub particulates from the coal fired boilers' flue gas. It is operated under an OEPA Air Permit (No. 0125040219). The system consists of individual metal ducts leading from each of the four boilers which terminate at a manifold. Above the manifold is a plenum with a fan to induce a vacuum. This fan is used to maintain the velocity of the gases as they exit the boilers. Gas from the plenum is forced through a cyclonic precipitator where larger particulates are removed. These particulates flow down more ducting to the Central Heating Plant Ash Handling System (SWMU 2). The gas continues through the duct work passing through another induction fan to the two stage electrostatic precipitator. The fines which were not removed by the cyclone system are removed when they pass through the ESP. The screens of the ESP are constantly shaken and the fines pass to the bottom where they are also discharged to SWMU 2. The flue gas is then directed via more duct work to the Heating Plant Stack which is approximately 70 feet high. The duct work in the unit ranges in size from three to six feet in diameter. All equipment is of steel construction, and the unit is designed to operate in a continuous mode. The unit operates full time during the heating season, which runs from approximately October to May (Reference 89).

Dates of Operation: The cyclone system was installed in 1964, and the ESP system in 1978.

Wastes Managed: Flue dust from boiler operations is managed at the unit.

Release Controls: The unit is of steel construction, and consists of integral ducting between various pieces of air pollution control equipment.

History of Releases: No releases have been reported from this unit. The unit was not operational at the time of the VSI.

VSI Observations: The system was not in operation at the time of the VSI. The equipment which comprises the unit appears to be in good operating condition.

Conclusions: The potential for release to all media is low based on the waste management practices at the unit. Prior to 1964 the facility boilers would routinely have released fly ash particulates.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU 53 (Photo 42)

Unit Name: Facility Trash Compactors

Unit Location: The units are located on the north and south of Building (See Figure 4).

Unit Description: There are two trash compactors used at this facility for managing boxes and crates. They are both 42 cubic yards, closed-top, and of steel construction. The units are serviced by a conveyor system which runs throughout the buildings. Waste from the trash compactors is deposited at the Bedford and Franklin County Sanitary Landfills (References 67, 89).

Dates of Operation: These units or others of much the same design have reportedly been in operation at the facility since the 1970s.

Wastes Managed: Nonhazardous solid waste such as office supply refuse is managed at these units.

Release Controls: The units are of solid steel construction with closeable tops. They are located for on impervious surfaces and are not intended to manage liquid wastes.

History of Releases: No releases have been reported from these units, nor were any observed during the VSI.

VSI Observations: The unit which was observed appeared to be well maintained and no releases were observed.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste managed and the waste management practices.

Suggested Further Actions: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 54

Unit Name: DRMO Scrap Pile

Unit Location: The unit is located on the eastern end of the facility, where DRMO manages surplus equipment and vehicles. (See Figure 4).

Unit Description: This unit consists of a pile of metal scraps. The scraps include piping, conduit, sheet metal and any other metallic refuse. At the time of the VSI, the pile was approximately 25 yards wide, 40 yards long, and 15 feet high. This scrap is accumulated until a sufficient volume is available to make it worth while for salvage operators to bid on it for removal. The DRMO accepts the metal scrap from a number of nearby federal facilities. The scrap is removed by the successful bidder and is recycled. The volume of scrap at the time of the VSI was in the process of being bid on and would have been removed soon thereafter. The amount of time scrap accumulates at the unit is variable, according to the facility representatives (Reference 89).

Dates of Operation: This unit has been in operation at the facility since the DRMO unit began operating in 1980.

Wastes Managed: The unit manages various sorts of scrap metal.

Release Controls: There are no release controls associated with this unit, however the wastes managed at the unit are intended to be non-hazardous, so that a release from the unit is unlikely.

History of Releases: No releases have been reported from this unit, nor were any observed at the time of the VSI.

VSI Observations: At the time of the VSI, the pile was observed to consist of a variety of different metals, including steel, and copper. There was no evidence of release at the time of the VSI.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the waste managed and the waste management practices.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 55

Unit Name: Building 9 Waste POL Drum Storage

Unit Location: This unit is located in Building 9, adjacent to the solvent cleaning operations. (See Figure 4).

Unit Description: The unit is located indoors on a concrete floor approximately 30 by 15 feet in area. It is located next to two metal overhead sliding doors. There is no berm to prevent a spill from discharging outside. The unit serves as a storage area for fifteen to twenty drums of mixtures of various oils used in the testing of heavy equipment undergoing maintenance (Reference 89).

Dates of Operation: This area has been used as a drum storage area since about 1969, according to the facility representatives.

Wastes Managed: This unit manages waste oils that are used in testing of heavy construction machinery and vehicles that are undergoing maintenance operations. The wastes are drained from the equipment and placed in these drums. According to DCSC personnel, some of these drums have been in this area for years.

Release Controls: The drums are stored on wooden pallets near the overhead sliding doors on the west side of Building 9 so that in case of a leak it would drain outside. The only visible demarcation for the units is a yellow caution line that outlines it. There are no dikes, catch basins, or any secondary containment systems, other than the concrete floor.

History of Releases: According to the file material reviewed and DCSC personnel interviewed, there has been no known release since the drums have been stored in the area.

VSI Observations: During the VSI, there was evidence of slight staining within the drum storage area.

Conclusions: Soil/Groundwater: The potential for release to the soil is low to moderate. The area is located indoors and the area immediately outside is concrete paved.

Surface Water: The potential for a release to surface water is low due to the indoor location and the area immediately outside the unit is concrete paved.

Air: The potential for a release to the air is low due to indoor location of the wastes being contained in drums and the unit.

Subsurface Gas: The potential for the generation of subsurface gas is low due to wastes being managed in drums and the indoor location of the unit.

Suggested Further Action: A dike system around this unit is suggested in order to contain possible future spills.

Unit No.: SWMU No. 56

Unit Name: Building 9 POL Storage Area Sumps

Unit Location: The unit is located in the POL storage area of Building 9. (See Figure 4).

Unit Description: This unit is composed of two, blind, in-floor sumps which are located within the POL Storage Rooms. The POL Storage Rooms manage 55-gallon drums of various types of oil for use at DIPEC. The rooms are also used for storage of the vacuums used for emptying the various metal turning and working machines used at DIPEC. The sumps are four feet square by two feet deep, and covered with metal grates. The sumps are used for management of spills from transfer operations involving the drums. These sumps are emptied on an as-needed basis. The waste oils are transferred in 55-gallon drums to the DRMO (on the facility) where they are sold for recovery as fuel (Reference 89).

Dates of Operation: The unit has been in operation since approximately 1974, according to facility representatives.

Wastes Managed: The unit manages waste oils from POLs which are stored in the rooms.

Release Controls: The unit is an in-floor sump, located in-doors, with no external connections.

History of Releases: No releases have been reported from this unit, and none were observed during the VSI.

VSI Observations: Although the floors in both of these rooms were oil coated the sumps were not over-filled, and appeared to be in good operating condition.

Conclusions: There is a low potential for release to all media from this unit due to its location and design.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 58

Unit Name: Safety Kleen Units

Unit Location: These units are located at the DIPEC and Motor Pool Facilities. (See Figure 4).

Unit Description: There are nine of these units located at the facility. They are all of metal construction and used for cleaning parts in repair or refit work. The units are either 55 or 30 gallon metal drums, which contain an organic solvent, with sinks installed on their tops. The sinks drain to the drums making the units self contained and recirculating. The contractor, Safety Kleen, picks up the entire units and replaces them with new ones which contain clean solvent every two weeks. The used units are removed to a Safety Kleen facility where the solvent is redistilled and used again (Reference 89).

2nd Containment

Dates of Operation: These units have been in operation since approximately 1987. Currently, all activities utilizing solvent for small parts cleaning are carried out at these units exclusively.

Wastes Managed: These units manage waste flammable solvents (D001) which are proprietary, and may be contaminated with metals and oily sludges.

Release Controls: These units are all located indoors and are constructed in such a way as to keep the solvent within the confines of the unit at all times.

History of Releases: No releases have been reported from these units, nor were any observed at the time of the VSI.

VSI Observations: The units observed during the VSI were part of repair or refit operations at DIPEC or the Motorpool. They were observed to be clean and in good operating order at that time. No releases were observed at the time of the VSI.

Conclusions: The potential for release to soil, groundwater, surface water or air, and for subsurface gas generation is low based on the indoor location and the waste management practices for the components.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 59

Unit Name: Building 9 POL Former Solvent Dipping Tank

Unit Location: This unit is located in Building 9. (See Figure 4).

Unit Description: This unit was formerly used as a dip tank for cleaning and degreasing small machine parts. It is constructed of metal, covered and approximately 6 feet by 4 feet by 3 feet. It appeared to contain approximately 50 to 75 gallons of contaminated solvents. The unit is no longer in service (Reference 89).

Dates of Operation: The date of start-up for this unit is not known. It is assumed to have stopped operation in 1987 or 1988.

Wastes Managed: This unit currently manages waste solvents which may be ignitable (D001).

Release Controls: This tank had no integral secondary containment system. It was standing on a concrete floor in Building 9 away from any work area, but next to an overhead door.

History of Releases: According to the file material reviewed and to DCSC personnel interviewed, there was no indication of any releases from this unit. There was no staining of the concrete around the unit or any other sign of a release during the VSI.

VSI Observations: The unit was observed to be a tank formerly used for cleaning small parts, which was no longer in service.

Conclusions: Soil/Groundwater: Due to the construction of the unit and its indoor location, the potential for a release to the soil or groundwater is low.

Surface Water: Due to the construction of the unit and its indoor location, the potential for a release to surface water is low.

Air: The unit was covered and there was no significant odor when the unit was opened, so the potential for a release to air is also low.

Subsurface Gas: The potential for

subsurface gas generation is also low due to the units construction and location.

Suggested Further Action: Consider removal of this unit. The waste solvent should be disposed of properly.

Unit No.: SWMU No. 60

Unit Name: Building 11 Waste POL Handling System

Unit Location: The unit is located in Building 11. (See Figure 4).

Unit Description: This unit consists of a stainless steel U-shaped sink that is separated into two sections by a stainless steel divider and two tanks located immediately outside of the building. Both sides are equipped with drain pipes that direct waste oils to the tanks located outside the building. Each tank has a capacity of 75 gallons. The sink drains waste hydraulic and engine oils to one outside tank, and when that tank fills it overflows into the second tank (Reference 89).

Dates of Operation: This unit has been in operation since February, 1989.

Wastes Managed: This unit manages waste oil and hydraulic fluids from repair and maintenance operations. About 300 gallons of these wastes are generated annually. These wastes are collected and transported to the DRMO.

Release Controls: The indoor location of the unit accepts small volumes of waste. The system's drains are connected directly to the tanks outside via integral metal pipes. The outdoor tanks were above ground and were placed on undiked concrete pads.

History of Releases: There is no information in the file material or from DCSC personnel on any release from this unit. During the VSI, there was no indication of any release.

VSI Observations: During the VSI, the unit was observed to be a stainless steel metal sink located in doors on a concrete floor, connected to two metal above ground tanks.

Conclusions: Soil/Groundwater: The potential for release to soil or groundwater is low due to the unit's indoor location. The potential for a release to the soil from the tanks is moderate to high due to the absence of any diking on the concrete pads.

Surface Water: The potential for a release to surface water is low due to the absence of any nearby water ways.

Air: The potential for a release to air is low due to the indoor location of the units and the sealed nature of the tanks.

Subsurface Gas: The potential for generation of subsurface gas is low due to the above ground location of the tanks.

Suggested Further Action: Construction of a dike around the tank is suggested.

Unit No.: SWMU No. 61

Unit Name: Building 11 Wash Rack System

Unit Location: This unit is located inside Building 11. (See Figure 4).

Unit Description: The unit is a drain that accepts waste wash water and solids from the vehicle steam cleaning area. The drain is metal covered and approximately one square foot. It is centrally located in a sloped concrete floor, and contains a screened base to collect solids and other debris. The aqueous portion drains to the Sanitary Sewer (SWMU 77). The unit is used on an as-needed basis at least weekly.

Dates of Operation: This unit has been in operation since 1988.

Wastes Managed: The unit manages wash water, grease, oil, grit, and other solids that are generated when vehicles are steam cleaned.

Release Controls: The unit is located indoors at the central part of a sloped area. The unit is connected directly to the facility's sanitary sewer system.

History of Releases: There is no history of any release from this unit nor were any releases noted during the VSI.

VSI Observations: The unit was observed during the VSI to be a metal screened drain located in the center of an indoor garage bay.

Oil Water Separator?

Conclusions: The type of wastes generated and the waste management practices (discharge to the Sanitary Sewer (SWMU 77)) make potential for a release unlikely, therefore, the potential for a release to all media is low.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 63

Unit Name: Building 11 Paint Spray Booth Accumulation Point

Unit Location: The unit is located next to the Paint Booth (SWMU 62) in Building 11, Section 2. (See Figure 4).

Unit Description: The unit is a 15-gallon metal barrel, located indoors on a wooden platform above a concrete floor. The unit accepts waste paint-related materials on an as-needed basis from the spray painting operation. Accumulation of waste until the barrel is full reportedly takes several months. The barrel is transported to the DRMO (located on the facility) on an as-needed basis.

Dates of Operation: The unit has been in operation since 1987.

Wastes Managed: This unit manages waste paint and residues from a spray paint operation. (These wastes may be ignitable (D001) and contaminated with cadmium, chromium (D006, and D007, and D008).

Releases Controls: The drum is placed on a small wooden platform and is located indoors.

History of Releases: There was no indication in the file material reviewed and DCSC personnel knew of no release from this unit. There was no indication of any release during the VSI. The paint spray booth was undergoing expansion during the VSI.

VSI Observations: No evidence of spills were noted in the area of the unit.

Conclusions: Because of the indoor location of the unit the potential for release to the soil, groundwater, surface water, and the generation of subsurface gas is low.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 64

Unit Name: Building 11 Battery Storage Room

Unit Location: This unit is located in Building 11, Section 2. (See Figure 4).

Unit Description: The unit is a multipurpose battery room used at the facility for; storage and drainage of old batteries recharging of heavy equipment batteries, and preparation of new batteries. It replaces SWMU 69 Building 14 that was Former Battery Neutralization Unit in 1988. The room is approximately 50 feet square and 15 feet high. It is of concrete construction with a four-foot-square blind sump with a depth of two feet. Recharging activities occur on racks on the west wall of the unit. Old batteries are brought here, where they are emptied into a barrel and their acid is diluted. Contents of this barrel are then discharged to a 15-gallon plastic barrel which was originally used to store fresh battery acid. Approximately six to seven barrels are returned to the DRMO yearly, where they are picked up by a contractor for disposal. Several pallets are used to accumulate old batteries. These are returned to the DRMO on an as-needed basis. The sump is located in the approximate center of the floor and is used for spill management (Reference 89).

Dates of Operation: According to DCSC personnel, these units have been in operation since 1988.

Wastes Managed: The units manage waste battery acid (D002) and batteries (D008).

Release Controls: The unit is a room of concrete construction equipped with an in-floor blind sump to contain any leak or spill.

History of Releases: According to DCSC personnel and the file material reviewed, no releases from these units have been reported. There was no evidence of a release from this unit during the VSI.

VSI Observations: The unit was observed to be a multi-purpose room of concrete construction. The floor was wet with water from a recent wash down of the floor.

Conclusions: Soil/Groundwater: Due to the indoor location and the containment of battery fluids in drums, the potential for release to the soil or groundwater is low.

Surface Water: Due to the indoor location and the containment of battery fluids in drums, the potential for release to the surface water is low.

Air: Due to the indoor location and the containment of battery fluids in drums, the potential for release to the air is low.

Subsurface Gas: Due to nature of the waste and waste management practices the probability of the subsurface generation of gas is low.

Suggested Further Action: No further action is suggested for this unit at this time.

SWMU 7

Unit No.: SWMU No. 65

Unit Name: Building 11, Scrap Bins

Unit Location: This unit is located in Building 11. (See Figure 4).

Unit Description: This unit is a metal bin approximately eight feet by eight feet and four feet deep. It is placed on a concrete surface indoors, near a loading dock. This unit manages scrap metal and millings from machining operations carried out in Building 11. This unit is transported to the DRMO for disposal on an as-needed basis, where it is sold for scrap.

Dates of Operation: This unit has been in operation since 1987, according to DCSC personnel.

Wastes Managed: This unit manages scrap metals and millings from machining operations. The wastes are transported to the DRMO for recycling.

Release Controls: The unit is located indoors on a concrete floor.

History of Releases: Releases have not been documented for this unit. There was no evidence of a release during the VSI.

VSI Observations: The unit was observed to be managing scrap metal during the VSI.

Conclusions: Due to the unit's design and the nature of the wastes managed (scrap metals), the potential for a release to the soil, groundwater, surface water, air is low. There is no potential for generation of subsurface gas.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 66

Unit Name: Facility Floor Cleaning Units

Unit Location: These units are located in Building 11; however they are used throughout the facility. (See Figure 4).

Unit Descriptions: There are two motorized floor cleaning units in operation. They are assigned to clean the floors at the DCSC facility on a regularly scheduled basis.

These units are equipped with scrubber brushes, a 200-gallon water tank, detergent, and a vacuum device to collect dirty water and debris during the cleaning operation. Dirty water from the tanks of these units is discharged to the sanitary sewer.

Dates of Operation: These two units have been in operation about ten years.

Wastes Managed: These units manage dirty water and debris. The debris is transferred to dumpsters and the dirty water drains to the sanitary sewer system.

Release Controls: The units contain a holding tank for the debris and dirty water.

History of Releases: There are no documented releases from these units. There was no evidence of a release during the VSI.

VSI Observations: The units were observed to be commercially available floor sweepers.

Conclusions: Due to the nature of the wastes, the potential is low for a release to soil, groundwater, surface water, air, and for the generation of subsurface gas.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 67

Unit Name: Facility Street Sweeper

Unit Location: This unit is located in Building 11. (See Figure 4).

Unit Description: This unit is a motorized vehicle with a cab for the driver and a refuse container with two large brushes attached to the cab. The unit is used to clean the streets around the facility on a regularly scheduled basis. The debris collected is transferred to large dumpsters for disposal in the local sanitary landfill.

Dates of Operation: This unit has been in operation since prior to the 1980s.

Wastes Managed: Non-hazardous wastes such as food wastes, gravel and pebbles, paper, broken glass, plastic debris and dirt are collected during the sweeping operation. These wastes are transferred to dumpsters for transport to local sanitary landfills.

Release Controls: No release controls have been documented for this unit.

History of Releases: There is no history of a release from this unit. The unit was not in operation during the VSI. There was no evidence of any release during the VSI.

VSI Observations: The unit was not observed in operation during the VSI.

Conclusions: The potential for release to any media is low because of the nature of the wastes managed.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 68

Unit Name: Building 14 Floor Drains

Unit Location: These units are located in Building 14. (See Figure 4).

Unit Description: These units are in-floor grate-covered drains (approximately six inches square) that connect to the sanitary sewer system. These drains formerly connected directly to Mason Run. The drains are located inside the Building 14 maintenance bay which formerly housed the Motor Pool Operations. They managed washwater from floor cleaning activities and possibly battery acid.

Dates of Operation: These units have been in existence since the construction of the building which was around the period of WWII. Currently, the building is inactive.

Wastes Managed: Wastes from the old motor pool operation might have been managed in these units. These wastes were solvents (D001) dirty water, oils, debris, dirt, battery acids (D002), and potash.

Release Controls: There are no release controls for these units.

History of Releases: Past releases have been documented from these units. When the units were connected directly to Mason Run, there was a high potential for sustained releases. The units were connected to the sanitary sewer system around 1983 according to the file material reviewed. According to the file material reviewed and DCSC personnel, there have been recent releases. During the VSI, no stains or other signs of a release were observed.

VSI Observations: These units were found not to be operating during the VSI.

Conclusions: Soil/Groundwater: The past potential for a sustained release to the soil and groundwater was high due to direct discharge of wastes to Mason Run. The ongoing potential for a release to soil/groundwater is low because the drains are connected to the sanitary sewer system. The past potential for a release was high since the drains were connected directly to Mason Run. The ongoing potential is low due to the connections of the drains to the sanitary sewer system, and their inactive status.

Surface Water: The past potential for a release to surface water was high due to the direct release to nearby Mason Run. The ongoing release potential is low since the discharge is to the sanitary sewer system.

Air: Due to the enclosed nature of the units the past potential for a release to air was low. The ongoing potential for a release to air is low due to the unit's inactive status and current connection to the sewer system.

Subsurface Gas: The past potential for subsurface gas generation was moderate due to the nature of the wastes. The ongoing potential for a release is low due to the current connection to the sanitary sewer system, and inactive status.

Suggested Further Action: Sediment Sampling for Appendix VIII constituents at the Mason Run area where the drains discharged is suggested.

Pipe Integrity

Unit No.: SWMU No. 69

Unit Name: Building 14 Former Battery Neutralization Unit

Unit Location: The unit was formerly located in Building 14, Section 7.

Unit Description: The unit was a separate room in the Motor Pool used to neutralize battery acid. Neither the file material reviewed nor interviews with DCSC personnel gave any information on the description of this unit (Reference 89).

Dates of Operation: This unit reportedly operated from the 1940s until 1988. Currently, this section of the building is used to store construction equipment.

Wastes Managed: The unit managed battery acids which have the characteristic of corrosivity (D002) which may have been contaminated with lead (D008).

Release Controls: There were no release controls for this unit.

History of Releases: Past releases have been documented (Reference 4). The battery acids, reportedly, drained through floor drains directly to Mason Run until the drains were connected to the sanitary sewer system around 1983. During the VSI, no signs of a release were observed.

VSI Observations: The unit was found not to exist during the VSI.

Conclusions: Soil/Groundwater: The past potential for a release to the soil and groundwater was high due to direct discharge of wastes to Mason Run. The ongoing potential for a release to soil or groundwater is low because wastes are no longer managed in this unit.

Surface Water: The past potential for a release was high due to the direct discharge of wastes to Mason Run. The ongoing potential for release is low due to wastes that are no longer managed in this unit.

Air: Due to the enclosed nature of the unit, the past potential for a release to air is low due to wastes that are no longer managed at this unit.

Subsurface Gas: The past potential for the generation of subsurface gas was low due to the nature of the wastes. The ongoing potential for generation of subsurface gas is low due to wastes that are no longer managed at this unit.

Suggested Further Action: Provide documentation as to the exact location of the unit in Building 14 and the battery acid operation.

Unit No.: SWMU No. 71

Unit Name: Building 12 Printing Waste Accumulation Point

Unit Location: The unit is located in Building 12, Section 1. (See Figure 4)

Unit Description: The unit is a lockable metal storage cabinet with dimensions of approximately four by four by two feet. The unit accumulates printing cleanup waste solvent which is flammable. The printing presses are cleaned weekly and the dirty solvent from that process is stored in five gallon cans in the unit. These cans are transported to the DRMO on a monthly basis where they are held until a contractor can dispose of them.

Dates of Operation: This unit, or one like it, has reportedly been in operation since the mid-1950s.

Wastes Managed: The unit manages waste cleanup solvent which is characteristic for ignitability (D001).

Release Controls: The unit is a lockable steel, fireproof cabinet which is located indoors.

History of Releases: No releases have been reported from this unit, nor were any noted at the time of the VSI.

VSI Observations: The unit was observed to be a yellow, fireproof metal cabinet which is located near the printing presses in Section 1. The unit is indoors, and sits on a tile floor above a concrete base.

Conclusions: The potential for release to all media from this unit is low, given its location and construction.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 72 (Photo 43)

Unit Name: Storm Sewer

Unit Location: This unit is found throughout the facility in both above and below ground locations. (See Figure 4).

Unit Description: The unit is a typical storm sewer system designed to intercept rainwater and direct it to several drain points throughout the facility. The underground portions of the unit consist of piping ranging in size from eight to 84 inches in diameter. Material of construction for the piping includes both reinforced and non-reinforced concrete and corrugated metal. The depths of the piping portion of the unit range from just below surface to approximately eight feet. There are two major areas which act as drainage ditches, Mason and Turkey Runs. Mason Run is approximately 2700 feet long and is above ground, while Turkey Run is 1800 feet long and entirely below grade. In addition, there are several other points at the facility where storm water discharges to the city storm sewer. The storm sewer system was reportedly used to manage waste oil and battery acid from the old motor pool area in Building 14 via the Building 14 Floor Drains. These wastes would have been discharged to Mason Run on the east side of the Building.

Dates of Operation: A storm sewer system of some description has been in place at the facility since its inception (circa 1918).

Wastes Managed: The system for the most part manages storm water from the facility. However, the facility representative reported that part of the system near Building 14 managed waste oil and possibly waste battery acid at some time in the past. The battery acid would have been corrosive and contaminated with lead (D002 and D008).

Release Controls: The unit has no release controls. It is designed to release to the environment.

History of Releases: The unit reportedly managed waste oil and possibly waste battery acid for some period of its operational lifetime. No releases were noted during the VSI.

VSI Observations: The unit is for the most part located below ground and therefore could not be observed. Mason Run was observed to be a straight channel approximately 20 feet wide and 15 feet below the facility grade. Those parts of its banks which were not covered with concrete were grass covered. The vegetation did not appear stressed, and no slicks were observed during the VSI

Conclusions: Soil/Groundwater: The past potential for release to soil or groundwater was high due to reported direct discharge of wastes to Mason Run. The ongoing potential for a release is low due to waste management practices (wastes go to sanitary sewer).

Surface Water: The past potential for a release to surface water is high due to the reported direct discharge of wastes to Mason Run. The ongoing potential for a release is low due to current waste management procedures.

Air: The past potential for a release to air was low due to the nature of the waste managed in the unit.

Subsurface Gas: The potential for subsurface gas generation is low, due to the relatively low concentrations of oil that would be expected to migrate to the soil. Subsurface gas generation by the battery acid is not possible.

Suggested Further Action: It is suggested that the sediments of Mason Run be sampled for the Appendix VIII constituents.

Unit No.: SWMU No. 73 (Photo 74)

Unit Name: Round House POL Storage Drum

Unit Location: The unit is located at the facility Round House, in the north west quadrant. (See Figure 4).

Unit Description: The unit is a 55-gallon drum used to store waste oil from the equipment which is maintained at the Round House. Typically a crank case, or some other oil-containing unit, is drained to a pan which in turn is emptied to the drum. The unit is sent to the DRMO on an as-needed basis where the waste is picked up by contractor.

Dates of Operation: This unit, or one like it, has reportedly been in operation at the Round House since approximately 1942, when it began operations.

Wastes Managed: The unit manages waste crank case oil from various heavy equipment used at the Round House.

Release Controls: The unit is a single drum located indoors on a concrete surface.

History of Releases: No releases have been reported from this unit, nor were any noted during the VSI.

VSI Observations: The unit was observed to be a single 55-gallon drum placed directly on the floor, inside the Round House. The floor is of concrete construction. There is no diking around the unit, however it is over twenty feet from the outside, and it is unlikely that any spill could actually release to the environment.

Conclusions: Due to the units' location and volume of waste managed, the potential for release to all media is low.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 74

Unit Name: Round House Locomotive Cleaning Area

Unit Location: The unit is located due east of the Round House (Building 313) and extends approximately 100 feet from it along the tracks. (See Figure 4).

Unit Description: The unit is an area of bare soil where facility locomotives are washed on an approximately yearly basis. Locomotives are moved to the edge of the Round House where they are pressure washed with a detergent. The bare soil under the tracks receives washwater from these activities which may be contaminated with grease and oil. The washwater percolates into the bare soil of the unit. No efforts are made to contain the washwater.

Dates of Operation: The unit has reportedly been in operation since before the 1940s.

Wastes Managed: The unit would manage washwater contaminated with oil and grease, whenever it was in operation.

Release Controls: The unit had no release controls.

History of Releases: The unit would have released throughout its operational lifetime. It was not in operation at the time of the VSI, so no releases were observed.

VSI Observations: The unit had not been used recently and was observed during the VSI to be an area of bare soil, in no way differentiable from the surrounding area.

Conclusions: Soil/Groundwater: The potential for release to soil and groundwater is high due to lack of any contaminant for the contaminated wastewater and the high water table in this area.

Surface Water: The potential for release to surface waters is low because there are no waterways located nearby.

Air: The potential for a release to air is low due to the low volatility of the contaminants (mostly grease and oil).

Subsurface Gas: The potential for the generation of subsurface gas is moderate due to the action of microbes on oil and grease that would seep into the soil.

Suggested Further Action: It is suggested that the soils of this unit be analyzed for the Appendix VIII constituents.

Unit No.: SWMUs 75 and 76 (Photos 40, 41)

Unit Name: Area West of Naval Reserve Facility (SWMU 75)
Area North of Naval Reserve Facility (SWMU 76)

Unit Location: The units are located on the eastern side of the facility, west and north of the Naval Reserve Facility. (See Figure 4).

Unit Description: The units are both large areas of bare soil, which are currently used for management of equipment and construction supplies. SWMU 75 is approximately two acres in area, while SWMU 76 is four acres. Although the areas currently manage no waste, they have been used for that purpose at various times throughout the facility's history. The files indicate that solvent dumping activities occurred at this unit, possibly in the 1950s or 1960s. File material also indicates that SWMU 76 was used, at a minimum, for the dumping of solvents, and may also have had burning of solvent and waste oil conducted there. The solvent dumping area is reportedly at the southern edge of the unit and the burning ground at the northeastern edge. The facility representative had no direct knowledge of the waste management activities at either of these units and was unable to precisely locate where they occurred (References 4, 89).

Dates of Operation: The period of operation for these units is not known.

Wastes Managed: Waste solvents, which were probably ignitable (D001), were reportedly managed at this unit.

Release Controls: There are no release controls associated with these units.

History of Releases: The waste management practices at these units would constitute a release.

VSI Observations: SWMU 75 was observed to be a level, gravel-covered area which had what appeared to be construction supplies scattered around it. SWMU 76 was of the same appearance, except that vehicles and equipment are managed at its northern end, and a well field is at its southern edge.

Conclusions: Soil/Groundwater: The potential for release to soil and groundwater is high. The waste management practices involved pouring solvent on the ground which would contaminate the soil and eventually reach the shallow water table.

Surface Water: The potential for release to surface water is moderate. There is little or no grade in these areas, suggesting that water would percolate through the soil rather than run off to the facility's Storm Sewer System (SWMU 74).

Air: The potential for release to air is low. The units have not been used for waste management for over ten years, and any waste remaining waste would be below the soil surface.

Subsurface Gas: The potential for the generation of subsurface gas is low. Due to the age of the units it is unlikely that concentrations of solvent remaining are high enough to support microbial gas generation.

Suggested Further Action: An RFI is suggested for this unit. Hazardous constituents have been managed here in the past. Soil sampling will need to be performed just above the water table in order to determine the nature and extent of the releases.

Unit No.: SWMU No. 77

Unit Name: Sanitary Sewer System

Unit Location: This unit is located underground throughout the facility (Reference 52, Appendix B-7).

Unit Description: This unit is a typical sanitary sewer system consisting of sewer mains that vary from four to thirty inches in diameter with manholes located intermittently around the facility. The pipes are constructed mainly of concrete, but some are cast iron. The unit mostly manages the typical sanitary wastes generated at a facility (sludges, run-off from facility operations, e.g., wastewater from clinics, food processing, human wastes). Also run off from the Motor Pool operations which includes some solvents, grease and metal-containing sludges discharge to the sanitary sewer system.

The run-off to the sanitary sewer system drains to the sewer line along the western boundary of DCSC on James Road and flows to the city of Columbus sanitary wastewater treatment facilities.

Dates of Operation: The sanitary sewer system has been in operation at the facility since its inception (circa 1918).

Wastes Managed: The systems for the most part handles raw sewage generated from operations at the facility. Hazardous wastes from the Old Motor Pool operations reportedly drained through the sewers at sometime in the past. These wastes would have been ignitable (D001) and corrosive (D002) and may have been contaminated with metals.

Release Controls: The unit is designed to flow to the City of Columbus sanitary wastewater treatment facilities.

History of Releases: The unit has managed waste oil, ignitables, corrosives and some toxics for some period of its operational life. No releases were noted during the VSI.

Conclusions: Soil/Groundwater: The potential for a release to soil or groundwater is high due to the unknown integrity of the unit.

Surface Water: The potential for a release to surface water is low due to the underground location of the unit.

Air: The potential for a release to air is low due to the underground location of the system.

Subsurface Gas: The potential for the generation of subsurface gas is low due to the nature of the waste (mostly liquid) and the continual flow of the waste stream to the sanitary wastewater treatment facilities.

Suggested Further Action: Integrity testing of the sanitary sewer system is suggested, since it has managed hazardous wastes at some time during its operational lifetime.

Areas of Concern

One Area of Concern (AOC) has been identified at the facility and is listed below:

Unit Name: Building 306, Explosives Impregnation/De-Impregnation Shop

Unit Description: Facility personnel had no information on this unit or its operation. There was limited information in the file material on the description of this unit. The unit was reported to be a two-story structure that measured 138 feet by 200 feet. The equipment was removed and the building was renovated. It is now used by DCSC administrative personnel (Reference 4).

Wastes Managed: Unknown at this time according to DCSC personnel.

Release Controls: Unknown at this time.

History of Releases: Unknown at this time.

VSI Observations: DCSC personnel interviewed during the VSI had no knowledge of such a unit.

Conclusions: There can be no conclusions since there is no history of such a unit.

Suggested Further Action: DCSC personnel should attempt to locate any historical documentation on the exact location, operation, and waste management practices at this unit.

Table IV

Summary Table of Suggested Further Actions and Other Pertinent Information

The following is a summary of the suggested further actions for the units identified as a result of the PR and VSI. Other information presented here also include the SWMU name and numbers, dates of operation and history of release.

Unit No.: SWMU No. 1

Unit Name: Coal Pile Run-off Catch Basins (5)

Dates of Operation: These units have been in operation since about 1959 and are currently active.

History of Releases: DCSC has had periodic NPDES permit violations for the release of suspended solids caused by the coal pile run-off during 1978 and 1979. The testing of samples entering and leaving Turkey Run show no significant differences in the concentration of contaminants. See Table 7 for a summary of these test results. There is no documentation of releases to the air, surrounding soil, or groundwater in the file material reviewed.

Suggested Further Action: No further action is suggested for this unit at this time. The facility should continue in compliance with its NPDES permit.

Unit No.: SWMU No. 2

Unit Name: Central Heating Plant Ash Handling System

Dates of Operation: This unit has been in operation since about 1959.

History of Releases: No specific dates of violations were documented in the file material. The units could not be directly observed during the VSI. Their covers were observed to be of metal construction and intact.

Suggested Further Action: No further action is suggested for this unit at this time; however the facility should inspect the sump's integrity regularly.

Unit No.: SWMU No. 3

Unit Name: Solvent Spray Cleaning Room System

Dates of Operation: The solvent spray operation has been in existence since 1984, but the outside collecting tanks have been in existence since the 1960s. This unit is currently active.

History of Releases: There was no documentation of any releases in the file material reviewed or from DCSC personnel interviewed. No releases were observed during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 4

Unit Name: Security Incinerator

Dates of Operation: This unit has been in operation since 1983.

History of Releases: No documentation of releases was found in the file material reviewed or from interviewing DCSC personnel. There was no evidence of any release at the time of the VSI (Reference 87).

Suggested Further Action: Verify that the unit's design and operating characteristics are appropriate for pathological wastes.

Unit No.: SWMU No. 5

Unit Name: Former Incinerator (North)

Dates of Operation: This unit operated during the 1950s through the 1970s, before it was demolished.

History of Releases: The facility representative was unable to furnish any information about possible releases from this unit.

Suggested Further Action: The facility should furnish information about the volume and nature of the waste burned at this unit. Information should also be furnished about the disposal site for the unit's ash.

Unit No.: SWMU No. 6

Unit Name: Former Incinerator (Location Unknown)

Dates of Operation: The facility representative could not furnish any information for this unit. However, it is assumed that SWMU 5 replaced this unit.

History of Releases: The facility representative could not furnish any information for this unit. However, the representative stated that SWMU 5 replaced this unit.

Suggested Further Action: The facility should furnish information concerning the volume, and nature of the waste burned at this unit. Information should also be furnished on the disposal site for the unit's ash.

Unit No.: SWMU No. 7

Unit Name: Building T-82, Hazardous Waste Storage

Date of Operation: The unit is currently active and has been active since the early 1980s.

History of Releases: The clay floor within the containment area was oil stained. Analytical samples were taken May 18-20, 1987 and the results indicated PCB concentrations of less than 1 ppm. There is no evidence of releases outside the containment area documented in the file material reviewed or from interviewing DCSC personnel. There was no indication of any release in Building T-82 during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 8

Unit Name: Building T-83 Hazardous Waste Storage

Dates of Operation: The unit has been in operation since the early 1980s.

History of Releases: There are no records available on any spill or leaks in this unit and no history of spills was recalled by DCSC personnel.

Suggested Further Action: Soil sampling for pH and lead is suggested for the area of the unit which currently manages waste batteries.

Unit No.: SWMU No. 9

Unit Name: Building 312 Hazardous Waste/Material Storage Building

Dates of Operation: This building was constructed in 1970 and the first bay has been operated by DRMO since 1980. The second bay became operational in 1984. Both bays are currently active.

History of Releases: There was no indication in the file material of any release in this building. During the VSI, no stains or other signs of release were observed.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 10

Unit Name: Methyl Bromide Burial Site

Dates of Operation: The methyl bromide containers were buried at this site in 1971. This site is inactive.

History of Releases: The soil has been tested on several occasions and no evidence of a release has ever been detected. There was no evidence of a release during the VSI.

Suggested Further Action: Provide sampling methodology such as location, depth and analytical technique used to sample this unit. Confirm that this methodology is equivalent to EPA methods and that no release has occurred.

Unit No.: SWMU No. 11

Unit Name: Building 12 Color Process Unit Drain

Dates of Operation: The unit has been in operation since 1963.

History of Releases: There is no known history of release from this unit, nor were any observed during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 12

Unit Name: Building 12 Black and White Process Unit Drain

Dates of Operation: The unit has been in operation since 1963.

History of Releases: There is no known history of release from this unit, nor were any observed during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 13

Unit Name: Building 12 Varitype Waste Storage

Dates of Operation: The unit has reportedly been in operation since the early 1980s.

History of Releases: No releases have been noted from this unit, nor was a release noted at the time of the VSI.

Suggested Further Action: No further action is suggested. The facility may wish to consider moving the unit to a more secure area.

Unit No.: SWMU No. 14

Unit Name: Clinical Waste Storage Can

Dates of Operation: The unit, or one similar to it, has been in operation since the clinic began operating in the 1940s.

History of Releases: No history of release was reported for this unit, nor was a release noted during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 15

Unit Name: X-Ray Process Unit Drain

Dates of Operation: The unit has been in operation prior to the 1980s and is currently operational.

History of Releases: There is no known history of release for this unit, nor were any observed during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 16

Unit Name: Sharps Storage

Dates of Operation: The unit has reportedly been in operation since at least the early 1980s.

History of Release: No releases have been reported from this unit, nor were any observed during the VSI. The unit was observed to be sitting

on a counter in the examining room of the clinic. All of the waste observed in the unit at the time of the VSI consisted of needles and syringes with caps placed over them, and various vials used for drawing blood.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 17

Unit Name: Building 314 Pesticide Shop Sumps

Dates of Operation: These units became operational with the Pesticide Shop in 1984.

History of Releases: No known release have occurred or were observed to have occurred from this unit, at the time of the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 18

Unit Name: Pistol Range Backstop

Dates of Operation: The start up date for the unit was reportedly the late 1960s. The unit has not been operational since sometime in the late 1970s.

History of Releases: No releases have been reported from this unit, nor were any noted at the time of the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 19

Unit Name: Construction Materials Dump Site

Dates of Operation: According to the Installation Assessment Report, the unit operated from the late 1950s until the late 1970s. The facility representatives had no personal knowledge of the area since they had only been with the facility for the last several years (Reference 4).

History of Releases: No releases have been reported from this unit, nor were any noted during the VSI.

Suggested Further Action: Sampling to verify that hazardous constituents are not present, is suggested for this unit.

Unit No.: SWMU No. 20

Unit Name: Building 309 5,000 Gal. Former Solvent UST

Dates of Operation: The unit became operational in 1942. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing solvent during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6 (References 65, 89)

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 21

Unit Name: Building 309 15,000 Gal. Former Gasoline UST

Dates of Operation: The unit became operational in 1980. It failed an integrity test in 1988, and was removed from service in late 1988.

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6 (References 65, 89).

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 22

Unit Name: Building 317 15,000 Gal. Former Diesel UST

Dates of Operation: The facility was unable to furnish a startup date for the unit. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing diesel during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6 (References 66, 89).

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 23

Unit Name: Building 14 1,000 Gal. Former Gasoline UST

Dates of Operation: The unit became operational in 1942. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 24

Unit Name: Building 14-3 1,000 Gal. Former Gasoline UST

Dates of Operation: The facility could not furnish a start-up date for this unit. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 25

Unit Name: Building 14-7 1,000 Gal. Former Waste Oil UST

Dates of Operation: The facility could not furnish a start-up date for this unit. The unit was taken out of service in December of 1987. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing waste oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 26

Unit Name: Building 22 5,000 Gal. Former Diesel UST

Dates of Operation: The unit became operational in 1973. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing diesel fuel during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 27

Unit Name: Building 12 1,000 Gal. Former Fuel Oil UST

Dates of Operation: The facility was unable to determine when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing fuel oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 28

Unit Name: Building 18-1 1,000 Gal. Former Gasoline UST

Dates of Operation: The facility is unaware of when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 29

Unit Name: Building 2 1,000 Gal. Former Gasoline UST

Dates of Operation: The facility is unaware of when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No: SWMU No. 30

Unit Name: Building 42 1,000 Gal. Former Fuel Oil UST

Dates of Operation: The facility was unable to determine when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Release: The tank was found to be releasing fuel oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and the Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 31

Unit Name: Building 26 1,500 Gal. Former Fuel Oil UST

Dates of Operation: The facility was unable to determine when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing fuel oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. During the VSI two puddles of what appeared to be raw product were noted in the western corners of the excavation site. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 32

Unit Name: Building 26 Tank 26 1,000 Gal. Former Fuel Oil UST

Dates of Operation: The facility was unable to determine when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing fuel oil during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 33

Unit Name: Building 113 500 Gal. Former Gasoline UST

Dates of Operation: The facility is unaware of when the unit became operational. It failed an integrity test in 1988, and was removed in late 1988 or early 1989 (Reference 65).

History of Releases: The tank was found to be releasing gasoline during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI. Analytical data may be found in Table 6.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 34

Unit Name: DRMO Area 1,000 Gal. Former Waste Solvent/Paint UST

Dates of Operation: The unit became operational in 1942. It failed an integrity test in 1988, but has not yet been removed. It reportedly stopped accepting waste in the late 1970's (Reference 65).

History of Releases: The tank was found to be releasing solvent and waste paint during routine integrity testing in 1988. The area of the tank's release has not been completely determined, nor has it been remediated. No indications of releases were noted during the VSI.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 35

Unit Name: Building 309 12,500 Gallon Inoperative UST

Dates of Operation: The unit is reported to have become operational in 1942 (Reference 65). The unit ceased operation after failing an integrity test in late 1988.

History of Releases: The unit began releasing sometime prior to late 1988, when it failed an integrity test. No indications of an on going release was noted during the VSI due to the unit's underground location.

Suggested Further Action: The facility should work with the OEPA UST program and Region V RCRA program in determining the extent of this release. A subsurface investigation is suggested as part of the program.

Unit No.: SWMU No. 36

Unit Name: Tank 29 Fill Point Spill Site

Dates of Operation: This unit is believed to have been in existence since Tank 29 started up in the 1980s.

History of Releases: This unit is believed to have been releasing throughout the operational history of Tank 29.

Suggested Further Action: A RCRA Facility Investigation to determine the extent of contamination is suggested.

Unit No.: SWMU No. 37

Unit Name: Tank 30 Spill Site

Dates of Operation: This unit has been in operation since the 1980s.

History of Releases: According to DCSC personnel, there have been intermittent spills at this unit. The fill valve around the bottom of the tank, concrete area of about 3 feet in diameter and the gravel area adjacent to the pad shows evidence of a release.

Suggested Further Action: A subsurface investigation to determine the extent of contamination is suggested.

Unit No.: SWMU No. 38

Unit Name: Building T-79 Wash Rack System

Dates of Operation: This unit was in operation prior to 1980 and ceased operating in 1987.

History of Releases: The unit reportedly released wastewater to Mason Run. No indication of a release was observed during the VSI.

Suggested Further Action: Sampling of sediments in Mason Run for the Appendix VIII hazardous constituents is suggested.

Unit No.: SWMU No. 39

Unit Name: Building T-78 Steam Cleaning Rack System

Dates of Operation: This unit was in operation prior to 1980 and ceased operating in 1987.

History of Releases: The unit reportedly released wastewater to Mason Run. No indication of a release was observed during the VSI.

Suggested Further Action: Sampling of sediments in Mason Run for the Appendix VIII hazardous constituents is suggested.

Unit No.: SWMU No. 40

Unit Name: Building 330 Former Trash Compactor/Burning Ground

Dates of Operation: The unit reportedly operated during the 1970's. The burning ground operated for an unknown time period prior to that.

History of Releases: No releases have been reported from this unit, nor were any observed during the VSI. The waste management practices at the burning ground would have constituted a routine systematic release.

Suggested Further Action: Soil sampling for the Appendix VIII constituents beneath the concrete cap and to the north of the unit is suggested. Soil sampling should be conducted to a depth of not less than 10 feet.

Unit No.: SWMU No. 41

Unit Name: Building 330 Classified Document Shredder

Dates of Operation: The unit has been in operation for several years according to the facility representative.

History of Releases: No releases have been reported from this unit, nor were any observed during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 42

Unit Name: Building 330 Scrap Pile

Dates of Operation: The unit has reportedly been in operation since prior to the 1980s.

History of Releases: No releases are reported to have occurred from this unit, nor were any noted at the time of the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 43

Unit Name: Fire Department Wash Rack

Dates of Operation: The unit has been in continuous operation reportedly since sometime in the 1980s.

History of Releases: No releases have been reported, nor were any noted during the VSI.

Suggested Further Action: The facility should determine that the sludge from the unit is disposed in an appropriate manner.

Unit Nos.: SWMUs No. 44, 45, 46, 47, 48

Unit Name: Building 308 Sawdust Collector System (SWMU 44)
Box Shop Sawdust Collector System (SWMU 45)
Building 42-9 Sawdust Collector System (SWMU 46)
Building 17-4 Sawdust Collector System (SWMU 47)
Building 14 Sawdust Collector System (SWMU 48)

Dates of Operation: These, or similar units have been in operation at the facility since at least the 1970s.

History of Releases: No releases have been reported from these units, nor were any noted at the time of the VSI.

Suggested Further Action: No further action is suggested for these units at this time.

Unit Nos.: SWMUs No. 49, 57, 62, 70

Unit Name: Building 308 Paint Spray Booth Filter System (SWMU 49)
Building 9 Paint Spray Booth Filter System (SWMU 57)
Building 11 Paint Spray Booth Filter System (SWMU 62)
Building 14 Former Paint Spray Booth Filter System (SWMU 70)

Dates of Operation: SWMU 49 has been in operation since sometime in the 1970s. SWMU 62 has been in operation since 1988. SWMU 57 has been in operation since prior to the 1980s. SWMU 70 operated from the 1940s until sometime in 1987.

History of Releases: No releases have been reported from any of these units, nor were any noted during the VSI.

Suggested Further Action: No further action is suggested for these units at this time.

Unit No.: SWMU No. 50

Unit Name: Building 308 Paint Shop Outdoor Accumulation Area

Dates of Operation: The unit has been in operation since sometime in the 1980s.

History of Releases: No releases have been reported from this unit, nor were any noted at the time of the VSI.

Suggested Further Action: Placing a dike around the unit is suggested.

Unit No.: SWMU No. 51

Unit Name: Facility Dumpsters

Dates of Operation: These units or others of much the same design have reportedly been in operation at the facility since sometime in the 1940s.

History of Releases: No releases have been reported from these units, nor were any observed during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 52

Unit Name: Central Heating Plant Air Pollution Control System

Dates of Operation: The cyclone system was installed in 1964, and the ESP system in 1978.

History of Releases: No releases have been reported from this unit. The unit was not operational at the time of the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU 53

Unit Name: Facility Trash Compactor

Dates of Operation: These units or others of much the same design have reportedly been in operation at the facility since sometime in the 1970s.

History of Releases: No releases have been reported from these units, nor were any observed during the VSI.

Suggested Further Actions: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 54

Unit Name: DRMO Scrap Pile

Dates of Operation: This unit has been in operation at the facility since the DRMO unit began operating in 1980.

History of Releases: No releases have been reported from this unit, nor were any observed at the time of the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 55

Unit Name: Building 9 Waste POL Drum Storage

Dates of Operation: This area has been used as a drum storage area since about 1969, according to the facility representatives.

History of Releases: According to the file material reviewed and DCSC personnel interviewed, there has been no known release since the drums have been stored in the area.

Suggested Further Action: A dike system around this unit is suggested in order to contain possible spills.

Unit No.: SWMU No. 56

Unit Name: Building 9 POL Storage Area Sumps

Dates of Operation: The unit has been in operation since approximately 1974, according to facility representatives.

History of Releases: No releases have been reported from this unit, and none were observed during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 58

Unit Name: Safety Kleen Units

Dates of Operation: These units have been in operation since approximately 1987. Currently, all activities utilizing solvent for small parts cleaning are carried out at these units exclusively.

History of Releases: No releases have been reported from these units, nor were any observed at the time of the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 59

Unit Name: Building 9 POL Former Solvent Dipping Tank

Dates of Operation: The date of start-up for this unit is not known. It is assumed to have stopped operation in 1987 or 1988.

History of Releases: According to the file material reviewed and to DCSC personnel interviewed, there was no indication of any releases from this unit. There was no staining of the concrete around the unit or any other sign of a release during the VSI.

Suggested Further Action: Consider removal of this unit. The waste solvent should be disposed of properly.

Unit No: SWMU No. 60

Unit Name: Building 11 Waste POL Handling System

Dates of Operation: This unit has been in operation since February, 1989.

History of Releases: There is no information in the file material or from DCSC personnel on any release from this unit. During the VSI, there was no indication of any release.

Suggested Further Action: Construction of a dike around the tank is suggested.

Unit No.: SWMU No. 61

Unit Name: Building 11 Wash Rack System

Dates of Operation: This unit has been in operation since 1988.

History of Releases: There is no history of any release from this unit nor were any releases noted during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 63

Unit Name: Building 11 Paint Spray Booth Accumulation Point

Dates of Operation: The unit has been in operation since 1987.

History of Releases: There was no indication in the file material reviewed and DCSC personnel knew of no release from this unit. There was no indication of any release during the VSI. The paint spray booth was undergoing expansion during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 64

Unit Name: Building 11 Battery Storage Room

Dates of Operation: According to DCSC personnel, these units have been in operation since 1988.

History of Releases: According to DCSC personnel and the file material reviewed, no releases from these units have been reported. There was no evidence of a release from this unit during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 65

Unit Name: Building 11, Scrap Bins

Dates of Operation: This unit has been in operation since 1987, according to DCSC personnel.

History of Releases: Releases have not been documented for this unit. There was no evidence of a release during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 66

Unit Name: Facility Floor Cleaning Units

Dates of Operation: These two units have been in operation about ten years.

History of Releases: There are no documented releases from these units. There was no evidence of a release during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 67

Unit Name: Facility Street Sweeper

Dates of Operation: This unit has been in operation since prior to the 1980s.

History of Releases: There is no history of a release from this unit. The unit was not in operation during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 68

Unit Name: Building 14 Floor Drains

Dates of Operation: These units have been in existence since the construction of the building which was around the period of WWII. Currently, the building is inactive.

History of Releases: Past releases have been documented from these units. When the units were connected directly to Mason Run, there was a high potential for sustained releases. The units were connected to the sanitary sewer system around 1983 according to the file material reviewed. According to the file material reviewed and DCSC personnel, there have been recent releases. During the VSI, no stains or other signs of a release were observed.

Suggested Further Action: Sediment Sampling for Appendix VIII constituents at the Mason Run area where the drains discharged is suggested.

Unit No.: SWMU No. 69

Unit Name: Building 14 Former Battery Neutralization Unit

Dates of Operation: This unit reportedly operated from the 1940s until 1988. Currently, this section ofthe building is used to store construction equipment.

History of Releases: Past releases have been documented (Reference 4). The battery acids, reportedly, drained through floor drains directly to Mason Run until the drains were connected to the sanitary sewer system around 1983. During the VSI, no signs of a release were observed.

Suggested Further Action: Provide documentation as to the exact location of the unit in Building 14 and the battery acid operation.

Unit No: SWMU No. 70

Unit Name: Building 14 Former Paint Spray Booth Filter System

Dates of Operation: These units reportedly operated from the 1940s until 1988. Currently, this section is used to store construction equipment materials.

History of Releases: It is reported that wastes from operations in this building drained directly to Mason Run at some time during its period of operation. No releases are documented in the file material. During the VSI, no signs of a release were observed.

Suggested Further Action: DCSC personnel should attempt to locate any historical documentation on the exact location, operation, and waste management practices at this unit.

Unit No.: SWMU No. 71

Unit Name: Building 12 Printing Waste Accumulation Point

Dates of Operation: This unit, or one like it, has reportedly been in operation since the mid-1950s.

History of Releases: No releases have been reported from this unit, nor were any noted at the time of the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 72

Unit Name: Storm Sewer

Dates of Operation: A storm sewer system of some description has been in place at the facility since its inception (circa 1918).

History of Releases: The unit reportedly managed waste oil and possibly waste battery acid for some period of its operational lifetime. No releases were noted during the VSI.

Suggested Further Action: It is suggested that the sediments of Mason Run should be sampled for the Appendix VIII constituents.

Unit No.: SWMU No. 73

Unit Name: Round House POL Storage Drum

Dates of Operation: This unit, or one like it, has reportedly been in operation at the Round House since approximately 1942, when it began operations.

History of Releases: No releases have been reported from this unit, nor were any noted during the VSI.

Suggested Further Action: No further action is suggested for this unit at this time.

Unit No.: SWMU No. 74

Unit Name: House Locomotive Cleaning Area

Dates of Operation: The unit has reportedly been in operation since before the 1940s.

History of Releases: The unit would have released throughout its operational lifetime. It was not in operation at the time of the VSI, so no releases were observed.

Suggested Further Action: It is suggested that the soils of this unit be analyzed for the Appendix VIII constituents.

Unit No.: SWMUs 75 and 76

Unit Name: Area West of Naval Reserve Facility (SWMU 75)
Area North of Naval Reserve Facility (SWMU 76)

Dates of Operation: The period of operation for these units is not known.

History of Releases: The waste management practices at these units would constitute a release.

Suggested Further Action: An RFI is suggested for this unit. Hazardous constituents have been managed in the past. Soil sampling will need to be performed just above the water table in order to determine the nature and extent of the releases.

Unit No.: SWMU No. 77

Unit Name: Sanitary Sewer System

Dates of Operation: The sanitary sewer system has been in operation at the facility since its inception (circa 1918).

History of Releases: The unit has managed waste oil, ignitables, corrosives and some toxics for some period of its operational life. No releases were noted during the VSI.

Suggested Further Action: Integrity testing of the sanitary sewer system is suggested, since it has managed hazardous wastes at some time during its operational lifetime.

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APPENDIX D

ORIGINAL FIELD LOG

This is the original field log from the VSI of the DCSC facility. The field log was not originally bound because of the problems in the shipment of the VSI Team's field equipment. As a result, notes were taken in an unbound tablet. This unbound copy is bound in Velo and submitted as part of the final deliverable along with the other references.

The VSI at the DCSC facility, took place in Columbus, Ohio between July 10 and 12, 1989. With the exception of problems with the delivery of the field equipment, there were no major problems or incidents encountered during the VSI. The weather during this time period was hot and humid during the day (temperature in excess of 85 degrees F). During the evenings there were occasional thunderstorms which would often leave the ground at the facility damp.

V. REFERENCES

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26. EPA Memorandum to William H. Miner from D. C. Watson, Re: RCRA Inspection at DCSC, March 3, 1986.

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APPENDIX A

DATA TABLES

Table 1

Outfalls for DCSC NPDES Permit No. 4I000001*BD

Number	Location	Discharge Outfall	Discharge Receptor
001	Intersection Turkey Run and south boundary line	5 A/C cooling towers, Coal-pile runoff	60-inch Storm Sewer into Turkey Run
004	Intersection Mason Run and south boundary line	5 A/C cooling towers, non-contaminated storm water runoff	Mason Run
005	Intersection South of Building #42 and south boundary line	8 A/C cooling towers, non-contaminated storm water runoff	42-inch storm sewer into Mason Run
006	Intersection Turkey Run and storm sewer south of Building #2	1 A/C cooling tower, Coal-pile runoff	Turkey Run

Table 2. DLA TENANT ACTIVITIES

DLA SYSTEMS AUTOMATION CENTER			
Commander, D J Quirk, CAPT, SC, USN	DSAC-D	Bldg 27/7	9288
Deputy, T Z Donovan	DSAC-DD	Bldg 27/7	9290
Chief of Staff, E D Mooney, LTC, USA	DSAC-DC	Bldg 27/7	9289
EEO Officer, C E Palmer	DSAC-DK	Bldg 27/5	9295
Internal Review Officer A R Co .lle	DSAC-DI	Bldg 27/5	5861
Director, Dir of Acquisition Management, T A Voigt, Lt Col, USAF	DSAC-P	Bldg 1	9901
Deputy Commander for AIS, J R Rogolski, COL, USA	DSAC-DM	Bldg 27/3	9200
Director, Dir of Cont Admin Sys, D E Chorney	DSAC-A	Bldg 27/7	9205
Director, Dir of Resources Management Sys, H J Southall	DSAC-B	Bldg 27/3	9569
Director, Dir of Mat Mgmt Sys, L L Thompson	DSAC-C	Bldg 27/4	9600
Deputy for Technology, (Vacant)	DSAC-DS	Bldg 27/6	9100
Director, Dir of Information Sys Fac, G Tuller	DSAC-F	Bldg 27/1	9402
Director, Dir of Telecommunications, W Cline	DSAC-R	Bldg 27/6	9104
Director, Dir of Computer Systems Support, J B Freshie, Jr	DSAC-T	Bldg 27/1	9400
Chief, Dir of Executive Support, M M Giannotta	DSAC-E	Bldg 27/7	9338
General Counsel D D Parker	DSAC-G	Bldg 27/1	9399
Chief, Dir of Command and ADP Security, J P Grimes	DSAC-I	Bldg 27/4	9301
Director, Dir of Policy, Plans and Resource Mgmt, C R Center	DSAC-L	Bldg 27/7	9308
Chief, Office of Quality, (Vacant)	DSAC-Q	Bldg 27/7	
Chief, Dir of DLA Intra-Agency ADP Training, M L Farley	DSAC-U	Bldg 30/2	9314
Chief, Dir of Sys and Logistical Support T T Scott	DSAC-I	Bldg 27/2	9327
DEFENSE REUTILIZATION AND MARKETING REGION OFFICE, COLUMBUS			
Commander, R R Agnor, Jr., USAF	DRMR-CD	926 Taylor Sta Rd	2285
Deputy, J W Eggenberger	DRMR-CDD	926 Taylor Sta Rd	2285
EEO Program Manager, D. Bader	DRMR-CDK	926 Taylor Sta Rd	2360
Safety & Health Officer, P H Dillue	DRMR-CDM	926 Taylor Sta Rd	2300
Security Officer, D W Slayman	DRMR-CDI	926 Taylor Sta Rd	2318
Chief, Office of Planning & Resource Management, (Vacant)	DRMR-CF	926 Taylor Sta Rd	3934
Chief, Sales Div, J L Shaw, Jr.,	DRMR-CM	926 Taylor Sta Rd	3830
Chief, Oper Div, R L Craft, Jr., MAJ, USA	DRMR-CO	926 Taylor Sta Rd	4171
Chief, Contract Administration Div, R. L. Peoples	DRMR-CP	926 Taylor Sta Rd	3944
DEFENSE REUTILIZATION AND MARKETING OFFICE (COLUMBUS)			
Chief, R Sjoblom	DRMO-ECA	Bldg 16/5	3244
DLA CIVILIAN PERSONNEL SERVICE SUPPORT OFFICE			
Chief, C Carr	DCPSO	Bldg 1/1	1081
Chief, Staffing & Recruitment Group M Fletcher	DCPSO		3264
DLA, DIPEC, DIRECTORATE OF IPE OPERATIONS			
Director, J N Holly	DIPEC-I	Bldg 9/3	3165
Deputy Director, G Perry	DIPEC-IC	Bldg 9/3	3166
PRODUCTION CONTROL DIVISION			
Chief, G Perry	DIPEC-IC	Bldg 9/3	3166
QUALITY DIVISION			
Chief, E L Smith	DIPEC-IQ	Bldg 9/3	2813
MAINTENANCE DIVISION			
Chief, D R Lewis	DIPEC-IM	Bldg 9/3	3803
STORAGE DIVISION			
Chief, L G Florence	DIPEC-IS	Bldg 9/3	3804
OPERATIONS BRANCH COLUMBUS, DCASMA DAYTON			
Chief, K L Maranville	DCASR-CLE-OOOC	Bldg 1/1, 2nd Fl	3144
Chief, East Section, M. Brinkley	DCASR-CLE	Bldg 1/1, 2nd Fl	3144
Chief, West Section, V. Hoodson	DCASR-CLE-OOO	Bldg 1/1, 2nd Fl	3144

Source: Key Personnel Directory DCSC, Planning Division, Office of Policy and Plans, October 1, 1988

Table 3. HAZARDOUS WASTES MANAGED AT DCSC

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1): W H 6 2 1 0 0 2 0 2 2 2 — 1

FOR OFFICIAL USE ONLY: W DUP — 2 DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D001	150,000	P	S01	
2	D002	40,000	P	S01	
3	D003	200	P	S01	
4	D004	2,400	P	S01	
5	D006	1,500	P	S01	
6	D007	50	P	S01	
7	D008	20,000	P	S01	
8	D009	500	P	S01	
9	D010	10	P	S01	
10	D011	7,000	P	S01	
11	F001	30,000	P	S01	
	F002	6,500	P	S01	
13	F003	15,000	P	S01	
14	F005	5,000	P	S01	
15	U012	500	P	S01	
16	U021	500	P	S01	
17	U151	200	P	S01	
18	U154	500	P	S01	
19	U159	500	P	S01	
20	U188	500	P	S01	
21	U210	100	P	S01	
22	U211	10	P	S01	
[illegible]	U223	500	P	S01	
24	U226	100	P	S01	
	U227	1,500	P	S01	
26	U036	600	P	S01	

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Table 3. HAZARDOUS WASTES MANAGED AT DCSC

Date: 22 Feb 1989
Revision No.: 1

Continued from page 2.
Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S00004

EPA I.D. NUMBER (enter from page 1): W O H 6 2 1 0 0 2 0 2 2 2 1

FOR OFFICIAL USE ONLY: W DUP DUP

DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U080	500	P	S01	
2	U228	500	P	S01	
3	U239	500	P	S01	
4	U032	500	P	S01	
5	U129	500	P	S01	
6	P123	500	P	S01	
7					
8					
9					
10					
11					
12					
13					
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16					
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18					
19					
20					
21					
22					
23					
24					
25					
26					

Source: Part A Permit Application, September 6,1988

Table 4. NORMAL, MEANS, AND EXTREMES FOR TEMPERATURE AND PRECIPITATION

COLUMBUS, OH — PORT COLUMBUS INTL AIRPORT — EASTERN — 40° 00' N — 82° 53' W — 812 FT.

Month	Temperatures °F: Normal: Daily maximum	Normal: Daily minimum	Normal: Monthly	Extremes: Record highest	Year	Record lowest	Year	Normal Degree days Base 65 °F: Heating	Cooling
(a)				44		44			
J	34.7	19.4	27.1	74	1950	-19	1977	1175	0
F	38.1	21.5	29.8	73	1957	-13	1977	986	0
M	49.3	30.6	40.0	85	1945	-2	1967	775	0
A	62.3	40.5	51.4	89	1948	14	1982	406	0
M	72.6	50.2	61.4	94	1941	25	1966	178	66
J	81.3	59.6	70.2	102	1944	35	1972	19	175
J	84.4	63.2	73.8	100	1955	43	1972	0	273
A	83.0	61.7	72.4	101	1983	39	1965	5	235
S	76.9	54.6	65.8	100	1951	31	1963	78	102
O	65.0	42.8	53.9	96	1951	20	1962	355	11
N	50.7	33.5	42.1	80	1950	5	1976	687	0
D	39.4	24.7	32.1	76	1982	-12	1983	1020	0
YR	61.5	41.0	51.7	102	JUN 1944	-19	JAN 1977	5686	862

Month	Precipitation in inches: Water equivalent: Normal	Maximum monthly	Year	Minimum monthly	Year	Maximum in 24 hrs.	Year	Snow, ice pellets: Maximum monthly	Year	Maximum in 24 hrs.	Year
(a)		44		44		36		36		36	
J	2.75	8.29	1950	0.53	1944	4.81	1959	34.4	1978	7.5	1978
F	2.10	4.60	1991	0.20	1978	2.15	1975	16.4	1979	8.9	1971
M	3.23	9.59	1964	0.61	1961	3.40	1964	13.5	1962	6.6	1962
A	3.41	6.36	1964	0.67	1971	2.37	1957	7.1	1973	6.3	1973
M	3.76	9.11	1968	0.95	1977	2.72	1968	T	1966	T	1966
J	4.01	9.75	1958	1.25	1963	2.93	1958	0.0		0.0	
J	4.01	9.46	1958	0.48	1980	3.82	1969	0.0		0.0	
A	3.70	8.63	1979	0.58	1951	3.79	1972	0.0		0.0	
S	2.76	6.76	1979	0.51	1963	4.86	1979	T	1967	T	1967
O	2.93	5.24	1954	0.11	1963	1.87	1965	1.3	1962	1.3	1962
N	2.69	5.40	1950	0.60	1976	2.05	1973	15.2	1950	8.2	1950
D	2.61	5.07	1951	0.46	1955	1.74	1978	17.3	1960	6.7	1960
YR	36.97	9.75	JUN 1958	0.11	OCT 1963	4.86	SEP 1979	34.4	JAN 1978	8.9	FEB 1971

Month	Relative humidity pct.: Hour 01 (Local time)	Hour 07	Hour 13	Hour 19	Wind: Mean speed m.p.h.	Prevailing direction thru 1963	Fastest mile: Speed m.p.h.	Direction	Year	Pct. of possible sunshine	Mean sky cover, tenths, sunrise to sunset	Mean number of days: Sunrise to sunset: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility ¼ mile or less	Temperatures °F: Max. (b) 90° and above	Max. 32° and below	Min. 32° and below
(a)	24	24	24	24	36	14	29	29		32	36	36	36	36	44	35	44	36	24	24	24
J	74	76	68	69	10.3	SSW	56	W	1959	36	7.7	4	7	20	13	3	0	2	0	15	27
F	73	76	65	67	10.1	NW	57	W	1956	42	7.5	4	6	18	11	2	1	2	0	10	24
M	69	73	58	60	10.7	SSW	63	NW	1955	44	7.4	5	7	19	14	1	2	1	0	3	19
A	70	74	53	55	10.1	WNW	56	W	1970	51	7.0	5	8	17	13	0	4	1	0	0	7
M	77	79	55	57	8.5	S	54	NW	1964	56	6.6	6	11	14	13	0	6	1	1	0	1
J	80	81	55	59	7.6	SSW	47	NW	1966	59	6.2	6	12	12	11	0	8	1	3	0	0
J	82	84	56	60	6.9	SSW	51	W	1976	63	6.0	7	13	11	11	0	8	1	6	0	0
A	84	87	59	64	6.5	WNW	43	SW	1979	63	5.8	7	13	11	9	0	6	2	3	0	0
S	83	87	58	65	6.7	S	38	N	1963	61	5.6	10	8	12	8	0	3	2	1	0	0
O	78	81	55	63	7.7	S	43	SW	1979	57	5.6	11	7	13	9	0	1	1	0	0	0
N	77	83	64	69	9.5	S	61	N	1952	38	7.4	5	7	18	11	1	1	1	0	1	14
D	76	78	69	77	10.0	W	47	SW	1971	31	7.8	4	6	21	13	2	0	1	0	9	24
YR	77	83	59	63	8.7	SSW	63	NW	MAR 1955	51	6.7	70	105	186	136	9	42	17	14	38	121

NOTE: NORMAL COOLING DEGREE DATA PUBLISHED IN THE 1982 ANNUAL WERE FOR THE 1951-1980 PERIOD.

NORMALS, MEANS, AND EXTREMES TABLE NOTE(S):
1. Fastest Mile wind is through June 1981.

(a) Length of record, years, through the current year unless otherwise noted, based on January data.
(b) 70° and above at Alaskan stations.
* Less than one half.
T Trace.
BLANK entries denote missing or unreported data.

NORMALS - Based on record for the 1951-1980 period.
MEANS - Length of record in (a) is for complete data years.
EXTREMES - Length of record in (a) may be for other than complete or consecutive data years. Date is the most recent in cases of multiple occurrence.
WIND DIRECTION - Numerals indicate tens of degrees clockwise from true north. 00 indicates calm.
FASTEST MILE WIND - Speed is fastest observed 1-minute value when direction is in tens of degrees.

Means and extremes above are from existing and comparable exposures. Annual extremes have been exceeded at other sites in the locality as follows:

Temperature
Highest: 106 in Jul. 1936.
Lowest: -20 in Feb. 1899+.

Precipitation
Maximum monthly: 10.71 in Jan. 1937.
Minimum monthly: .10 in Oct. 1924.

Wind
Fastest Mile: 84 NW in Jul. 1916.

Source: "Climates of the States", 3rd Edition, Gale Research Company, Detroit, Michigan, 1985

Table 5

List of SWMUs Identified at DCSC

Unit No	Unit Name
SWMU No. 1	Coal Pile Run-off Catch Basins (5)
SWMU No. 2	Central Heating Plant Ash Handling System
SWMU No. 3	Solvent Spray Cleaning Room System
SWMU No. 4	Security Incinerator
SWMU No. 5	Former Incinerator (North)
SWMU No. 6	Former Incinerator (Location Unknown)
SWMU No. 7	Building T-82, Hazardous Waste Storage
SWMU No. 8	Building T-83 Hazardous Waste Storage
SWMU No. 9	Building 312 Hazardous Waste/Material Storage Building
SWMU No. 10	Methyl Bromide Burial Site
SWMU No. 11	Building 12 Color Process Unit Drain
SWMU No. 12	Building 12 Black and White Process Unit Drain
SWMU No. 13	Building 12 Varitype Waste Storage
SWMU No. 14	Clinical Waste Storage Can
SWMU No. 15	Process Unit Drain
SWMU No. 16	Sharps Storage
SWMU No. 17	Building 314 Pesticide Shop Sumps
SWMU No. 18	Pistol Range Backstop
SWMU No. 19	Construction Materials Dump Site
SWMU No. 20	Building 309 5,000 Gal. Former Solvent UST
SWMU No. 21	Building 309 15,000 Gal. Former Gasoline UST
SWMU No. 22	Building 317 15,000 Gal. Former Diesel UST
SWMU No. 23	Building 14 1,000 Gal. Former Gasoline UST

Table 5
(cont.)

List of SWMUs Identified at DCSC

SWMU No. 24 Building 14-3 1,000 Gal. Former Gasoline UST

SWMU No. 25 Building 14-7 1,000 Gal. Former Waste Oil UST

SWMU No. 26 Building 22 5,000 Gal. Former Diesel UST

SWMU No. 27 Building 12 1,000 Gal. Former Fuel Oil UST

SWMU No. 28 Building 18-1 1,000 Gal. Former Gasoline UST

SWMU No. 29 Building 2 1,000 Gal. Former Gasoline UST

SWMU No. 30 Building 42 1,000 Gal. Former Fuel Oil UST

SWMU No. 31 Building 26 1,500 Gal. Former Fuel Oil UST

SWMU No. 32 Building 26 Tank #26 1,000 Gal. Former Fuel Oil UST

SWMU No. 33 Building 113 500 Gal. Former Gasoline UST

SWMU No. 34 DRMO Area 1,000 Gal. Former Waste Solvent/Paint UST

SWMU No. 35 Building 309 12,500 Gallon Inoperative UST

SWMU No. 36 Tank 29 Fill Point Spill Site

SWMU No. 37 Tank 30 Spill Site

SWMU No. 38 Building T-79 Wash Rack System

SWMU No. 39 Building T-78 Steam Cleaning Rack System

SWMU No. 40 Building 330 Former Trash Compactor/Burning Grounds

SWMU No. 41 Building 330 Classified Document Shredder

SWMU No. 42 Building 330 Scrap Pile

SWMU No. 43 Fire Department Wash Rack

SWMU No. 44 Building 308 Sawdust Collector System

SWMU No. 45 Box Shop Sawdust Collector System

SWMU No. 46 Building 42-9 Sawdust Collector System

SWMU No. 47 Building 17-4 Sawdust Collector System

Table 5
(cont.)

List of SWMUs Identified at DCSC

SWMU No. 48 Building 14 Sawdust Collector System

SWMU No. 49 Building 308 Paint Spray Booth Filter System

SWMU No. 50 Building 308 Paint Shop Outdoor Accumulation Area

SWMU No. 51 Facility Trash Compactors

SWMU No. 52 Central Heating Plant Air Pollution Control System

SWMU No. 53 Facility Trash Compactors

SWMU No. 54 DRMO Scrap Pile

SWMU No. 55 Building 9 Waste POL Drum Storage

SWMU No. 56 Building 9 POL Storage Area Sumps

SWMU No. 57 Building 9 Paint Spray Booth Filter System

SWMU No. 58 Safety Kleen Units

SWMU No. 59 Building 9 POL Former Solvent Dipping Tank

SWMU No. 60 Building 11 Waste POL Handling System

SWMU No. 61 Building 11 Wash Rack System

SWMU No. 62 Building 11 Paint Spray Booth Filter System

SWMU No. 63 Building 11 Paint Spray Booth Accumulation Point

SWMU No. 64 Building 11 Battery Storage Room

SWMU No. 65 Building 11, Scrap Bins

SWMU No. 66 Facility Floor Cleaning Units

SWMU No. 67 Facility Street Sweeper

SWMU No. 68 Building 14 Floor Drains

SWMU No. 69 Building 14 Former Battery Neutralization Unit

SWMU No. 70 Building 14 Former Paint Spray Booth Filter System

SWMU No. 71 Building 12 Printing Waste Accumulation Point

SWMU No. 72 Storm Sewer

Table 5
(cont.)

List of SWMUs Identified at DCSC

SWMU No. 73 Round House POL Storage Drum

SWMU No. 74 Round House Locomotive Cleaning Area

SWMU No. 75 Area West of Naval Reserve Facility

SWMU No. 76 Area North of Naval Reserve Facility

SWMU No. 77 Sanitary Sewer System

Table 6. Analytical Data for USTs at DCSC

ANALYTICAL RESULTS OF SOIL SAMPLES

SWMU	/DEPTH	BENZENE	TOLUENE	ETHYBEN.	XYLENE	TPH	TL
35	2'-4'	2.06	0.18	2.24	38.7	233	6.3
35	2'-4'	< 0.05	< 0.05	< 0.05	0.07	<1.0	4.3
20	2'-4'	0.39	0.37	0.16	2.60	<1.0	7.5
20	7'-9'	0.11	< 0.05	< 0.05	0.15	8.0	3.2
35	2'-4'	0.10	0.48	< 0.05	< 0.05	106	6.8
21	2'-4'	1.16	0.09	1.44	14.2	51	7.8
20	2'-4'	< 0.05	< 0.05	< 0.05	< 0.05	73	6.3
35	4'-6'	< 0.05	< 0.05	< 0.05	< 0.05	135	8.9
22	2'-4'	< 0.05	< 0.05	< 0.05	< 0.05	131	6.9
22	13-15'	0.07	0.29	0.20	1.00	110	4.9
22	6-9'	< 0.05	< 0.05	< 0.05	< 0.05	57	7.1
22	2.5-4.5'	<0.05	< 0.05	< 0.05	< 0.05	35	6.9
26	13-15'	< 0.05	< 0.05	< 0.05	< 0.05	8	5.7
26	3-5'	< 0.05	< 0.05	< 0.05	< 0.05	182	5.6
39	6-8'	2.20	0.96	9.53	30.1	411	10.5
39	8-10'	< 0.05	< 0.05	< 0.05	< 0.05	<1.0	6.9
26	12-14'	< 0.05	< 0.05	< 0.05	< 0.05	127	2.6
26	8-10'	< 0.05	< 0.05	< 0.05	< 0.05	227	3.8
25	4'-6'	28.2	0.90	0.62	0.21	<1.0	10.2
25	8-10'	699	114	1.54	5.84	<1.0	5.0
23	9-11'	< 0.05	< 0.05	< 0.05*	0.43	<1.0	5.3
23	13-15'	0.40	0.05	< 0.05	1.09	<1.0	4.5
27	3'-5'	0.26	< 0.05	< 0.05	< 0.05	<1.0	14.5

Source: Report of Findings of Site Investigation of Underground Storage Tank Releases, Undated

SWMU	/DEPTH	BENZENE	TOLUENE	ETHYBEN.	XYLENE	TPH	TL
27	3-5'	0.05	< 0.05*	< 0.05*	0.09	<1.0	28.3
29	4-6'	23.4	2.98	21.7	251	<1.0	22.7
29	3-5'	2.34	1.01	4.11	26.9	<1.0	22.7
28	6-8'	128	210	180	3463	<1.0	21.4
28	13-15'	4.25	0.22	1.23	12.0	<1.0	18.4
33	5-7'	0.16	0.7	< 0.05*	0.31	<1.0	2.2
33	4-6'	< 0.05	< 0.05*	< 0.05	<0.05*	<1.0	3.8
30	9-11'	< 0.05	0.06	0.66	2.84	207	6.2
30	3-5'	0.06	< 0.05	< 0.05	<0.05*	95	4.1
32	2-4'	< 0.05*	< 0.05	< 0.05	<0.05	<1.0	6.2
32	13-15'	< 0.05*	< 0.05	< 0.05	0.16	<1.0	3.9
31	2-4'	< 0.05	< 0.05	< 0.05	<0.05*	<1.0	3.2
31	3-5'	1.40	0.19	< 0.05	19.8	<1.0	3.2

TPH- total petroleum hydrocarbons
TL- total lead
* - trace

All concentrations are in parts per million.

Table 7.

Summary of Water Quality Analysis of Coal Pile Run-Off for Hazardous Waste Constituents Entering and Discharging from Turkey Run (Reference 4)

		Date of Test		
Parameter	Unit	6/21/79	7/9/79	8/15/79
Lead	ug/l*	< 1	< 1	0
Arsenic	ug/l	< 1	-2	6
Sulfide	ug/l	<0.10	<0.10	0
Sulfate	ug/l	58	0	-10
Flow	cubic feet/second	7.31	0.64	1.77

* = micrograms/liter

APPENDIX B

FIGURES

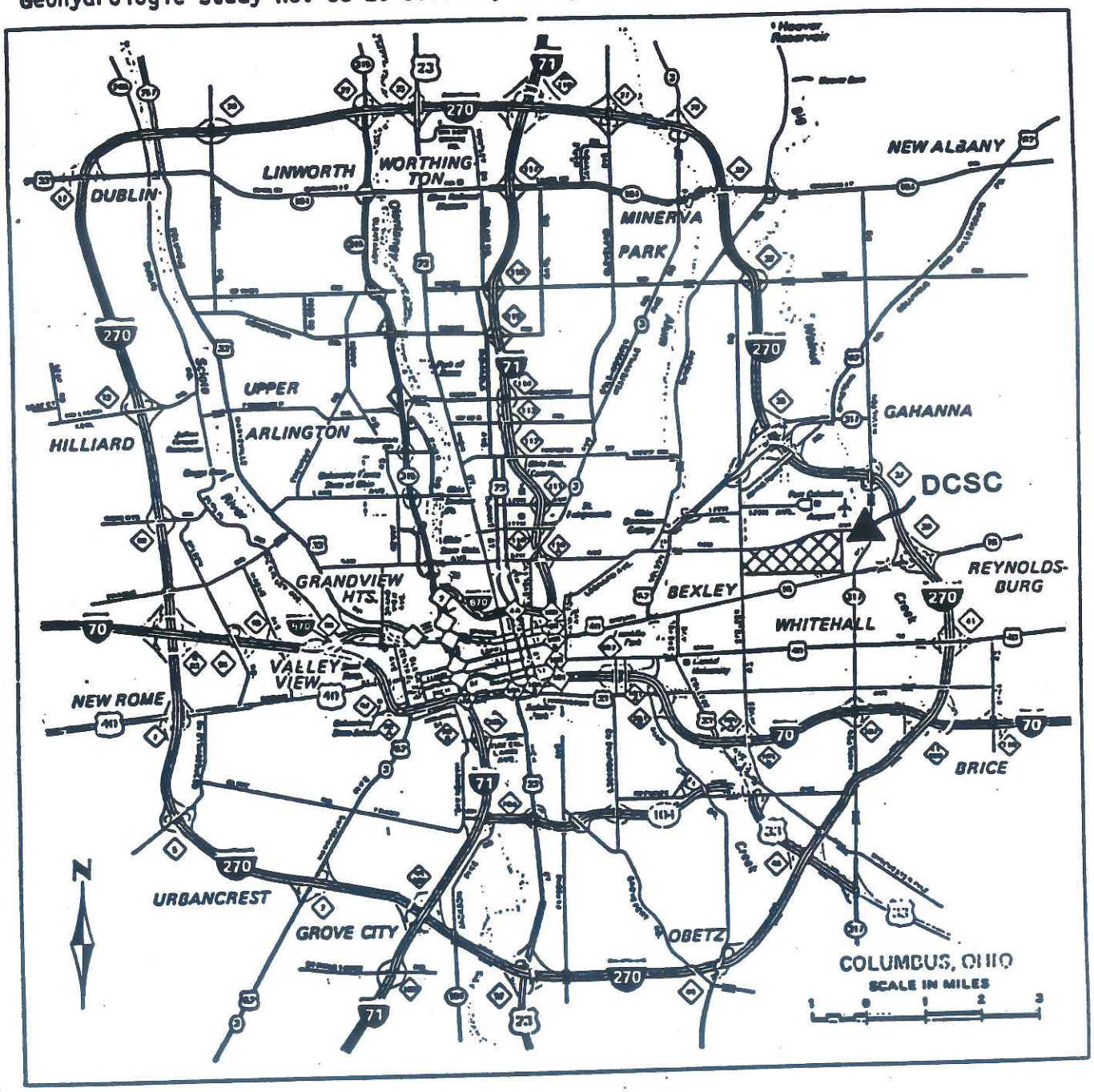
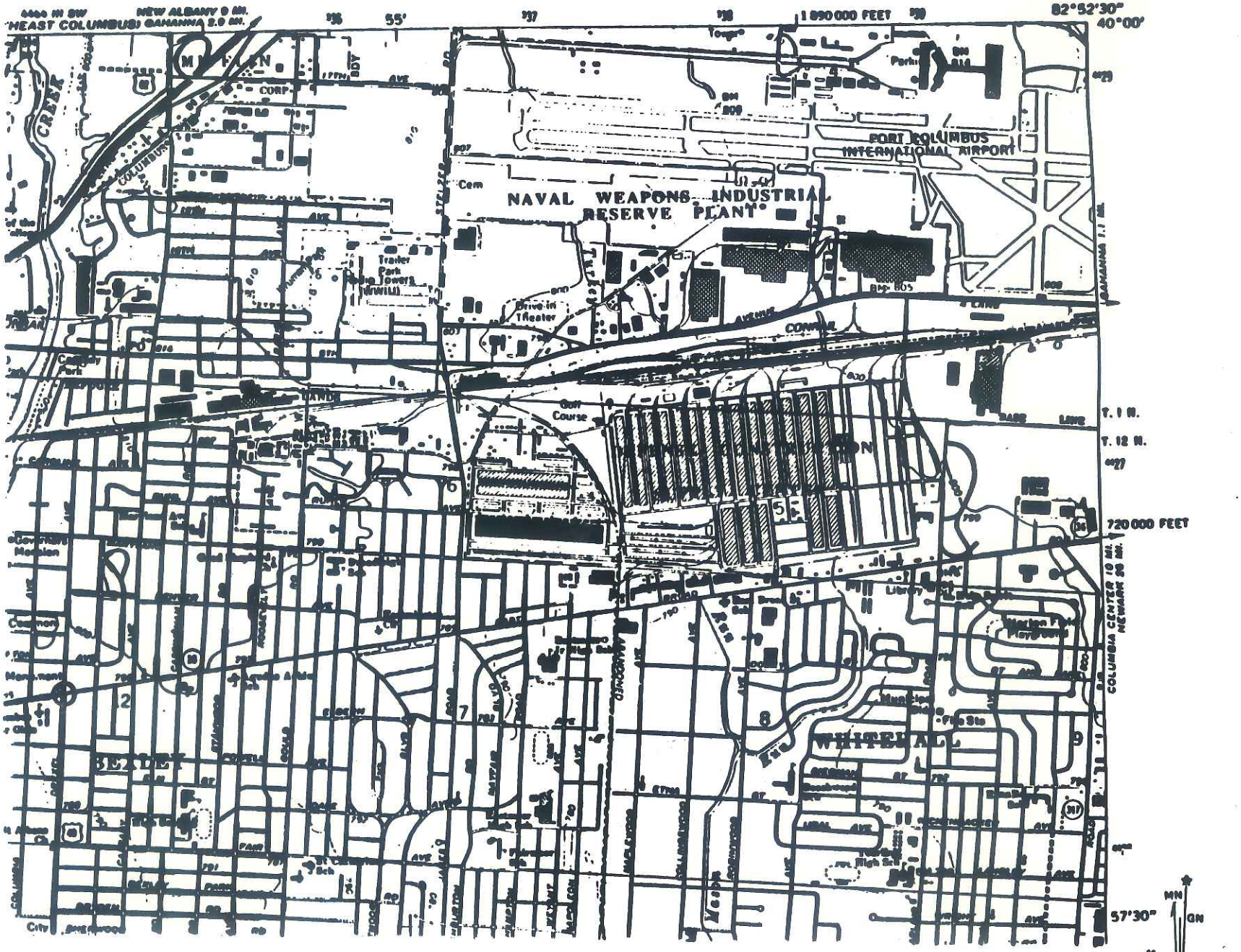


FIGURE 1. MAP SHOWING THE THE LOCATION OF DEFENSE CONSTRUCTION SUPPLY CENTER (DCSC)

7.5 MINUTE SERIES (TOPOGRAPHIC)



SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1985 MAGNETIC
DECLINATION AT CENTER

Figure 2
DCSC TOPOGRAPHICAL MAP
Source: U.S. Department of Interior Geological Survey,
Southeast Columbus Ohio Photorevised 1985

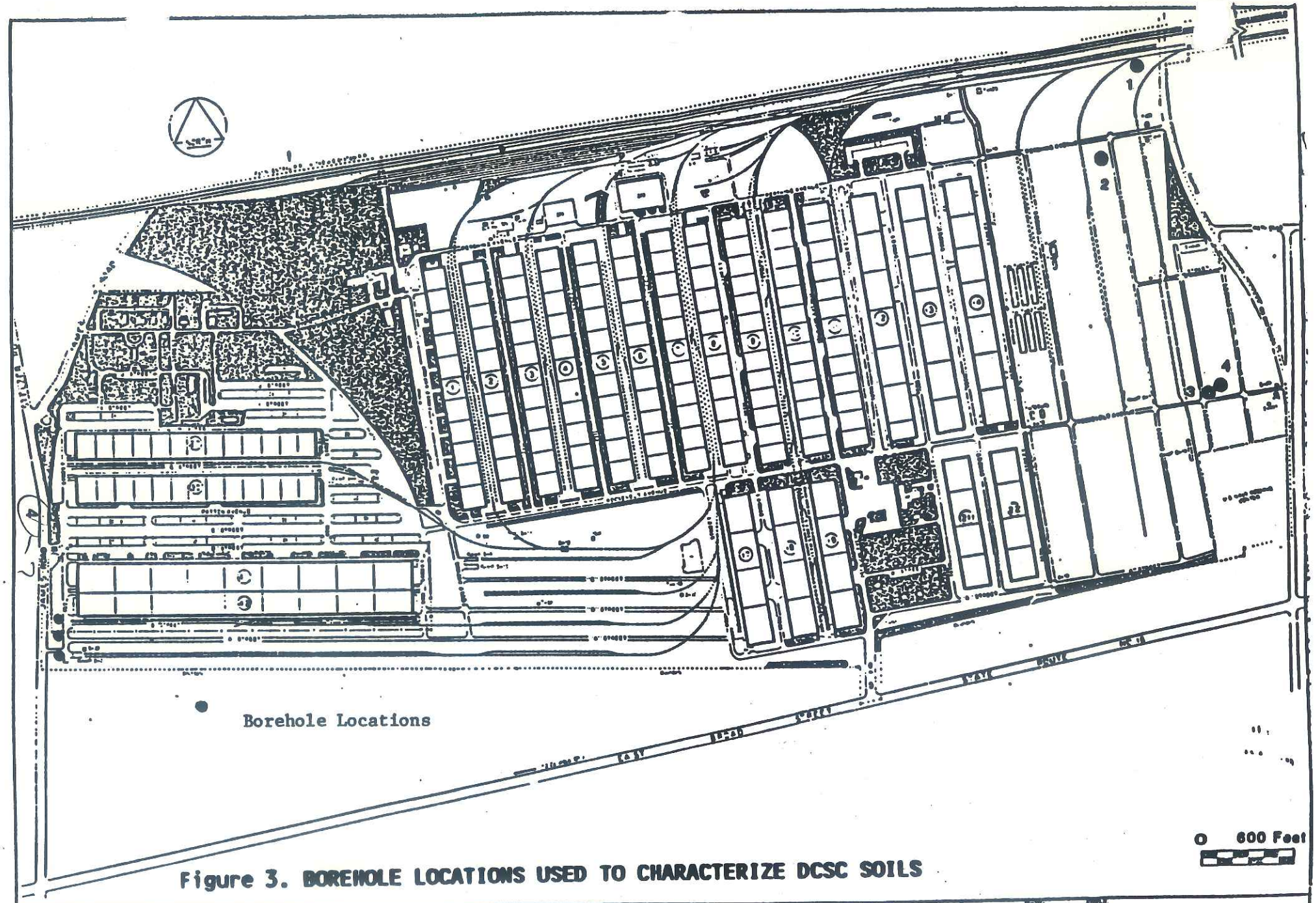


Figure 3. BOREHOLE LOCATIONS USED TO CHARACTERIZE DCSC SOILS

		DEFENSE CONSTRUCTION SUPPLY CENTER		Jan 87	GENERAL MAP

Source: Geohydrologic Study No. 38-26-0860-89, AEHA, Re: Groundwater Sampling Results and Recommendations, July 11-14, 1988.

6=LOCATION UNKNOWN

72=STORM SEWERS (Throughout Facility)

77=SANITARY SEWERS (Throughout Facility)

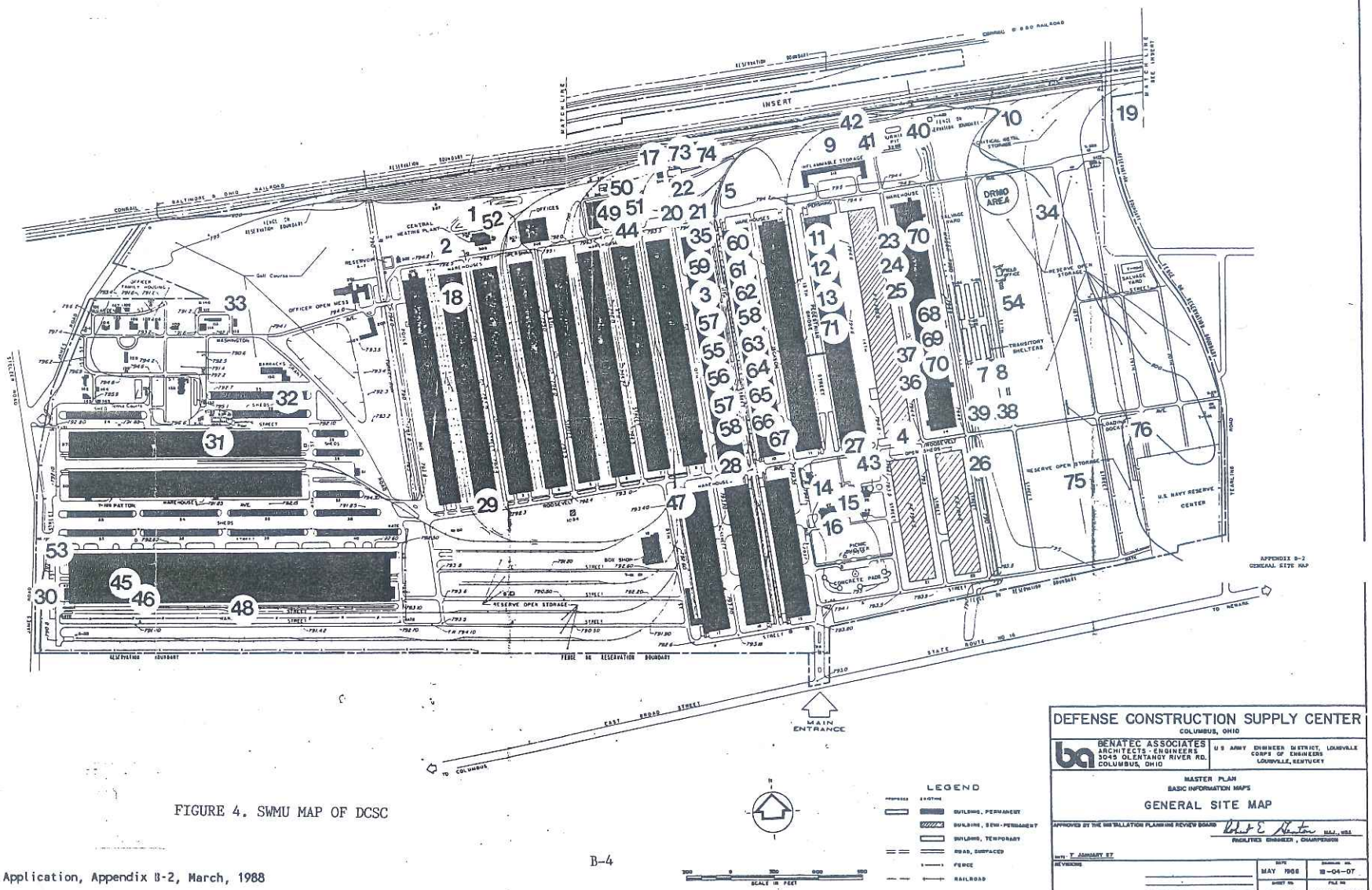


FIGURE 4. SWMU MAP OF DCSC

Source: RCRA Part B Application, Appendix B-2, March, 1988

6=LOCATION UNKNOWN

72=STORM SEWERS (Throughout Facility)

77=SANITARY SEWERS (Throughout Facility)

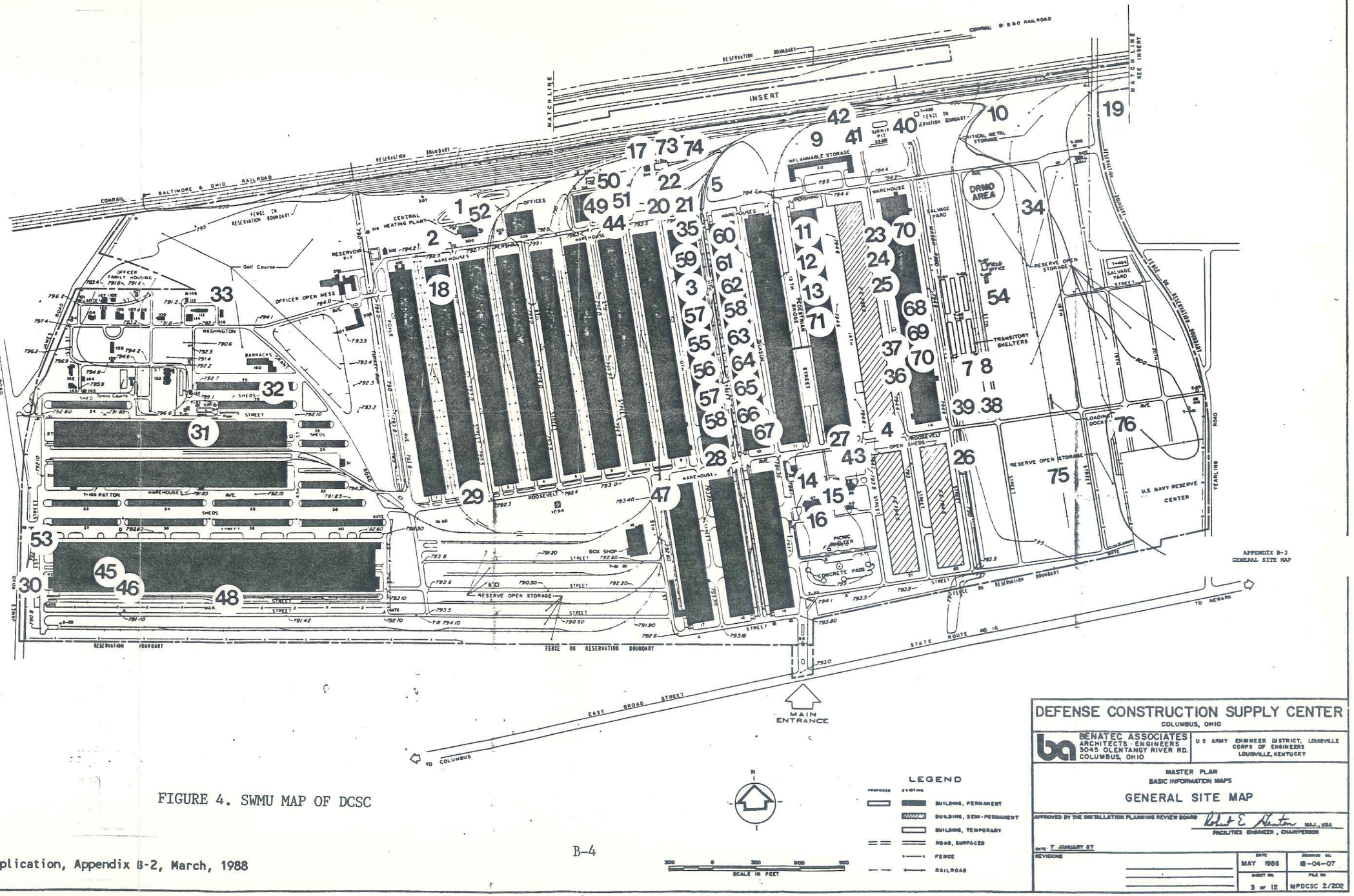


FIGURE 4. SWMU MAP OF DCSC

Source: RCRA Part B Application, Appendix B-2, March, 1988

APPENDIX C

PHOTOGRAPH LOG FOR DCSC

The following photographs constitute a visual record of the various units identified and inspected at DCSC. Over 70 photographs were taken during the VSI; however, a number were not printable due either to problems with processing, or the camera used in the field. All negatives will be made available with the final deliverable. The SWMUs from which prints were not made are: 3, 6-8, 10-15, 17, 18, 19, 24, 36, 37, 41, 51, and 55-73.

Photograph 1
July 10, 1989

View to the north of the Facility tank farm. The concrete apron in the foreground overlies several tanks which are currently in service. Building 309 15,000-gallon former UST (SWMU 21) and Building 317 15,000-gallon former diesel UST (SWMU 22) are located to the right and left, respectively.

Photograph 2
July 10, 1989

View to the northwest of Building 309, 15,000 gallon Former UST (SWMU 21). The two concrete pads in the middle ground house two monitoring wells.

Photograph 3
July 10, 1989

View to the northeast of Building 14, 1,000 gallon Former Gasoline UST (SWMU 23). The area shows evidence of recent excavation, and has water ponding in it.

Photograph 4
July 10, 1989

View to the east of Building 22, 5,000-gallon Former Diesel UST (SWMU 26). The excavation site is located in the center. No soil staining or ponding was visible.

Photograph 5
July 10, 1989

View to the south of Buildings (T-78 and T-79) which housed Building T-79 Wash Rack System (SWMU 38) and Building T-78 Steam Cleaning Rack System (SWMU 39). The buildings are of metal construction and were in good condition.

Photograph 6
July 10, 1989

View of stick-up used to empty the tank which was part of the steam cleaning system at the Building T-78 Steam Cleaning Rack System (SWMU 39). The stick-up was located west of T-78.

Photograph 7
July 10, 1989

View to the south of Building 22, 5000-gallon Former Diesel UST (SWMU 26) (concreted area in background). The island to the right of the picture formerly housed the pump for the diesel tank.

Photograph 8
July 10, 1989

View to the south of Building 14-3, 1,000-gallon Former Gasoline UST (SWMU 24). Note the runoff feature at the right of the photograph leading towards a storm sewer entrance.

Photograph 9
July 10, 1989

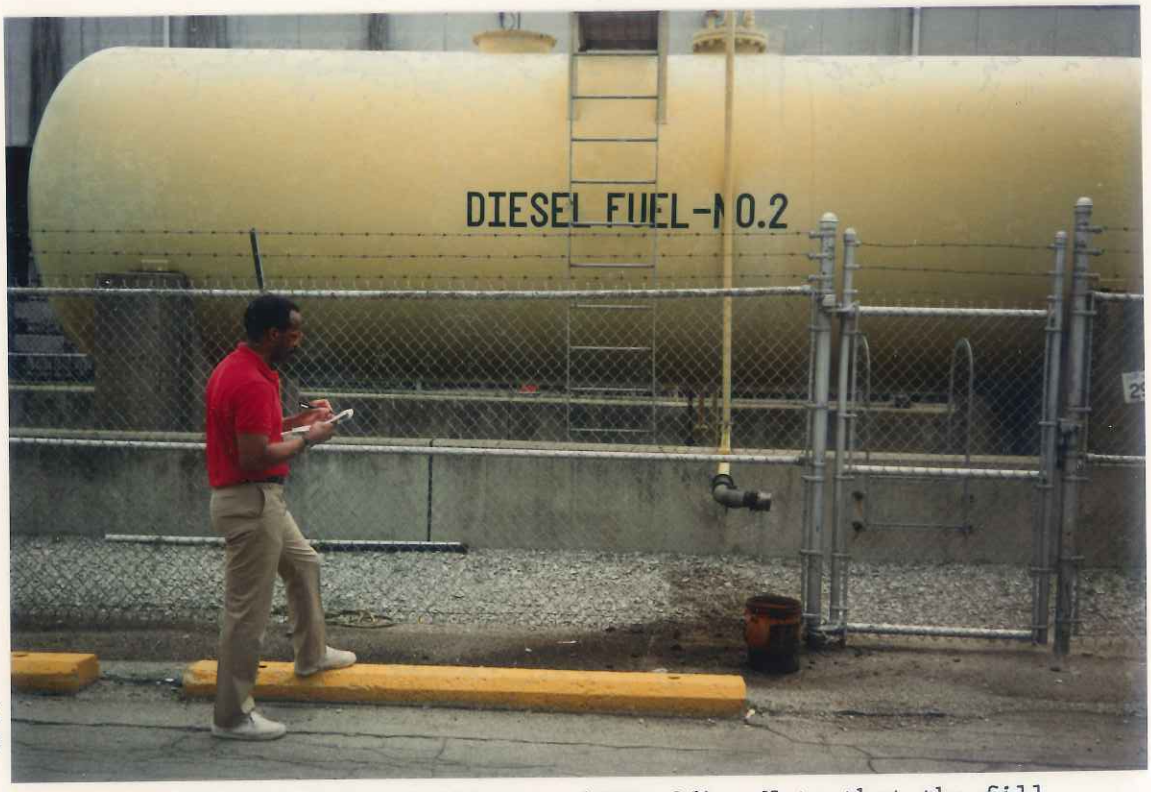
View to the southeast of Building 14-7, 1,000-gallon Former Waste Oil UST (SWMU 25). Note the water ponding on the side of the excavation.

Photograph 10
July 10, 1989

View to the south of Tank 30 Spill Site (SWMU 37). Note the discoloration on the side of the tank, the platform, and the soil in the foreground. The stain is approximately three feet in diameter.

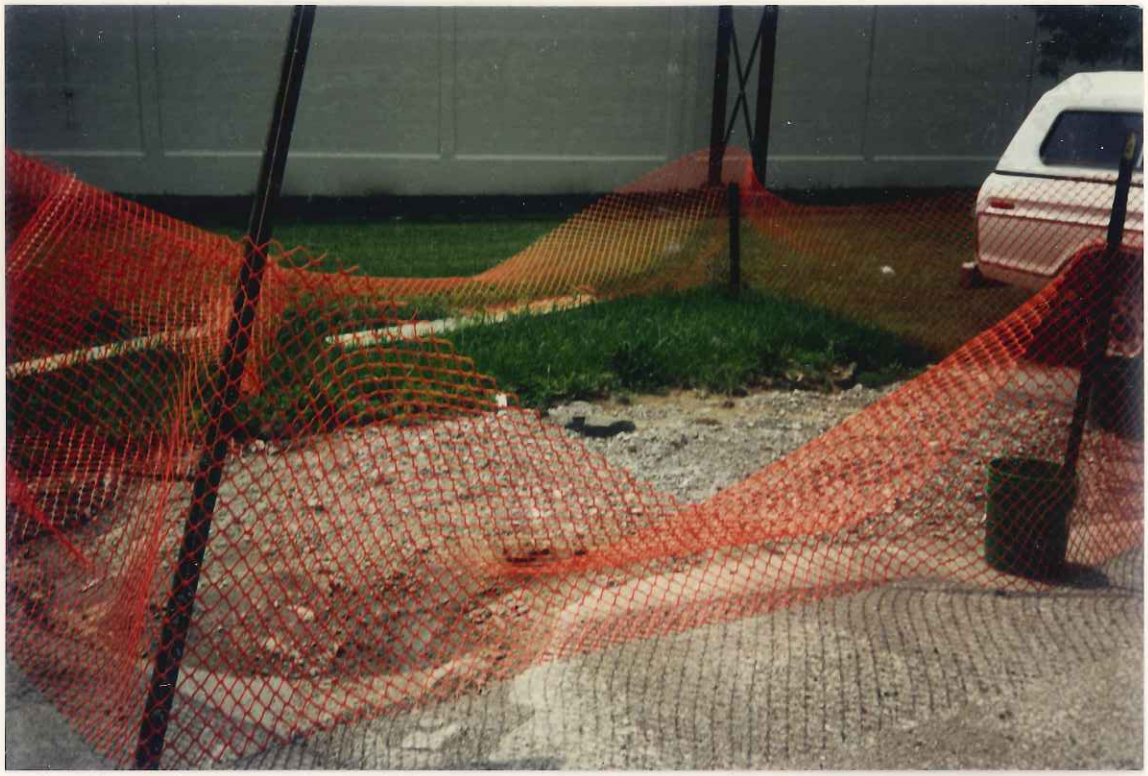
Photograph 11
July 10, 1989

View to the northwest of Building 18-1, 1,000-gallon Former Gasoline UST (SWMU 28). Grass had already begun to cover the excavation site at the time the photograph was taken.



Photograph 12
July 10, 1989

View to the west of Tank 29 Fill Point Spill Site (SWMU 36). Note that the fill point for the tank is outside the fenced area. A bucket has been placed on the bare soil under the fil point in an apparent effort to catch spillage from tank filling operations. The stain is approximately four feet by two feet.



Photograph 13
July 10, 1989

View to the south of Building 2-1, 1,000-gallon Former Gasoline UST (SWMU 29). Discoloration on the left side of the photograph appears to have been due to ponding in that area.

Photograph 14
July 10, 1989

View to the north of Building 2, 1,000-gallon Former Gasoline UST (SWMU 29). The storm sewer in the foreground may have acted as a conduit for subsurface contamination.

Photograph 15
July 10, 1989

View to the east of Building 42, 1,000-gallon Former Fuel Oil UST (SWMU 30). The ground at this unit appears to have subsided approximately one to two feet.

Photograph 16
July 10, 1989

View to the east of Building 26, 1,500-gallon Former Fuel Oil UST (SWMU 31). Note that the soil in the area of the excavation is heavily stained with fuel oil. A puddle of fuel oil is visible in the lower left corner of the excavation. Another puddle is out of sight at the upper left corner.

Photograph 17
July 10, 1989

View to the west of Tank 26, 1,000-gallon Former Fuel Oil UST (SWMU 32). The excavation has not yet been filled. Steel plates are in place to prevent entry to the excavation. The sign in the background states that the tank should not be filled.

Photograph 18
July 10, 1989

View to the east of Building 113, 500-gallon Former Gasoline UST (SWMU 33). The facility had not yet filled this excavation to grade. Although not visible in the picture, the unit was partially filled with standing water.

Photograph 19
July 10, 1989

View of one of the five catch basins which constituted the Coal Pile Run-Off Catch Basins (SWMU 1). The unit is covered by an iron grate and is slightly below the surface of the coal pile storage area.

Photograph 20
July 10, 1989

View to the east of the underground vault used to manage ash from the coal fired plant. This is a portion of the Central Heating Plant Ash Handling System (SWMU 2).

Photograph 21
July 10, 1989

View to the northeast of Methyl Bromide Burial Site (SWMU 10). Although fence posts and a sign remain, the fencing is no longer in place around the unit. The unit's surface is bare soil as opposed to pea gravel which covers the rest of the immediate area.

Photograph 22
July 10, 1989

View to the northwest of DRMO Area, 1,000-gallon Former Waste Solvent/Paint UST (SWMU 34). This area was formerly a gas pump which was converted to use for waste solvent and petroleum products. It has not yet been removed.

Photograph 23
July 10, 1989

View of the fill point for DRMO Area, 1,000-gallon Former Waste Solvent/Plant UST (SWMU 34). The material on the sides of the funnel appears to be dried paint.

Photograph 24
July 10, 1989

View to the northeast of area west of the Naval Reserve Facility (SWMU 75). This unit is comprised of several waste management units which could not be precisely located by the facility. Some portions of this area were used as a solvent dumping ground, while other portions were used as a burning ground by the fire department. A monitoring well is visible in the right foreground. The area is now covered with pea gravel and is used for auxilliary storage for excess construction materials. Somewhere in the area of the photograph it is believed, according to facility personnel, to have been the solvent dumping ground.

Photograph 25
July 10, 1989

View to the east of a parking lot which covers the former location of the Incinerator (SWMU 5). The precise location of the unit could not be determined by the facility.

Photograph 26
July 10, 1989

View to the south of the Fire Department Wash Rack (SWMU 43). This indoor unit consisted of a single drain to which all washwater from cleaning of fire vehicles and equipment drains. The floor is of concrete construction and sealed. The circular manhole in the foreground is for a cleanout.

Photographs 27, 28
July 10, 1989

Panoramic view to the east of the northern part of the area north of the Naval Reserve Facility (SWMU 76). The facility believes that this area served as a burning ground for the fire department. Like the southern portion of the unit, this area is also covered with pea gravel.

Photographs 29, 30
July 10, 1989

Panoramic view to the southwest of Building 330 Former Trash Compactor (SWMU 40). The unit consisted of a concrete area approximately 100 feet by 100 feet with a depression (to the right of the photograph) where the roll-off box and the compactor mechanism sat. The concrete in the area appeared to be worn and in several instances grass and shrubs had grown through cracks in its surface.

Photograph 31
July 10, 1989

View of Building 330 Classified Document Shredder (SWMU 41). The shredder is of metal construction, and sits on a concrete floor inside Building 330.

Photograph 32
July 10, 1989

View to the northwest of Building 330 Scrap Pile (SWMU 42). This area was used for storage of material too bulky to fit into dumpsters. The pipes in the foreground appear to be from the facility water system. The tanks in the background were all empty and awaiting disposal.

Photograph 33
July 10, 1989

View to the east of Construction Materials Dump Site (SWMU 19). This unit was identified from the file material. The area's facility representative believes the unit appeared not to have been used in the recent past. Some evidence of old brick and other construction debris was noted but is not visible in the photograph.

Photograph 34
July 10, 1989

View to the east of Building 308 Sawdust Collection System (SWMU 46). This unit consists of an indoor collection system which removes sawdust from the air and deposits it in the baghouse at the top of the photograph. The baghouse is emptied to the dumpster at the center on an as-needed basis. The dumpster is of metal construction and five cubic yards in volume. It sits on an asphalt surface. This unit is typical of the other sawdust baghouse units (SWMUs 47-50).

Photograph 35
July 11, 1989

View of the Building 308 Paint Shop Outdoor Accumulation Area (SWMU 50). Two drums are used to accumulate thinners and slops from the Building 308 Paint Shop. The drums are in good condition with hazardous waste labels in plain view. Both drums appear to have had minor spills down their sides due to sloppy filling practices. Minor staining appears to be evident in the area around the pallet.

Photograph 36
July 11, 1989

View to the east of typical of Facility Dumpsters (SWMU 53). These units are of metal construction and range in size from 3 to 42 cubic yards. They are for the most part located on asphalt similar to these two examples.

Photographs 37 and 38
July 11, 1989

Panoramic view to the north of Central Heating Plant Air Pollution Control System (SWMU 52). The stack to the far left of the photograph is for exhausting waste heat from the boilers. The upright unit to the stack's right is the electrostatic precipitator which is connected to the stack by ductwork. It, in turn, is connected to the boilers by ductwork which leads from its right. The three stacks in the background are used in emergencies when the electrostatic precipitator ceases to function. Piping in the right foreground is used to transfer steam throughout the facility.

Photograph 39
July 11, 1989

View of one of three units which constitutes Building 314 Pesticide Shop Sumps (SWMU 17). This unit is typical of the sumps in the Pesticide Shop. It is an in-ground unit approximately 12 inches by 18 inches, and 18 inches deep. Although the unit appeared wet, it had no fluid in it. No cracks could be seen during the VSI. The grate at the top of the photograph normally rests on top of the sump.

Photographs 40 and 41
July 11, 1989

Panoramic view of the areas north and west of the Naval Reserve Facility (SWMUs 75 and 76). The area in the foreground is a view of SWMU 75, with SWMU 76 in the background. Note that both areas are used for storage of equipment or material. Also note that the areas are covered with pea gravel and are very flat. The facility representative was unable to recall any of the activities which went on at these two units.

Photograph 42
July 11, 1989

View of one of the two trash compactors (Facility Trash Compactors, SWMU 53). The metal conduit which is in the background, shields a conveyor belt system which transfers cardboard and other paper material to the compactor, which is located to the right in the photograph. The capacity of the roll-off box is 42 cubic yards.

Photograph 43
July 11, 1989

View of the easternmost portion along Mason Run (SWMU 72). This area has been paved with concrete approximately 35 yards along its banks within the southern boundary of the facility. The water was brown but clear. The sheen-like appearance on the water does not appear to be oil, but rather algae.

Photograph 44
July 12, 1989

View to the east of the Round House with the Round House Locomotive Cleaning Area (SWMU 74) in the foreground. The darker areas of ground appear to be due to recent rains.

Photograph 45
July 12, 1989

Northwesterly view of the Security Incinerator Stack (part of SWMU 4). The stack is of brick construction, and is approximately 60 feet in height. The yellow tank in the foreground is the incinerator fuel tank.

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APPENDIX D

ORIGINAL FIELD LOG

This is the original field log from the VSI of the DCSC facility. The field log was not originally bound because of the problems in the shipment of the VSI Team's field equipment. As a result, notes were taken in an unbound tablet. This unbound copy is bound in Velo and submitted as part of the final deliverable along with the other references.

The VSI at the DCSC facility, took place in Columbus, Ohio between July 10 and 12, 1989. With the exception of problems with the delivery of the field equipment, there were no major problems or incidents encountered during the VSI. The weather during this time period was hot and humid during the day (temperature in excess of 85 degrees F). During the evenings there were occasional thunderstorms which would often leave the ground at the facility damp.

PROPOSED WORK PLAN

U.S. DOD DEFENSE CONSTRUCTION SUPPLY
COLUMBUS, OHIO
RCRA FACILITY ASSESSMENT
PRELIMINARY REVIEW/VISUAL SITE INSPECTION REPORT
EPA I.D. NO. OH6210020222

Submitted by:

Kearney/Centaur Division
225 Reinekers Lane
Third Floor
Alexandria, VA 22314

Submitted to:

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

In response to:

EPA Contract No. 68-W9-0040
Work Assignment No. R05-01-22

July 28, 1989

EPA Contract No. 68-W9-0040
Work Assignment No. R05-01-22
U.S. DOD Defense Construction Supply
Columbus, Ohio
PR/VSI Report
EPA I.D. No. OH6210020222

Work Plan Amendment No. 1
July 28, 1989

Regional Work Plan Approval

I have reviewed the attached work plan and find it meets our criteria for technical accuracy and properly reflects the scope of work and intended use of the deliverable(s), as described in the work assignment. The projected cost, staff hour estimates, and labor mix are also acceptable.

APPROVAL:

_____ _____
EPA Regional Project Officer Date

APPROVAL:

_____ _____
EPA Headquarters Project Officer Date

APPROVAL:

_____ _____
EPA Contracting Officer Date

CONCURRENCE:

_____ _____
A.T. Kearney Program Director Date

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U.S. DOD DEFENSE CONSTRUCTION SUPPLY
COLUMBUS, OHIO
RCRA FACILITY ASSESSMENT

WORK TO BE PERFORMED

The Kearney Team will perform a file search of State of Ohio and EPA Region V files, conduct a Preliminary Review (PR) and prepare a PR report for the U.S. DOD Defense Construction Supply facility. The Team will also conduct a Visual Site Inspection (VSI), and prepare a PR/VSI report evaluating the potential for release from each solid waste management unit (SWMU) and other area of concern (AOC) identified during the PR/VSI. In addition, the Kearney Team will provide suggested further actions for each SWMU and AOC.

The Defense Construction Supply Center (DSCS) is a field installation of the Defense Logistics Agency. The mission of DCSC is to organize, direct, manage, and administer and control construction equipment, components, and repair parts used by the military and other federal agencies.

PRIMARY INTENDED USE

The purpose of this work assignment is to assist EPA Region V in:

(1) Identifying and gathering information on releases at the facility.

(2) Evaluating SWMUs and AOCs for release potential to all media, and evaluating regulated units, subject to Subpart F requirements, for release potential to media other than groundwater.

(3) Making preliminary determinations regarding releases of concern and the need for further actions, including a Sampling Visit, RCRA Facility Investigation, and/or interim measures at the facility.

(3) Screening from further investigations those SWMUs and AOCs that do not present a release potential.

The deliverable will be written in a format to be approved by the EPA WAM. It will be suitable for use by EPA in the administrative record for the facility.

PROJECTS AND TASKS

The project will consist of the following tasks:

Task 01 - Prepare a work plan. This will include all preliminary contacts, including the EPA Work Assignment Manager (EPA WAM) and state representative, required for the preparation of the work plan, and file searches at the Ohio EPA and EPA Region V offices.

Files to be reviewed include RCRA, NPDES, CERCLA, and Air Quality, as well as any Solid Waste files and emergency response or spill notifications.

At the request of the EPA WAM, the Kearney Team Work Assignment Manager (WAM) will contact the facility to schedule the Visual Site Inspection (VSI).

Task 02 - Conduct a Preliminary Review (PR) of files and prepare a PR report. Specific information to be addressed in the PR report will include the following:

- Description of facility operations, location, environmental setting, groundwater monitoring, and release history.

- A summary of each SWMU, including description of unit, period of operations, wastes managed, description of release controls, history of any releases from unit, and information needs to be obtained through the VSI. This information will be presented in a checklist format as approved by the EPA WAM. Use of the checklist has been approved by the EPA WAM.

- List of references used in preparation for PR Report. Each document will be cross-referenced within each SWMU write-up.

- Site map or facility drawing delineating each SWMU.

The PR Report will follow the same format as the PR/VSI Report with the exception of the SWMU description (a checklist will be used as discussed above).

Because the PR Report is a working document and is for internal use only, a formal quality control review will not be performed. However, the PR will be reviewed by the Kearney Technical Director prior to delivery to EPA.

Task 03 - Prepare for and conduct VSI. At the request of the EPA WAM, the VSI Notification Letter will be prepared and sent by the Kearney Team directly to the facility on A.T. Kearney letterhead.

Prior to the VSI, the Kearney Team will discuss the agenda and goals of the VSI with the EPA WAM. The objectives of the VSI will include the following:

- Verify the information collected during the PR, including the location and condition of the SWMUs and AOCs;
- Identify any additional SWMUs and AOCs;
- Verify and obtain factual information to characterize properly all SWMUs and AOCs. Perform visual inspection and document field observations with photographs and field logs.
- Review site information with the facility representative and collect additional information to determine the need for further actions.
- Identify possible future sampling locations as appropriate.

This task includes preparation of the field equipment to be used during the VSI.

Task 04 - Prepare a PR/VSI Report according to the format presented in the Region V RFA - Related Scope of Work. In cases where information on similar SWMUs can be combined, tables will be developed instead of individual SWMU write-ups. In addition, a cover letter will accompany the PR/VSI Report. At the request of the EPA WAM, the cover letter will be brief and will highlight issues contained in the PR/VSI report. According to Carl Stoltz, Environmental Coordinator for the Air Force, the Kearney Team will not be permitted to take photographs at the facility

during the VSI. However, Mr. Stoltz will make arrangements for photographs to be taken and developed by the facility. In addition, Mr. Stoltz will send the photographs to the Kearney Team as soon as possible. However, it should be noted that adherence to the proposed schedule will rely on a complete and timely submittal of the photographs from the facility.

If the Kearney Team suggests sampling for specific units to verify that a release has occurred, and the EPA WAM concurs that a Sampling Visit is warranted, it will be necessary to amend this work plan to include the tasks for conducting a Sampling Visit and revising the PR/VSI report to incorporate a Sampling Visit Report into the PR/VSI to create a final RFA report.

Task 98 - Perform quality control review of draft deliverables.

Task 99 - Provide management oversight for the project.

HEALTH AND SAFETY PLAN

In preparing for the site visit, the Kearney Team will complete a checklist for the site to identify the activities and potential hazards at the site. Information to complete the checklist will be obtained from the Regional Project Officer and/or other EPA staff who are knowledgeable about the site and from the facility contact.

After the checklist has been completed, a determination will be made regarding the need for a health and safety plan for the site visit based on the anticipated hazards at the site. In cases where a health and safety plan is required, the Kearney Team will develop a specific plan for the site and amend the project plan to include an additional task to provide for resources for plan development. In cases where no health and safety plan is required (i.e., minimal hazard potential), the Kearney Team will follow health and safety procedures as outlined in the Kearney Staff Protocol for site visits.

MONTHLY PROGRESS REPORTS

Information regarding the status of this project will be included in the monthly progress reports A.T. Kearney, Inc. provides to EPA. The information will address:

- Work completed to date,
- Difficulties encountered and remedial action taken,
- Anticipated activity during the subsequent reporting period, and
- Sufficiency of dollars and hours to complete the project.

QUALITY CONTROL PLAN

The Work Assignment Manager will conduct milestone checks on each task. In addition, the draft project deliverable will be reviewed by a senior technical staff member of DPRA, Inc. to ensure technical quality and consistency with EPA regulations and policy.

STAFFING AND MANAGEMENT

Dorothy LaRusso of Kearney/Centaur Division will serve as the Kearney Team Work Assignment Manager (WAM).

Individual staff responsibilities are shown in Attachment I. The proposed staffing and task assignments for the project are shown in Attachment II. Hour allocations are shown for each task.

All applicable Conflict of Interest Avoidance (COI) procedures have been adhered to for the proposed firms and staffs.

PERFORMANCE SCHEDULE

The work assignment will be conducted according to the schedule shown in Attachment III.

COST ESTIMATE

The estimated cost for completing this work assignment is included as Attachment IV.

BASIS FOR PERFORMANCE EVALUATION

The measures for evaluation of work assignment performance are described for each of the following performance criteria: technical quality; compliance with schedule; compliance with budget; and management. Measures for each of these criteria are discussed and agreed upon by the RPO and the KWAM during the assignment planning process. To the extent possible, clear, quantitative measures should be established.

EPA Contract No. 68-W9-0040
Work Assignment No. R05-01-22
U.S. DOD Defense Construction Supply
Columbus, Ohio
PR/VSI Report
EPA I.D. No. OH6210020222

Work Plan Amendment No. 1
July 28, 1989

ATTACHMENT I

STAFF RESPONSIBILITY CHART

STAFF	ROLE	AREAS OF RESPONSIBILITY
A. Anderson	Technical Director	Management and oversight;
	Regional Liaison	Initiates work; monitors project planning and implementation; conducts project performance evaluation
D. LaRusso	Kearney Work Assignment Manager	Day-to-day management and oversight
J. Atchue	Technical Staff	PR Report, Health and Safety Checklist, Preparation of field equipment, VSI field team leader, and PR/VSI Report
D. Bowie	Technical Staff	PR Report, VSI field team, Notification letter, and PR/VSI Report
G. Carter	Technical Staff	Reference list and photo log
P. Martz	Technical Staff	File Search at Ohio EPA
M. Greenwood	Technical Staff	File Search at Ohio EPA
P. Williams	Health & Safety Director	Health and Safety Checklist Review
W. Rohrer	Quality Control	Critical Review
A. Williams	Technical Assistant	Administrative support, to the Technical Director such as: perform COI checks, assemble and edit work plans, project tracking, general completeness review of deliverables, and distribute documents

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ATTACHMENT II

STAFFING

STAFF			TASK						
Name	Firm 1/	Labor Category 2/	01	02	03	04	98 3/	99 4/	TOTAL
Technical Director									
A. Anderson	ATK	P4	6	-	-	-	-	10	16
Work Assignment Manager									
D. LaRusso	K/C	P4	16	-	-	-	-	12	28
Staffing									
D. LaRusso	K/C	P4	-	12	-	18	-	-	30
J. Atchue	K/C	P3	-	14	24	66	-	-	104
D. Bowie	K/C	P4	-	37	24	80	-	-	141
G. Carter	K/C	P1	-	-	-	16	-	-	16
D. Scholz	K/C	P2	-	-	-	-	-	-	-
P. Williams	K/C	P4	-	-	3	-	-	-	3
A. Anderson	ATK	P4	2	-	-	-	-	2	4
P. Martz	ATK	P2	5	-	-	-	-	-	5
M. Greenwood	ATK	P1	3	-	-	-	-		3
A. Williams	ATK	T1	12	-	-	-	-	12	24
Tech. Support	ATK		6	-	-	-	-	-	6
Tech. Support	K/C		-	12	-	40	-	-	52
Quality Control									
W. Rohrer	DPRA	P4	-	-	-	-	18	-	18
Tech. Support	DPRA		-	-	-	-	3	-	3
TOTALS			50	75	51	220	21	36	453

1/ ATK = A.T. Kearney, Inc.
K/C = Kearney/Centaur, a division of A.T. Kearney, Inc.
DPRA = DPRA, Inc.

2/ Provides Labor Classification for Each Staff Person (e.g., P4, P3)

3/ Task 98 - Quality Control

4/ Task 99 - Project Management

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July 28, 1989

ATTACHMENT III

SCHEDULE

Task	Milestone #	Description	Scheduled Date
01	01	Prepare work plan Prepare work plan Amendment 1	06/19/89 07/28/89
02	02	Submit VSI Notification Letter	06/19/89
02	03	Submit PR Report to TD	06/27/89
03	04	Submit Health & Safety Check-list to Kearney Health & Safety Director	06/29/89
02	05	Submit PR Report to EPA	06/30/89
03	06	Conduct conference call with EPA	07/06/89
03	07	Conduct VSI	7/10-7/12/89
03	08	Conduct conference call with EPA	7/21/89
04	09	Submit draft PR/VSI Report to QC	08/14/89
04	10	Submit QC comments to WAM	08/18/89
04	11	Submit Final PR/VSI Report to TD	08/22/89
04	12	Submit Final PR/VSI Report to EPA	08/25/89
99			In accordance with above milestones

EPA Contract No. 68-W9-0040
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Work Plan Amendment No. 1
July 28, 1989

ATTACHMENT IV

ESTIMATED COSTS

A.T. Kearney, Inc.	Hours	Cost
Labor	432	$17,398
Other Direct Costs		1,903
Travel		2,000
Subtotal		$21,301
DPRA, Inc.		
Labor	21	$ 1,432
Other Direct Costs		75
Subtotal		$ 1,507
	SUBTOTAL	$22,808
A.T. Kearney, Inc.		
Fee - 3% Base		$ 684
3% Award		684
Subtotal		$ 1,368
TOTAL ESTIMATED COST	453	$24,176

AVERAGE TOTAL LABOR COST
PER HOUR FOR ALL FIRMS $41.57

3023E-CH

PROPOSED WORK PLAN

U.S. DOD DEFENSE CONSTRUCTION SUPPLY
COLUMBUS, OHIO
RCRA FACILITY ASSESSMENT
EPA I.D. NO. OH6210020222

Submitted by:

Kearney/Centaur Division
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Submitted to:

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

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June 19, 1989

EPA Contract No. 68-W9-0040
Work Assignment No. R05-01-22
U.S. DOD Defense Construction Supply
Columbus, Ohio
EPA I.D. No. OH6210020222

Work Plan Amendment No. 0
June 19, 1989

Regional Work Plan Approval

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APPROVAL:

_____ _____
EPA Regional Project Officer Date

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_____ _____
EPA Headquarters Project Officer Date

APPROVAL:

_____ _____
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CONCURRENCE:

_____ _____
A.T. Kearney Program Director Date

EPA Contract No. 68-W9-0040
Work Assignment No. R05-01-22
U.S. DOD Defense Construction Supply
Columbus, Ohio
EPA I.D. No. OH6210020222

Work Plan Amendment No. 0
June 19, 1989

U.S. DOD DEFENSE CONSTRUCTION SUPPLY
COLUMBUS, OHIO
RCRA FACILITY ASSESSMENT

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Task 99 - Provide management oversight for the project.

HEALTH AND SAFETY PLAN

In preparing for the site visit, the Kearney Team will complete a checklist for the site to identify the activities and potential hazards at the site. Information to complete the checklist will be obtained from the Regional Project Officer and/or other EPA staff who are knowledgeable about the site and from the facility contact.

After the checklist has been completed, a determination will be made regarding the need for a health and safety plan for the site visit based on the anticipated hazards at the site. In cases where a health and safety plan is required, the Kearney Team will develop a specific plan for the site and amend the project plan to include an additional task to provide for resources for plan development. In cases where no health and safety plan is required (i.e., minimal hazard potential), the Kearney Team will follow health and safety procedures as outlined in the Kearney Staff Protocol for site visits.

MONTHLY PROGRESS REPORTS

Information regarding the status of this project will be included in the monthly progress reports A.T. Kearney, Inc. provides to EPA. The information will address:

- Work completed to date,
- Difficulties encountered and remedial action taken,
- Anticipated activity during the subsequent reporting period, and
- Sufficiency of dollars and hours to complete the project.

QUALITY CONTROL PLAN

The Work Assignment Manager will conduct milestone checks on each task. In addition, the draft project deliverable will be reviewed by a senior technical staff member of DPRA, Inc. to ensure technical quality and consistency with EPA regulations and policy.

STAFFING AND MANAGEMENT

Dorothy LaRusso of Kearney/Centaur Division will serve as the Kearney Work Assignment Manager (KWAM).

Individual staff responsibilities are shown in Attachment I. The proposed staffing and task assignments for the project are shown in Attachment II. Hour allocations are shown for each task.

All applicable Conflict of Interest Avoidance (COI) procedures have been adhered to for the proposed firms and staffs.

PERFORMANCE SCHEDULE

The work assignment will be conducted according to the schedule shown in Attachment III.

COST ESTIMATE

The estimated cost for completing this work assignment is included as Attachment IV.

BASIS FOR PERFORMANCE EVALUATION

The measures for evaluation of work assignment performance are described for each of the following performance criteria: technical quality; compliance with schedule; compliance with budget; and management. Measures for each of these criteria are discussed and agreed upon by the RPO and the KWAM during the assignment planning process. To the extent possible, clear, quantitative measures should be established.

ATTACHMENT I

STAFF RESPONSIBILITY CHART

STAFF	ROLE	AREAS OF RESPONSIBILITY
A. Anderson	Technical Director	Management and oversight;
D. LaRusso	Kearney Work Assignment Manager	Day-to-day management and oversight
A. Anderson	Regional Liaison	Initiates work; monitors project planning and implementation; conducts project performance evaluation
J. Atchue	Technical Staff	PR Report, Health and Safety Checklist, Preparation of field equipment, VSI field team leader, and PR/VSI Report
D. Bowie	Technical Staff	PR Report, VSI field team, Notification letter, and PR/VSI Report
D. Scholz	Technical Staff	Reference list and photo log
P. Martz	Technical Staff	File Search at Ohio EPA
M. Greenwood	Technical Staff	File Search at Ohio EPA
P. Williams	Health & Safety Director	Health and Safety Review
W. Rohrer	Quality Control	Critical Review
A. Williams	Technical Assistant	Administrative support

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U.S. DOD Defense Construction Supply
Columbus, Ohio
EPA I.D. No. OH6210020222

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June 19, 1989

ATTACHMENT II

STAFFING

STAFF			TASK						
Name	Firm 1/	Labor Category 2/	01	02	03	04	98 3/	99 4/	TOTAL
Technical Director									
A. Anderson	ATK	P4	4	-	-	-	-	10	14
Work Assignment Manager									
D. LaRusso	K/C	P4	12	-	-	-	-	12	24
Staffing									
D. LaRusso	K/C	P4	-	12	-	10	-	-	22
J. Atchue	K/C	P3	-	14	16	30	-	-	60
D. Bowie	K/C	P4	-	37	16	45	-	-	98
D. Scholz	K/C	P1	-	10	-	20	-	-	30
P. Williams	K/C	P4	-	-	3	-	-	-	3
A. Anderson	ATK	P4	2	-	-	-	-	2	4
P. Martz	ATK	P2	5	-	-	-	-	-	5
M. Greenwood	ATK	P1	3	-	-	-	-		3
A. Williams	ATK	T1	8	-	-	-	-	12	20
Tech. Support	ATK		4	-	-	-	-	-	4
Tech. Support	K/C		-	12	-	28	-	-	40
Quality Control									
W. Rohrer	DPRA	P4	-	-	-	-	14	-	14
Tech. Support	DPRA		-	-	-	-	3	-	3
TOTALS			38	85	35	133	17	36	344

1/ ATK = A.T. Kearney, Inc.
K/C = Kearney/Centaur, a division of A.T. Kearney, Inc.
DPRA = DPRA, Inc.

2/ Labor Category (e.g., P4, P3)

3/ Task 98 - Quality Control

4/ Task 99 - Project Management

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ATTACHMENT III

SCHEDULE

Task	Milestone #	Description	Scheduled Date
01	01	Prepare work plan	06/19/89
02	02	VSI Notification Letter	06/19/89
02	03	PR Report to TD	06/27/89
03	04	Health & Safety Check-list to Kearney Health & Safety Director	06/29/89
02	05	PR Report to EPA	06/30/89
03	06	Conference call with EPA	07/06/89
03	07	Conduct VSI	7/10-7/11/89
03	08	Conference call with EPA	7/13/89
04	09	Submit draft PR/VSI Report to QC	07/26/89
04	10	QC comments to WAM	07/31/89
04	11	Final PR/VSI Report to TD	08/07/89
04	12	Final PR/VSI Report to EPA	08/11/89
99			In accordance with above milestones

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ATTACHMENT IV

ESTIMATED COSTS

A.T. Kearney, Inc.	Hours	Cost
Labor	327	$12,855
Other Direct Costs		1,445
Travel		2,000
Subtotal		$16,300
DPRA, Inc.		
Labor	17	$ 1,139
Other Direct Costs		75
Subtotal		$ 1,214
	SUBTOTAL	$17,514
A.T. Kearney, Inc.		
Fee - 3% Base		$ 525
3% Award		525
Subtotal		$ 1,050
TOTAL ESTIMATED COST	344	$18,564

AVERAGE TOTAL LABOR COST
PER HOUR FOR ALL FIRMS $40.68

3023E-CH

DEFENSE LOGISTICS AGENCY
DEFENSE CONSTRUCTION SUPPLY CENTER
POST OFFICE BOX 3990
COLUMBUS, OHIO 43216-5000

14 MAR 1986

IN REPLY REFER TO: DCSC-W

SUBJECT: Hazardous Waste Permit Application, EPA I.D. No. OH6210020222

Mr. David A. Stringham
Chief, Solid Waste Branch
RCRA Activities, Region V
P.O. Box A3587
ATTN: ATKOG
Chicago, Illinois 60690

Dear Mr. Stringham:

Pursuant to your letter of 31 January 1986, a copy of the certification statement regarding potential releases from solid waste management units is enclosed.

If you should have any questions regarding our solid waste management facility, please contact Mr. Toy F. Lee at (614)238-2104.

Sincerely,

Richard J. Mottl

RICHARD J. MOTTL
LTC, USA
Director of Installation Services

1 Encl

CERTIFICATION REGARDING POTENTIAL RELEASES FROM
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: Defense Construction Supply Center

EPA I.D. NUMBER: OH6210020222

LOCATION CITY: Columbus

STATE: Ohio 43216

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTE UNITS CURRENTLY SHOWN IN YOUR PART A APPLICATION

	YES	NO
• Landfill		X
• Surface Impoundment		X
• Land Farm		X
• Waste Pile		X
• Incinerator		X
• Storage Tank (Above Ground)		X
• Storage Tank (Underground)		X
• Container Storage Area		X
• Injection Wells		X
• Wastewater Treatment Units		X
• Transfer Stations		X
• Waste Recycling Operations		X
• Waste Treatment, Detoxification		X
• Other		X

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions and location at facility. Provide a site plan if available.

NONE

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part A application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring.

   Please provide the following information

   a. Date of release
   b. Type of waste released
   c. Quantity or volume of waste released
   d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

   NONE

4. In regard to the prior or continuing releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

   NONE

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 submittal 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. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

LAWRENCE D. GARRISON
Major General, USAF
Commander

Typed Name and Title

Signature

10 MAR 1986

Date