16 0

File: 541.460.000n
C.G.

THE MEMPHIS DEPOT
TENNESSEE

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 16

16 — 1

File:
C.G. 660.580

16

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

4WD-RCRA&FFB

July 19, 1990
CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commander
Defense Depot Memphis, TN
ATTN: Mr. Danny Chumney
2163 Airways Blvd.
Memphis, Tennessee 38114-5000

RE: RCRA Facility Assessment (RFA) Findings
DOD Defense Depot Memphis
EPA I.D. No. TN4 210 020 570

Dear Mr. Chumney:

The United States Environmental Protection Agency (EPA) and the Division of Solid Waste Management, Tennessee Department of Health and Environment (TDHE), have completed their review and evaluation of the information gathered during the RCRA Facility Assessment (RFA) of DOD Defense Depot Memphis, performed on December 6-8, 1989.

The RFA resulted in the identification of forty-nine (49) solid waste management units (SWMUs) and eight (8) areas of concern (AOCs) at the facility. Fourteen (14) SWMUs and four (4) AOCs require no further action. Thirty-one (31) SWMUs and three (3) AOCs require further investigation in the form of confirmatory sampling and analysis. As the purpose of the confirmatory sampling is to determine which SWMUs and AOCs, if any, have a confirmed release, only a verification study is necessary. Units with confirmed releases will then require a characterization study under a full RCRA Facility Investigation (RFI). There are four (4) SWMUs and one (1) AOC for which there has been a known or suspected waste release and for which a RFI is required.

Assessment of each unit as to its potential for release of hazardous waste and/or hazardous constituents resulted in the following specific findings.

1. SWMUs and AOCs for which no further action is required:

   a. SWMU No. 18 (Plane Crash Residue Burial Site)
   b. SWMU No. 22 (Hardware Burial Site)

c. SWMU No. 23 (Construction Debris and Foods Burial Site)
d. SWMU No. 28 (Recoup Area Building)
e. SWMU No. 30 (Paint Spray Booths (3))
f. SWMU No. 33 (Sandblasting Waste Drum Storage Area)
g. SWMU No. 35 (DRMO Building T-308 Hazardous Waste Storage Area)
h. SWMU No. 36 (DRMO Hazardous Waste Concrete Storage Pad)
i. SWMU No. 40 (Safety-Kleen Units (9))
j. SWMU No. 41 (Satellite Drum Accumulation Areas (5))
k. SWMU No. 44 (Former Wastewater Treatment Unit Area)
l. SWMU No. 45 (Former Contaminated Soil Staging Area)
m. SWMU No. 47 (Former Contaminated Soil Drum Storage Area)
n. SWMU No. 49 (Medical Waste Storage Area)
o. AOC D (X-25 Flammable Solvents Storage Area)
p. AOC E (DRMO Drainage Ditch)
q. AOC F (North Run-Off Area)
r. AOC G (West Run-Off Area)

2. SWMUs and AOCs for which confirmatory sampling and analysis are required:

a. SWMU No. 1 (Mustard Gas Burial Site)
b. SWMU No. 2 (Ammonia Hydroxide Burial Site)
c. SWMU No. 3 (Mixed Chemical Burial Site A)
d. SWMU No. 4 (POL Burial Sites)
e. SWMU No. 5 (Methyl Bromide Burial Site A)
f. SWMU No. 6 (Eye Ointment Burial Site)
g. SWMU No. 7 (Fuming Nitric Acid Burial Site)
h. SWMU No. 8 (Methyl Bromide Burial Site B)
i. SWMU No. 9 (Ashes and Metal Burial Site)
j. SWMU No. 10 (Solid Waste Burial Site)
k. SWMU No. 11 (Trichloroacetic Acid Burial Site)
l. SWMU No. 12 (Sulfuric and Hydrochloric Acid Burial Site)
m. SWMU No. 13 (Mixed Chemical Burial Site B)
n. SWMU No. 14 (Municipal Waste Burial Site)
o. SWMU No. 15 (Sodium Burial Sites)
p. SWMU No. 16 (Unknown Acid Burial Site)
q. SWMU No. 17 (Mixed Chemical Burial Site C)
r. SWMU No. 19 (Former Tear Gas Canisters Burn Site)
s. SWMU No. 20 (Probable Asphalt Burial Site)
t. SWMU No. 21 (XXCC-3 Probable Burial Site)
u. SWMU No. 24 (Former Miscellaneous Burn Site)
v. SWMU No. 29 (Former Underground Waste Oil Storage Tank)
w. SWMU No. 31 (Former Paint Spray Booth)
x. SWMU No. 34 (Building 770 Underground Waste Oil Storage Tanks (2))
y. SWMU No. 37 (DRMO Hazardous Waste Gravel Storage Pad)
z. SWMU No. 38 (DRMO Damaged and Empty Hazardous Materials Drum Area)

aa. SWMU No. 39 (DRMO Damaged and Empty Lubricant Container Area)
bb. SWMU No. 42 (Former PCP Dip Vat Area)
cc. SWMU No. 43 (Former Underground PCP Tank Area)
dd. SWMU No. 46 (Former PCP Drying Area)
ee. SWMU No. 48 (Former PCB Transformer Storage Area)
ff. AOC A (Dunn Field Drainage Ditch)
gg. AOC B (Lake Danielson Outlet Ditch)
hh. AOC C (Golf Course Pond Outlet Ditch)

3. SWMUs and AOC for which there has been a known or suspected waste release and for which a RFI is required:

a. SWMU No. 25 (Golf Course Pond). Surface water samples from the pond have indicated the presence of barium, zinc and copper. Sediment samples contained DDD, DDT and low levels of the heavy metals lead and mercury. Fish tissue samples were found to contain low levels of pesticides and PCBs. A surface water sample from the pond outlet ditch, 700 feet downstream from the pond, contained barium, zinc, copper and trace amounts of DDE and DDT.

b. SWMU No. 26 (Lake Danielson). Surface water lake samples showed the presence of arsenic, copper, zinc and 4,4,DDE. Mercury, zinc, 4,4,DDE and 4,4,DDD were found in lake sediment samples. Fish tissue samples showed the presence of pesticides and PCBs. Water samples from groundwater monitoring well MW-25, approximately seventy-five (75) feet south of the lake, contained barium, chromium, zinc, copper, lead, mercury, nickel and tetrachloroethylene above background levels.

c. SWMU No. 27 (Former Recoup Area). Aldrin, DDE and DDT have in the past been released into the soil of this area. Although contaminated soil has since been removed, the completeness of removal is uncertain. In addition, groundwater monitoring well MW-23, which may be down-gradient of this unit, showed water samples with concentrations of barium, cadmium, chromium, copper, lead, mercury, nickel and zinc above background levels.

d. SWMU No. 32 (Sandblasting Waste Accumulation Area). A soil sample taken below the drum area at Building 1088 exhibited elevated levels of heavy metals and pesticides. Surface soil samples taken near Building 1087 showed high levels of chromium (8680 mg/kg), lead (17,500 mg/kg), zinc (22,100 mg/kg) and pesticides/herbicides (7,400 mg/kg).

e. AOC H (Building 629 Spill Area). Surface soil samples at the spill area indicated concentrations of pesticides and herbicides up to 59,000 ug/kg and of polynuclear aromatic hydrocarbons up to 280,000 ug/kg.

It should be noted that SWMU Nos. 35, 36, 37, 38, and 39, listed and identified above, are RCRA- regulated units which will be covered by Tennessee's portion of the RCRA permit.

Please notify Larry Fitchhorn, P.E., of EPA at (404) 347-3433 or Dale Ozier of TDHE at (615) 741-3424 within the next twenty (20) days should you have either any additional information which may affect the findings of the RFA or any questions concerning this letter.

Sincerely yours,

James H. Scarbrough, P.E., Chief
RCRA and Federal Facilities Branch
Waste Management Division

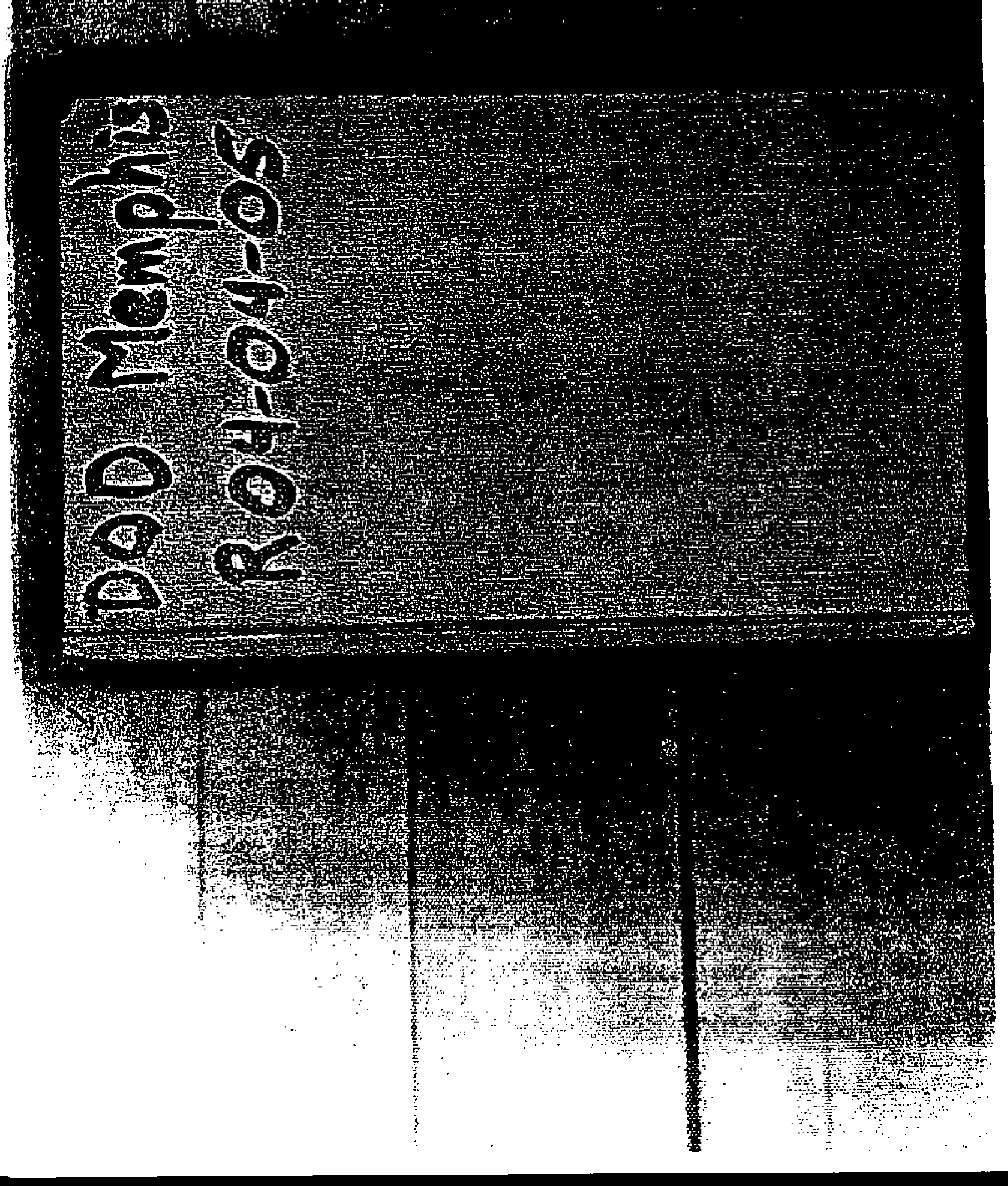
Tom Tiesler, Director
Division of Solid Waste Management
Tennessee Department of Health and Environment

cc: Paul Patterson, DSWM, Memphis

APPENDIX B

VSI Log Book

16 6



Wed 12-6-89

0745 Arrive at security

0830 Met with Danny Chumney of the DOD Memphis Supply Depot

Jack Slechta A.T.
Dave Walker Keamey

Startup meeting

Jack explains what the RFA entails

We will not need a [illegible] with the Commander of the Base Colonel James M. Johnston only an exit debriefing on the last day.

David Walker 12-6-89

Mr. Absalon said we
should get a copy of
the Preliminary RI
Report.

12-6-89

David M. Walker

Danny will get us
a camera pass

Danny - will we be looking
at sattelite areas

Danny called the Project
Manager of Law
Environmental

John R. Absalon
404-499-6800

I asked Mr. Absalon
if they had additional
historical information about
individual units.

He said that what information
that was given in the
RIFS work plan
and the RI Report
phase I

David M. Walker
12-6-87

Blank Page
David Waller
12-6-87

0900 — Mark Thomas of T D H E arrives at meeting.

Does the Facility have permits?

NPDES permits

? Discharges

Air permits

Underground storage Tanks

They are starting the Removal of 2 Gas Tanks and 3 oil Tanks. We should look at these

David Waller

12-6-87

~~Sand Walch~~
Blank Page 12-6-87

What is floarspar
used for.
Hardening of Aluminum
for strategic means

Today we will attempt
to see the Dunn Field
Area sites and save the
Main Installation tommorrow

Danny got us a camera
Pass

0930 - Begin Site Visit.

Approximately 2200 - 2300
DOMT

with 400 tennant
organization employ

David M. Walch 12-6-87

Blank page

Dawn m walsh 12-6-89

Dawn m. walsh
12-6-89

0940 –

Historical Info

Buried something they tried to put it on maps so that they could find it later if need be, but there is no info on how deep etc

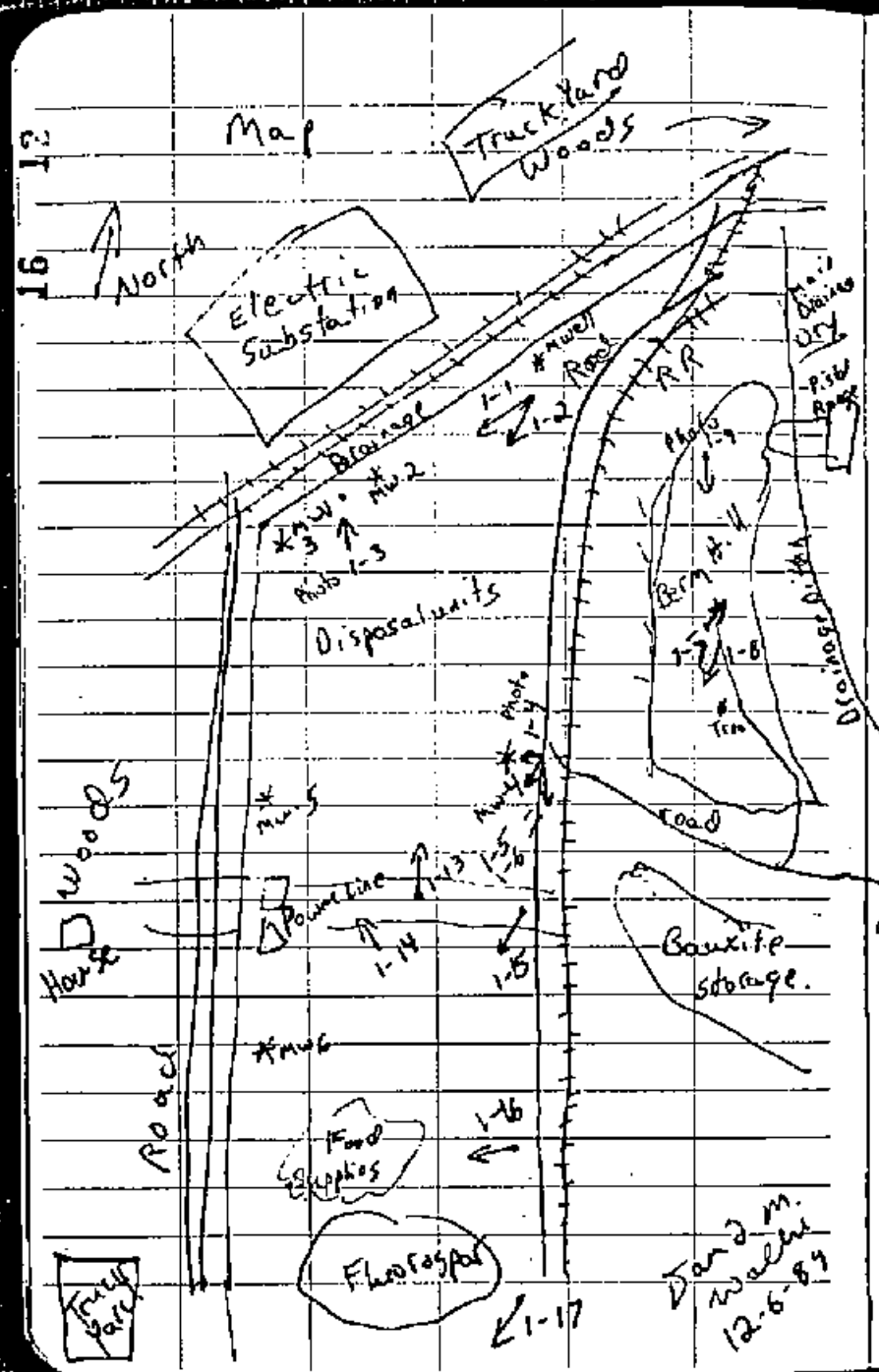
Northern end of Dunn Field

Ground water probably to the west

The site is ringed with monitoring wells

New monitoring wells are flush mounts

Two new wells on substation property and two new wells on next west street



Memphis Sands and Fort Pillow Sands is main water Bearing Sands.

Photos Number 0945

1-1 Southwest

1-2 South

Photos show surface of old Disposal Areas

Area is grassed

Lots of the grass is still green even in December

Two Large pines on the North boundry Approx 25' Tall

Do not look stressed

David M. Walker 12-6-89

3 blank page

David M. Walker 12-6-89

There is a large Hardwood area along the western boundry. (Mostly oak) The trees do not have leaves but they do not appear dead.

0950
Photo 1-3 Run off from Dunn Field Area Looking North
New Flushmount well in Foreground
Electric sub station in Bkg
Half way between MW 2 + 3

David M. Walker
12-6-89

14

15

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David Mueller 12-6-89

David Mueller
12-6-87

0955 Photo 1-4 looking west
From well MW-4
toward MW-5

0958 Photo 1-5 and 1-6

Photo 1-5 looking Southwest

Photo 1-6 - looking South
from well MW-4

1005 Photo 1-7 ?
Possible MW-6

Probable former Storage
Area for Pesticides
Looking Northeast

1007 Photo 1-8 Looking Southwest
Former buried waste
area of canisters, smoke pots
and Sanitary wastes

Area is accross the dirt road

10 11

Photo 1-9

Looking South at old asphalt disposal

No asphalt on the surface

David M. Walker
12-6-89

Large oak tree in Photo 1-8 does not appear to be stressed

Area is grassed over

At area of Pistol Range which is no longer used

Hill is backstop for old range.

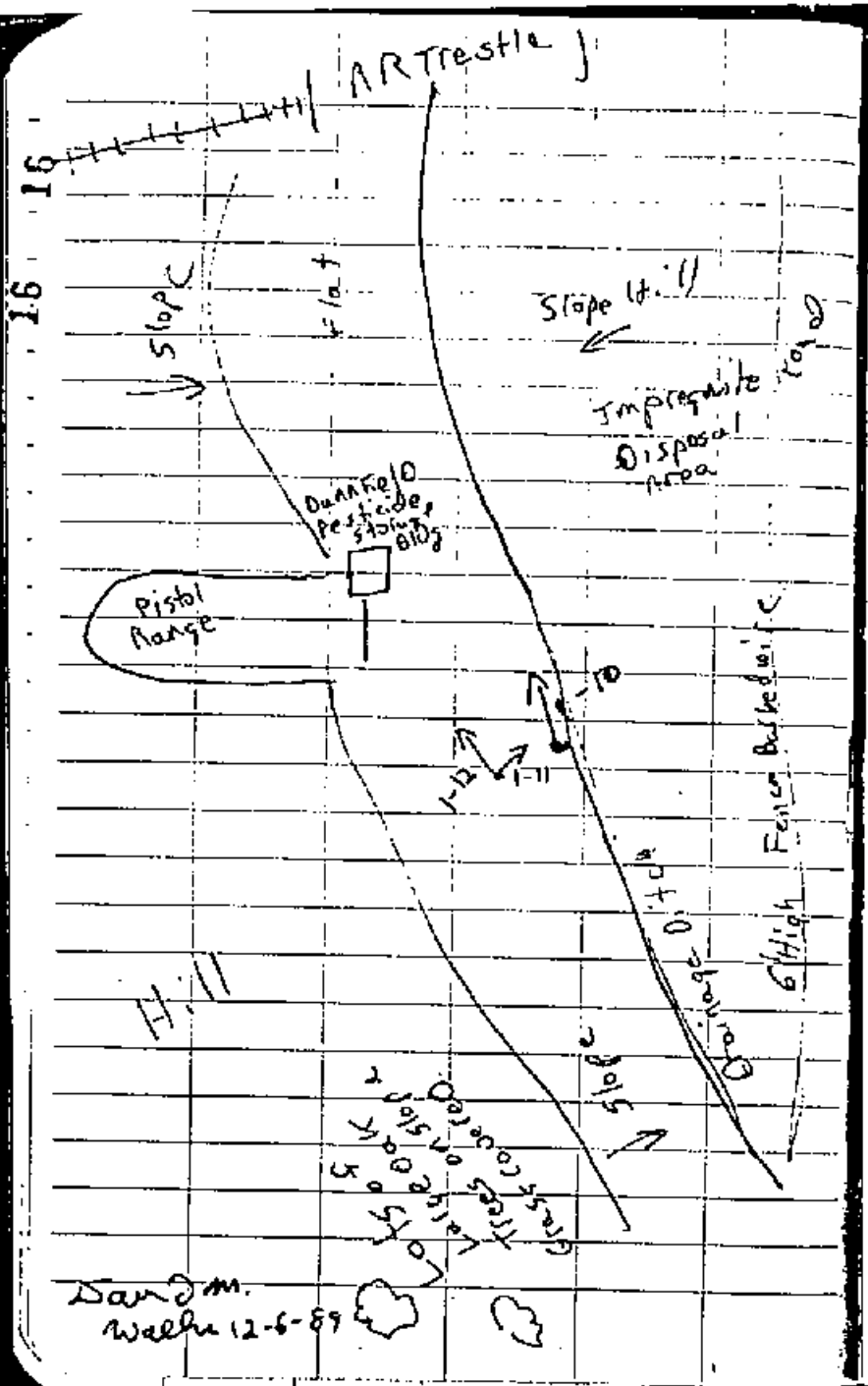
Now covered with trees

No stressed vegetation

Flat area used for disposal of leaves.

AOC is possible - Dunn Field Pesticide Storage area located adjacent to the pistol Range

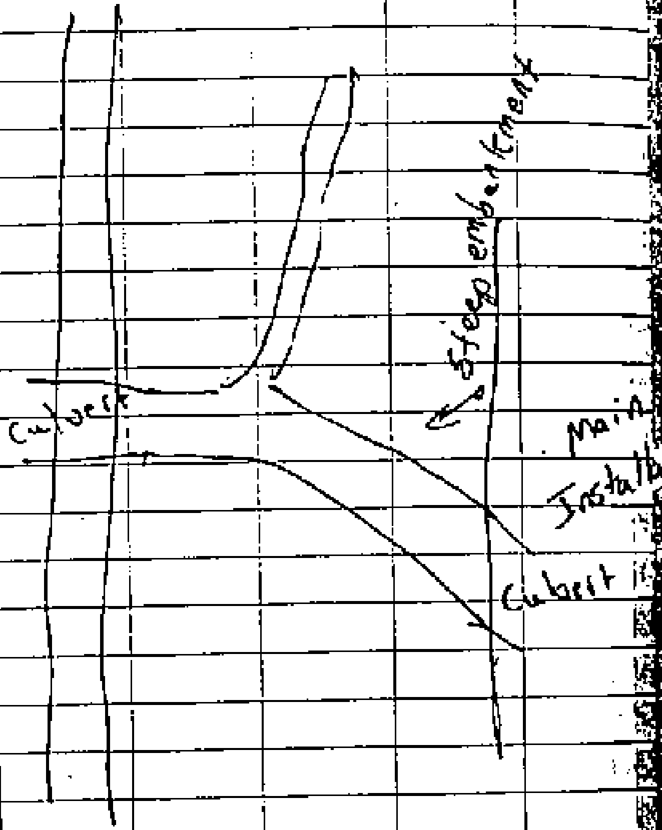
David M. Walker 12-6-89



P-15 Photo P-10
Looking North along
Dunn Field Drainage
Ditches Possible AOC
To the left is pistol
Range
on the top of the hill
to the Left North DMW
or west is Asphalt disposal
and CN Disposal.
DMW
Possible Run off or
leachate that was affected
by the CN or Asphalt
area or pesticide storage
Dunn Field
would drain to this
drainage Ditch

House

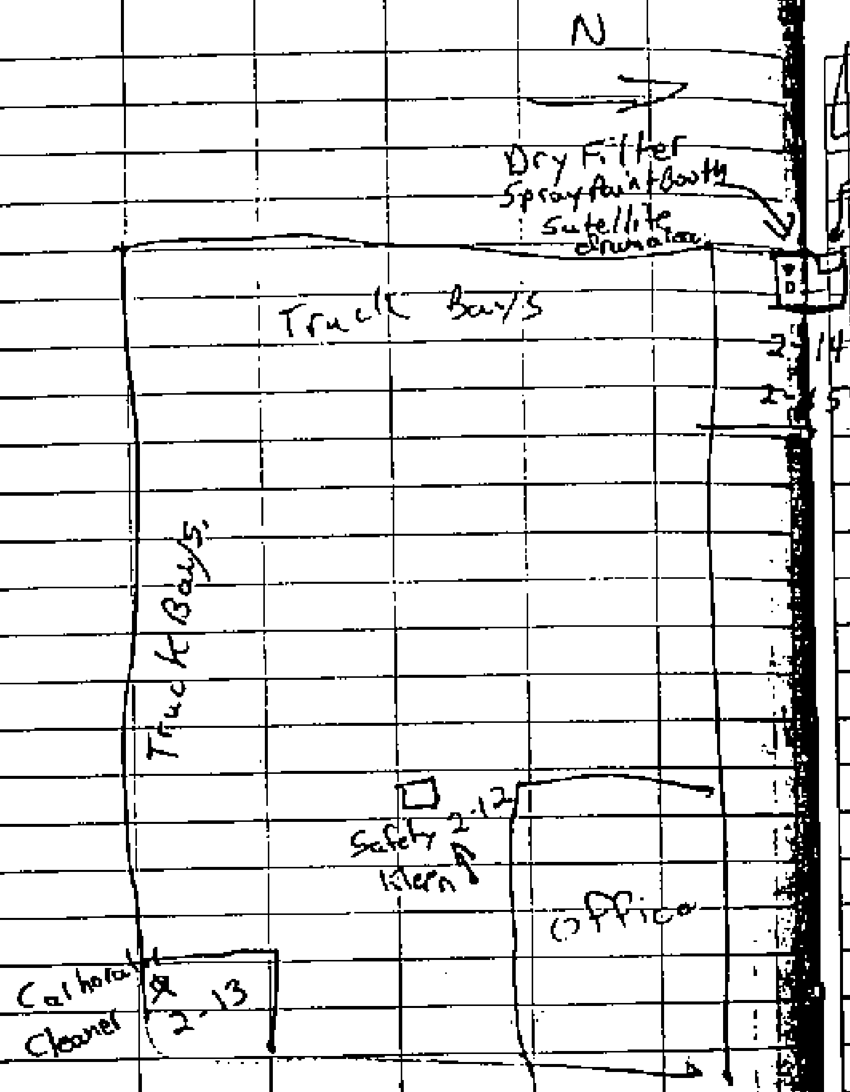
David M. Walsh 12-6-89



David M Walsh
12-7-89

0937 Photo 2-11
Looking ~~west~~ southwest at
NPDES out fall which
accepts drainge from the
whole west side of the
facility. The area
floods during any
major storm event and
severe erosion is evident.

David M Walsh
12-7-89



David M Walker
12-7-89

David M. Walker 12-7-89

0943 Vehicle Maintenance
Building 770
We have to look at
Satellite accumulation
Safety Kleen units
Paint Booth

0945 Photo 2-12

Safety Kleen unit in
B 770 — carburetor cleaner 12-7-89 DMW

Photo Looking Southwest

Parts Cleaner
Unit Looks well Maintained.

0948 Photo 2-13

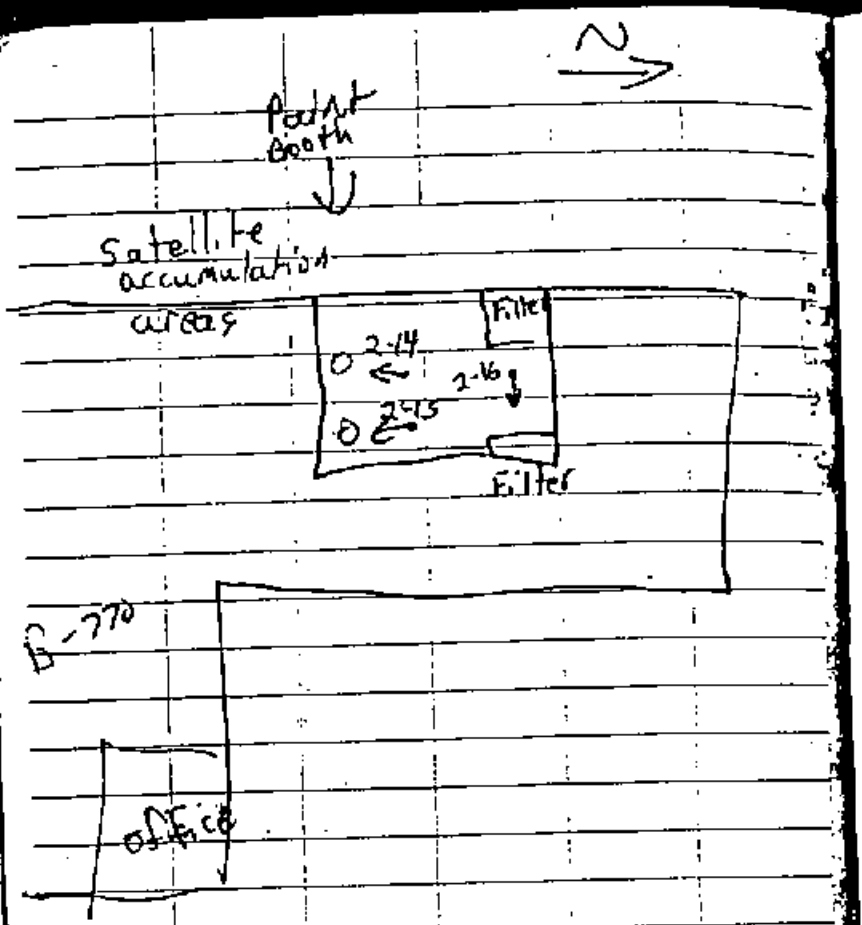
Looking South in B-770

Photo of Carburetor Cleaner

Both units are on Concrete Floor
No evidence of Leaks or spills. Unit is well maintained.

16

18



Filters are disposed of in Sanitary Landfill

David m Walch 12-7-89

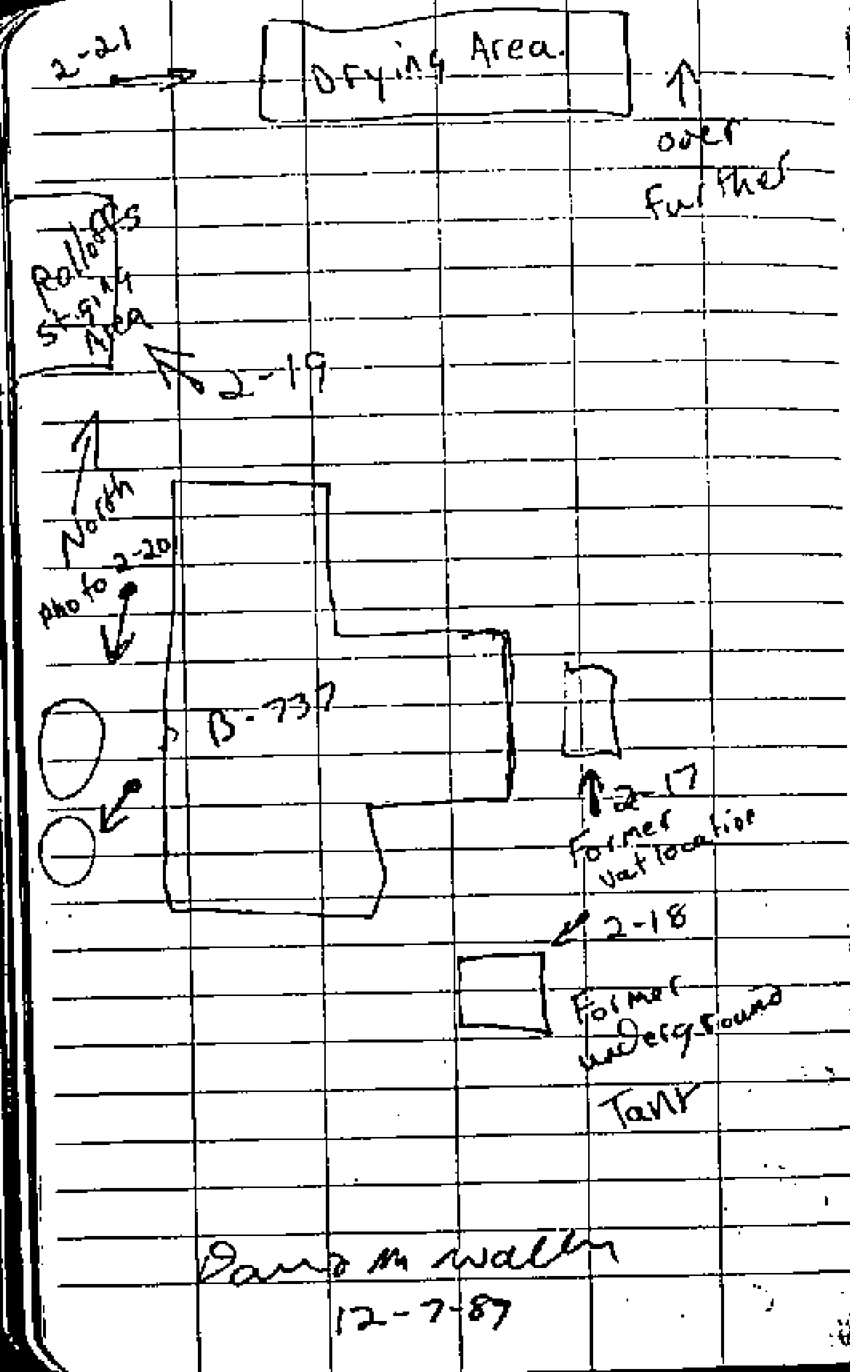
David m Walch 12-7-89

Looking South

0953 Photo 2-14
Rags +
Satellite Drum Storage accumulation area in Paint Booth of B-770
Drums are on unlined concrete Floor
No evidence of leaks or spills

0955 Photo 2-15
Photo looking looking South at Satellite drum accumulation for waste thinner
No evidence of leaks or spills

0957 Photo 2-16 looking East at Dry Paint Booth Filters
Filter changed when Air flow gauge readings drop to a certain point



David M Walls 12-7-89

1006 Arrive at Former PCP Dip Vat and underground storage Tank

This is adjacent to Building 737 which is the pesticide Storage Building.

- Formerly for Dipping. peak of activity was 1965

Former underground Storage Tank was used to store PCP

1016 Photo 2-17 looks North at Former PCP Dip Vat location

Removed 1985

material
went into vat
they went into
a drip tank adjacent
to the vat, then
the drips drained back
into the vat.
the pallets then went
to the Drip Area.
Drying

David M Walsh
12-7-89

David M Walsh
12-7-89

2-18
1017 Looking Southwest
at former underground
Storage Tank
Remove 1985

Also Dioxin Removal
in this area

Former Storage
Staging Area for
1019
photo 2-19 Looking west
Northwest
at former staging area
area extends from ERP in
Foreground all the way to the
Railroad Track.

16
17

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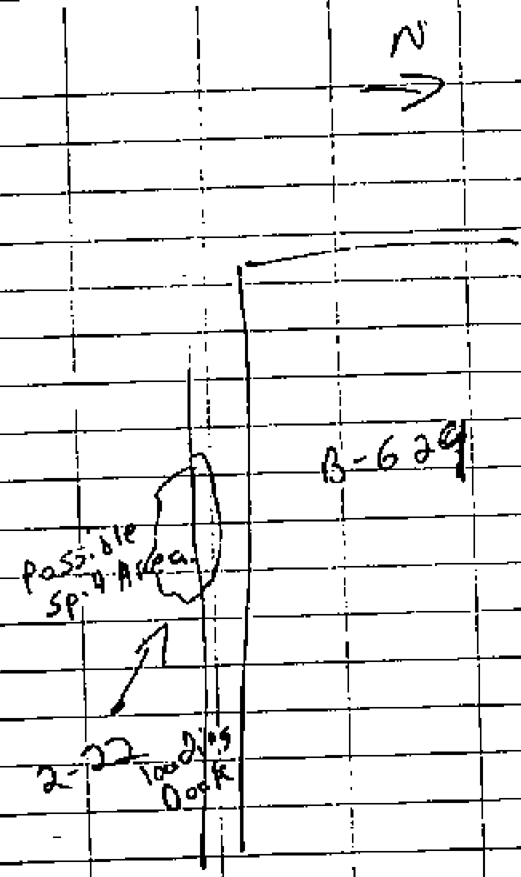
Darom Walls
12-7-89

Darom Walls
12-7-89

1020 Photo 2-20
Looking Southwest
Former
at area where
waste water treatment
system was setup
for decontamination
of PCP Tank Liquids
during cleanup.

1028 Photo 2-21
Looking East at
Former 3.5 Acre Gravel
Drying Kiln Area.
The roll off containers in
the far ground are new
empty containers being
stored there for now
Area has been capped.

16
22



David M Walker
12-7-89

1036 Photo 2-22
Looking west along Rail Loading
Dock of B-629
Area of confirmed
herbicide or pesticide
contaminated soil.
possibly from spills
during loading
in 1988
2 - 5 gallon cans

Ran

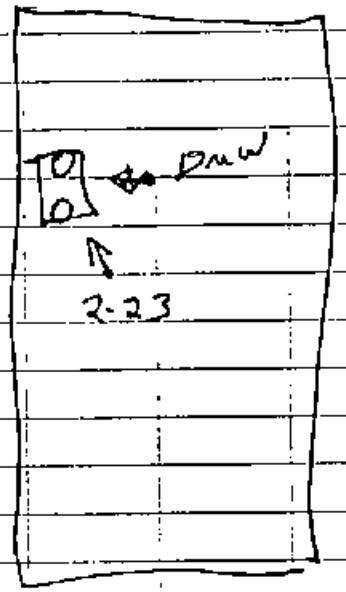
B-629 is the main
hazardous material
Storage Building

David M Walker
12-7-89

16

23

North



David Walden
12-7-89

David Walden 12-7-89

1045 B-5469

Photo 2-23 looking Southwest

Acid adjust Batteries

Waste is mostly sulfuric acid.

Waste is sent to DRMO then shipped offsite

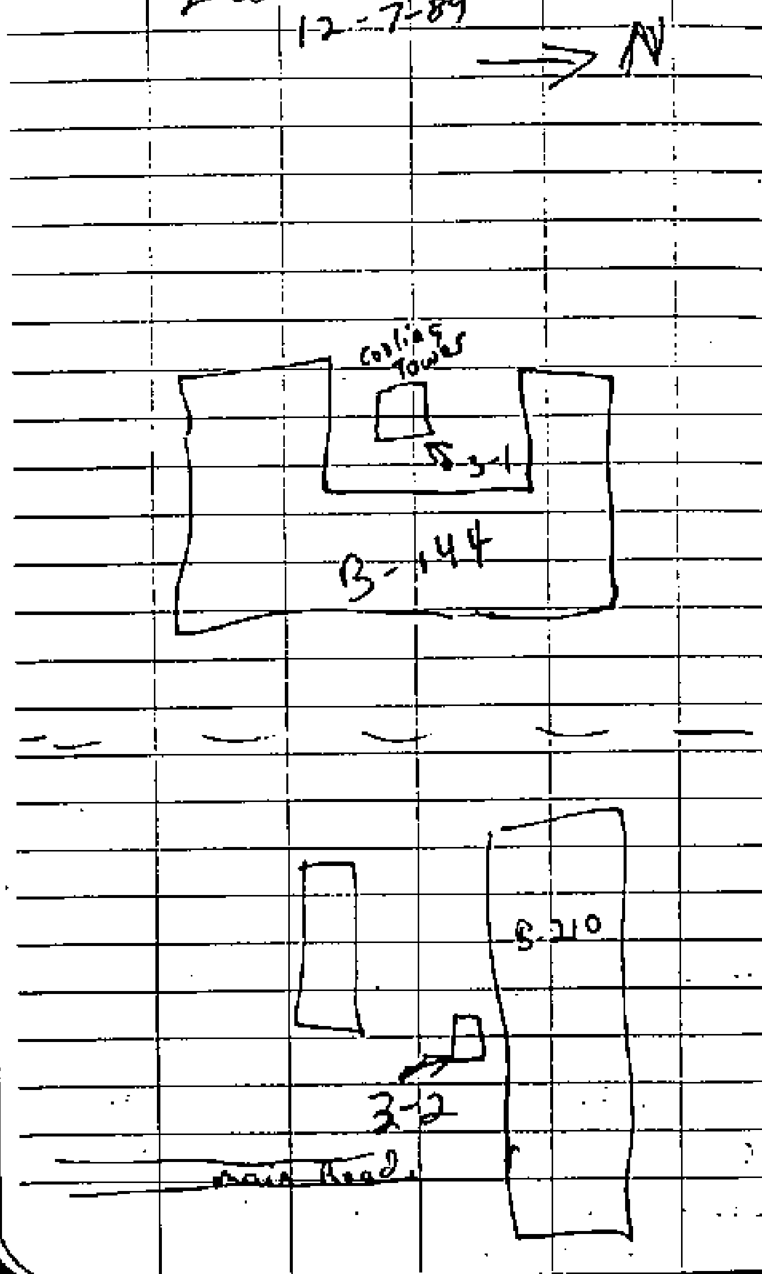
The facility will have a recycling system installed within a year.

10-55 gallon drums per year

Two drums are in use now

Drums are located on pallets over a secondary containment systems made of a wood box with plastic spill pan.

David M Waller
12-7-89

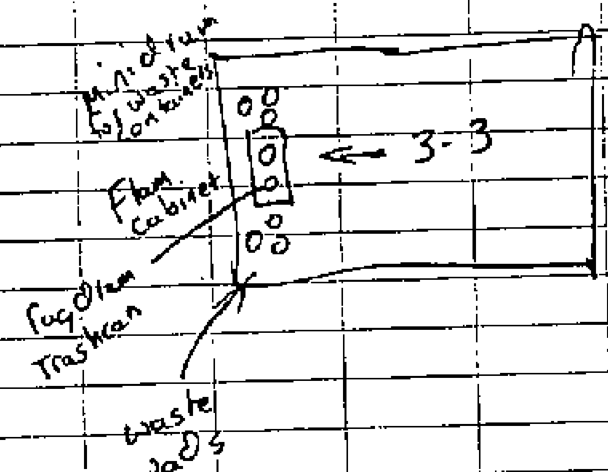


1103 Photo 3-1 Facing Southwest
NPDE Discharge point for cooling Tower in Building B-144 Admin Building
This unit will be connected to the Sanitary sewer before beginning operation in the Spring.
So the permit will be updated

1105 Photo 3-2 Facing North
NPDES permit Discharge for cooling tower
Same as above Discharge
Building 210 cooling Tower

David M Waller 12-7-89

16



Dario M walker 12-7-89

Dario M walker 12-7-89 :

1110 Print Shop

Satellite Accumulation
Cleaning Solvents for
printing machines + dies

Photo 3-3 Looking North

waste solvent Rags

waste solvent
on top of Flammibles cabinet

4 black minidrums 25gal?
These are for empty
Containers

+ 2 garbage cans for
waste pads

Located on the
Concrete floor No evidence
of spills or leaks

16

16 27

Blank Page
Daron Walker
12-6-89

1020 Photo 1-11
Looking Northeast
at the Former XX CC-3
Impregnite Disposal
Sites Map # 22
The units would have
been or are along the
side of the hill.
Drainage ditch is in Foreground

1023 Photo 1-12
Looking North west
at B-1184 with
pistol Range. Pesticide
Storage Area - Bunnifield
Possible AOC

Daron M. Walker 12-6-89

28

15

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David M. Walker 12-6-89

David M. Walker

12-6-89

1034 Photo 1-13

Looking North From south edge of Disposal Areas. From Beneath Power Lines

1035 Photo 1-14

Looking North west along property Boundary at Disposal Areas

Acid Disposal Area

1038 Photo 1-15 Looking Southwest at Hardware Disposal Area From Beneath power lines along dirt Road in the approximate area just South of former MW-1

16 29

Blank page
Dan Walker
12-6-89

Dan Walker 12-6-89

1044 Photo 1-16 Looking west at Food Supply and burned construction Debris disposal area well MW 6 is probably on the right edge of picture Area is grass covered slight slope to North Runoff from new Flourspar area crosses this unit. There is some erosion channels approx 6" deep which cross property boundry near MW 6 No waste visable in erosion Area woods to the west look healthy

30

16

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David M. Walker

12-6-89

1048 Photo 1-17

Looking South West at Former miscellaneous waste Burn area

Area has been regraded and the new fluorospar stockpile is may cover this area.

1050 Move off of Burn Field Area.

back to main Installation

Break until 100

David M. Walker

12-6-89

16 31

Family Quarters

← North

David M. Walker
2-6-89

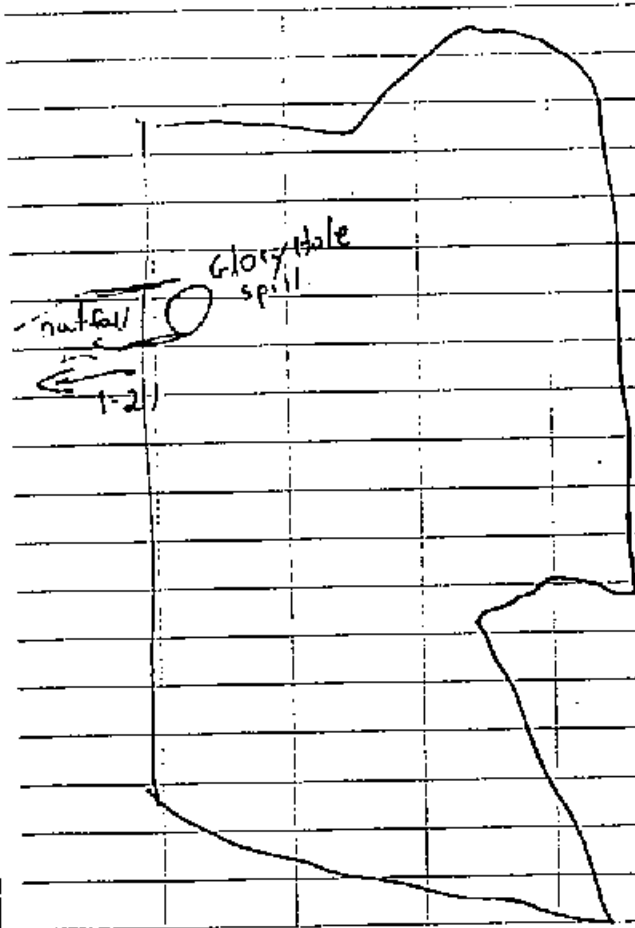
1105 Arrive at Facilities Engineers offices to pick up maps.

1130 Picked up maps

1140 Photo I-18 Looking South. Storm water Runoff Pond. In Golf course area. Recieves Runoff From South end of the property and Golf Course Recieves Pesticides + Herbicides

David M. Walker 12-6

David M. Walker 12-6-89



David M. Walker
12-6-87

1148 I-19 Photo Looking East of NPDES discharge Number ___ South side of Property.

1155 Photo I-20 Looking Northwest at Lake Danielson Now called Fire Reservoir

Sludge Accumulation of ~~A~~

Max Depth 15 feet Deep

No Stressed Vegetation

Down stream 4' wide Concrete Box Culvert 3' deep takes runoff down to the South NPDES outfall which is approx 300 yds South

16 33

Blank Page
David M. Walker
12-6-89

1200 Photo 1-21
Looking South along
outfall from Lake Danielson
toward NPDES outfall.

1205 Left for Lunch
State of Tenn
Representative
Mark Thomas left

305 Arrive back at
office facility
met with Danny

David Walker 12-6-89

Blank Page
Dave M. Walker
12-6-89

Dave M. Walker
12-6-89

1B30 Photo 1-22
Looking Southeast.
X-25 for
Storage Area
for highly flammible
solvents
Xylene, toluene
Structure was covering
this area fell down
in 19
Rain water + Leaks
from damage drums
were contained inside
the 1 foot concrete
bermed area and
cleaned up and transported
offsite. Depth of berm
increases toward Drain

Blank page
David M. Walker
12-6-89

Continue driving through site

1985

1355 Photo number 1-23 @ Looking North along the edge of B-8-73 Former Recoup area Now POL Bulk storage. Area is concrete and Gravel parking area alongside Buildings Some Remedial work has been done

1356 Photo 1-24 Looking South along same area.

David M. Walker 12-6-89

Leaking drums of

materials that →

they didn't know what

materials were,

were stored there

for a long time.

which is where tests

contamination occurs

David M. Wallace

12-6-89

1410 Arrive at new recoupment building - Began operation

1986 - 1987

1415 photo 1-24-5 new

Damaged Drums Flammible stored. until they can be repackaged

The recoupment area

is used to store

Leaking Containers

until they can be repoured

into new containers

Some of the materials

can be reused

Some must be shipped

out as waste

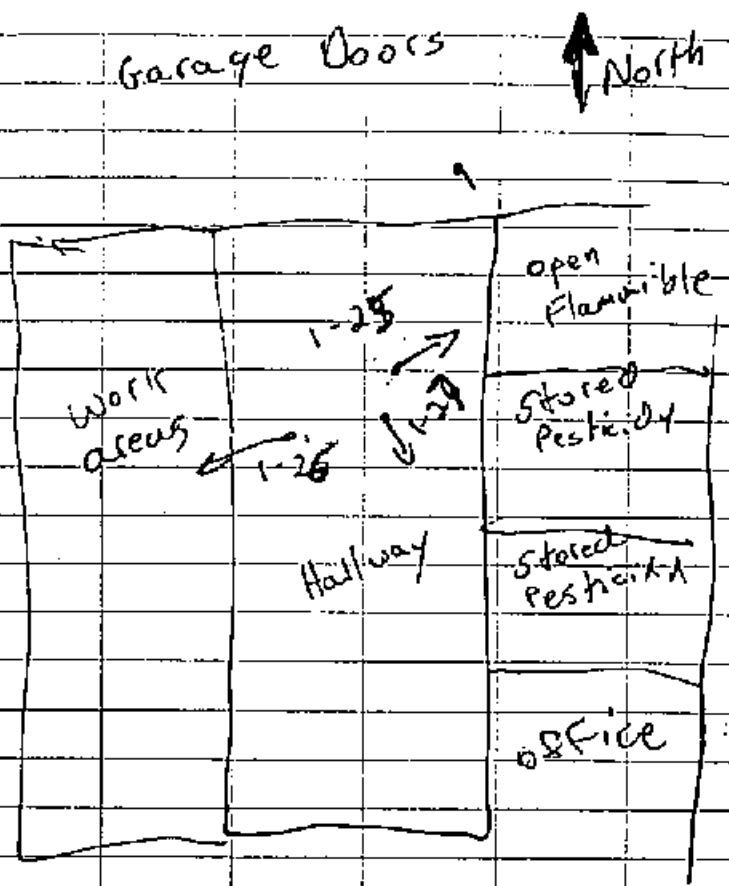
Holding areas are

Concrete lined with

block concrete Floors

David M. Wallace 12-6-89

Concrete Berms
with steel
Garage Doors



David M. Walker 12-6-89

1415 Photo 1-26 Photo of work Room area There are separate Bays for Insecticides Corrosives and Flammable

The materials are stored until they can be repackaged

1416 Photo 1-27 Photo of pesticides area where containers that are leaking are stored.

David M. Walker 12-6-89

16 38

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David M. Walker
12-6-89

New Page

Hazardous Materials
are stored in
- Building 629
- B 529 one section
- Berm Areas of Flammible
- 873 POLs
- B-219 - Highly Flam cyanide / Low level radioactive

Hazardous Materials Packing areas
B-972

Coleman Lanterns mantels

Shrink wrapping

Banding whatever it needs shipping out to

David M. Walker
12-6-89

16 39

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David M. Walker
12-6-89

Photo
#30 = 28

Former Grease Rack area and Former underground Tank waste oil storage area

corresponds to Numbers

63 ~~64~~ and 65 on

RI FS -

No information is available on the Grease racks or waste oil Tanks

Probably in use during 1950's

OOMT looked for a Tank in the grease rack area but could not find one.

David M. Walker 12-6-89

16 40

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David M. Walker
12-6-89

Building 1086 David M. Walker 12-6-89

Spray Paint Booths

Dry Filter operation

1440 Filters are placed in Landfills

photo 1-29 Facing North Looking at Paint Spray Booth

— No clean up operation or solvents required.

B-1087

Former Paint Booth Area

1445

Photo 1-30 Looking South into old area.

Area is not in use now

Was originally wet filter changed to Dry

Stopped using - 1985-86

16 11

The area in the

RIFS called #67

B-1088 Zinc Cromate

Primer could have

to ~~use~~ do with

PMW

Paint chips from Floor

Chem waste Management

ONeil Alabama

under-wood / Tri. C.

Jason M. Walker

12-6-89

1450

Photo 1-31 looking NW

3 Barrels in B-1088

Hoppers

waste from sandblasting

spray P operations

This waste is tested

for EP Toxicity before

being sent offsite

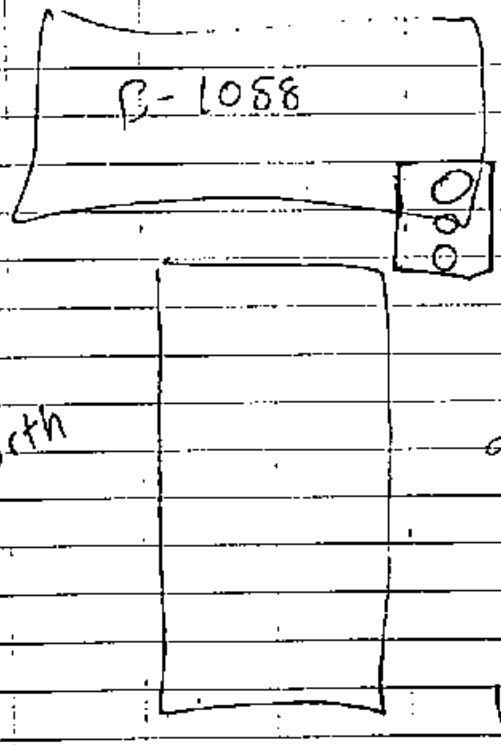
material is stored in

Drums behind (South of)

B-1088

Jason M Walker

12-6-89



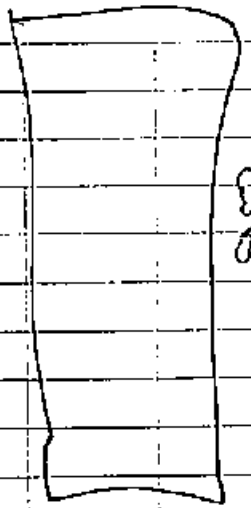
David M. Walker
12-6-89

1453
Photo 1-32
Photo of storage area for sand blast waste
Area has a roof
Drums stored on
Pallets, Accumulation has been ongoing for a few years, wastes will be analyzed as hazardous - then shipped to appropriate Landfill

David M Walker
12-6-89

16 43

David M Walen
12-6-89



Photos 1-34 through 1-36 will be void Not used

David M Walen 12-6-89

Outside Building 770 Waste oil storage and Fuel Oil Tanks

2-1000 Gallon steel tanks

Tanks are being removed

They will be out of the ground by Dec 22, 1989

There will be soil Samples collected from each excavation

1510 photo 1-33 Looking East toward B-770

1520 Back at Danys office

1525 Left Site

1535 - Took RI Report to Copy Place.

16 44

Last page
for 12-6-89

Blank page
[signature]
12-6-89

Thursday 12-7-89

0715 - Get Badges at Security
0730 - Arrive at Danny
Chumney's office
at DDMT

0730 - 0800 went over
Remaining SWMU
and AOC List
with Danny
We eliminated alot
of the list.

0805 Begin Tour at
DRMO Complex

[signature]
12-7-89

16 45

Last Page for ~~12-6~~ DMW 12-7-89

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DMW 12-~~6~~-7-89

David Walker

0815

Met with DRMO Manager Mr. Manger.

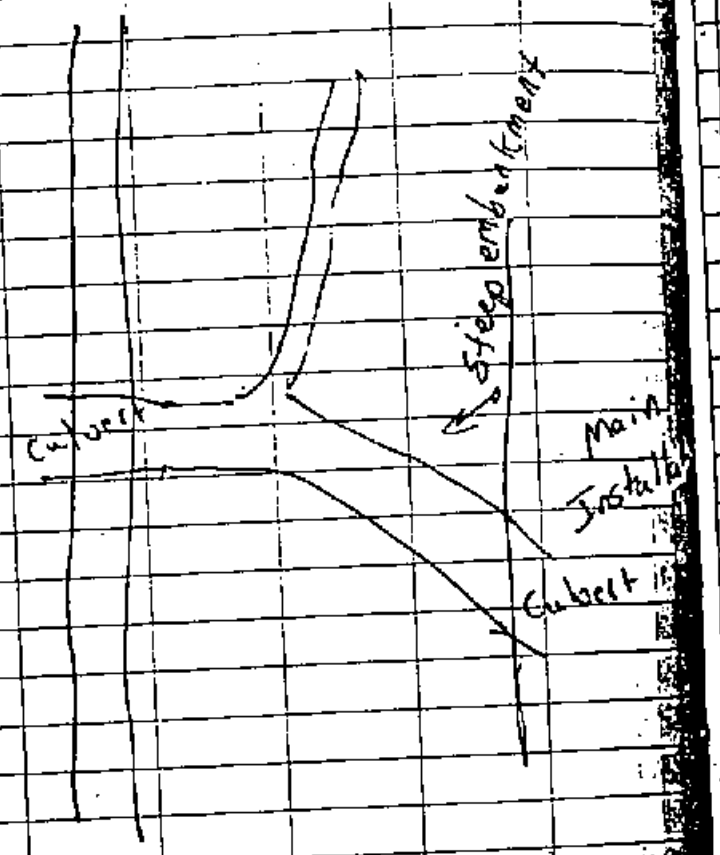
- Asked what XXCC-3 Impregnite was

He does not know what it is?

- Testing of Flame thrower Chemical Quartermaster was here in 50's

He has been here since 1966 and then the materials handled have been about the same as they are now.

David M Walker
12-7-89



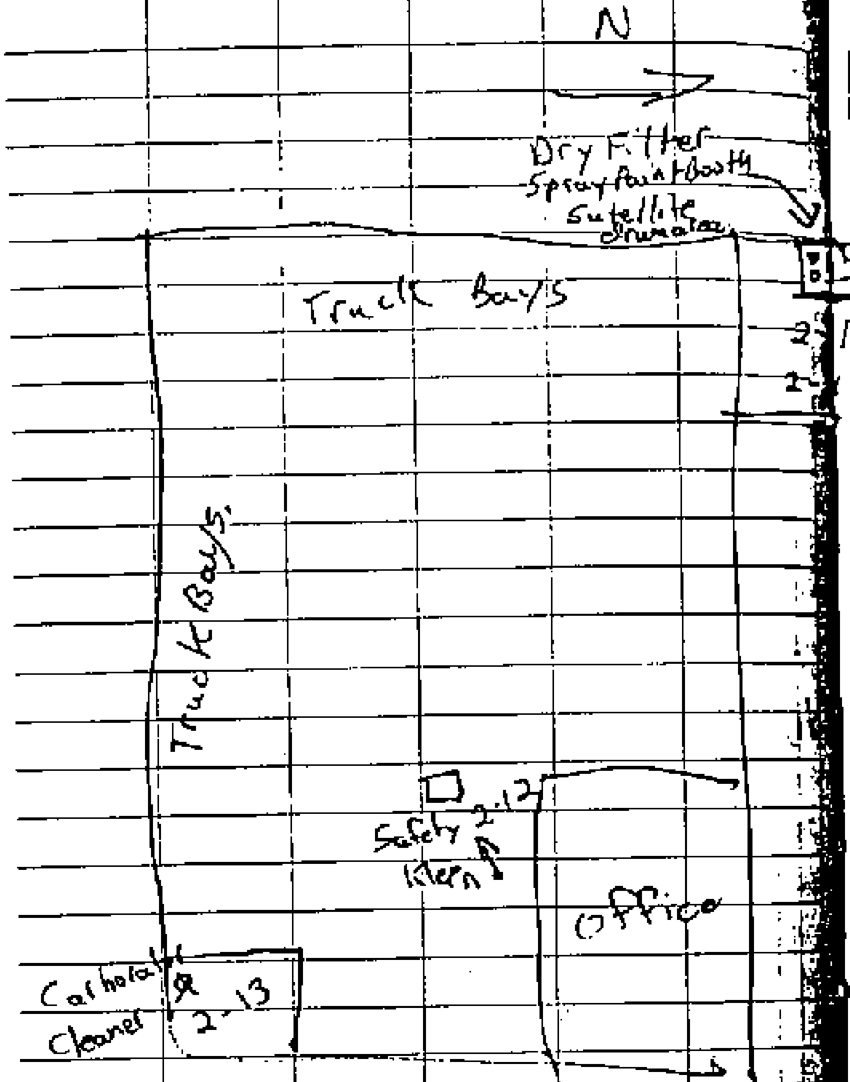
David Walker
12-7-89

09 37 Photo 2-11
Looking southwest at
NPDES outfall which
accepts drainage from the
whole west side of the
facility. The area
floods during any
major storm event and
severe erosion is evident.

David Walker
12-7-89

N
S

46



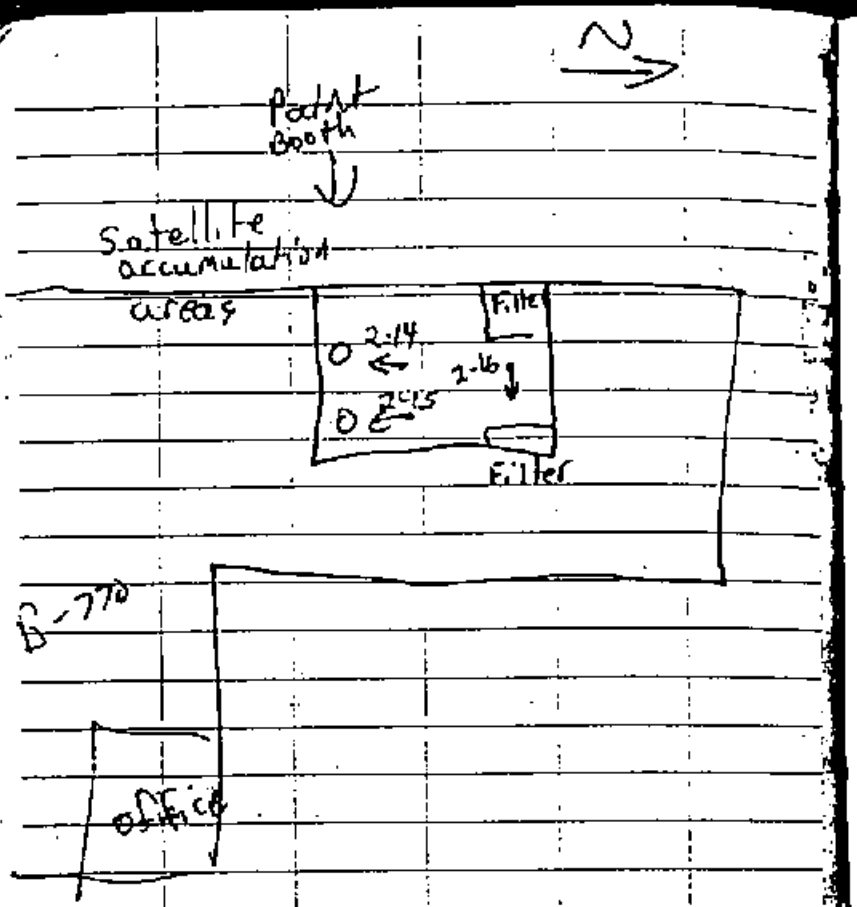
David M. Walker
12-7-89

David M. Walker 12-7-89

0943 Vehicle Maintenance
Building 770
We have to look at
Satellite accu area
Safety Kleen units
Paint Booth

0945 Photo 2-12
Safety Kleen unit in
B 770 carburetor cleaner DMW 12-7-89
Photo Looking south west
Parts Cleaner
unit Looks well maintained.
0948 Photo 2-13
Looking South in B-770
Photo of Carburetor Cleaner unlined.
Both units are on Concrete Floor
No evidence of Leaks or spills unit is well maintained.

16
17



Filters are disposed of in Sanitary Landfill

David m Waeckerle 12-7-89

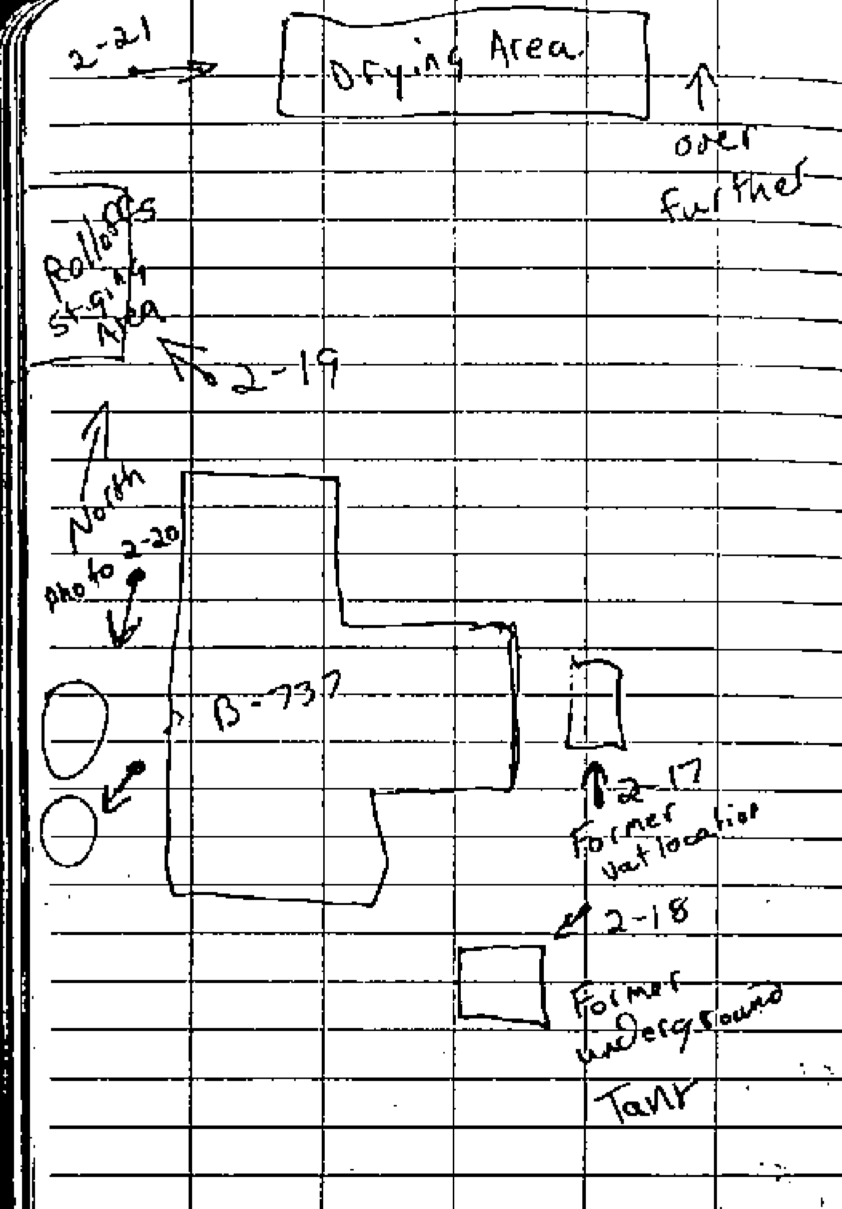
David m Waeckerle 12-7-89

looking South

0953 Photo 2-14
Rags + Satellite Drum Storage accumulation area in Paint Booth of B-770 Drums are on unlined concrete Floor No evidence of leaks or spills

0955 Photo 2-15
Photo looking looking South at Satellite drum accumulation for waste thinner. No evidence of leaks or spills

0957 Photo 2-16 looking East at Dry Paint Booth Filters Filter changed when air flow gauge readings drop to a certain point



David M Walker
12-7-89

David M Walker 12-7-89

1006 Arrive at Former
PCP Dip Vat and
underground Storage Tank

This is adjacent to
Building 737
which is the pesticide
Storage Building.

- Former for Dipping
Peak of activity was 1965

Former underground
Storage Tank was
used to Store PCP

1016 Photo 2-17 looking
North at Former PCP
Dip Vat location
Removed 1985

16

Material

went into vat

they went into

a drip tank adjacent

to the vat, then

the drips drained back

into the vat.

the pallets then went

to the Dip Area.

Drying

David M Walker

12-7-89

David M Walker

12-7-89

2-16

1017 Looking Southwest

at Former underground

Storage Tank

Removed 1985

Also Dioxin Removal

in this area

Former Storage

Staging Area for

1019

photo 2-19 Looking West

North West

at Former Staging area

area extends from EP in

Foreground all the way to the

Railroad Tracks.

50

Blank Page
David M Walls
12-8-89

David M Walls
12-8-89

1020
Photo 2-20

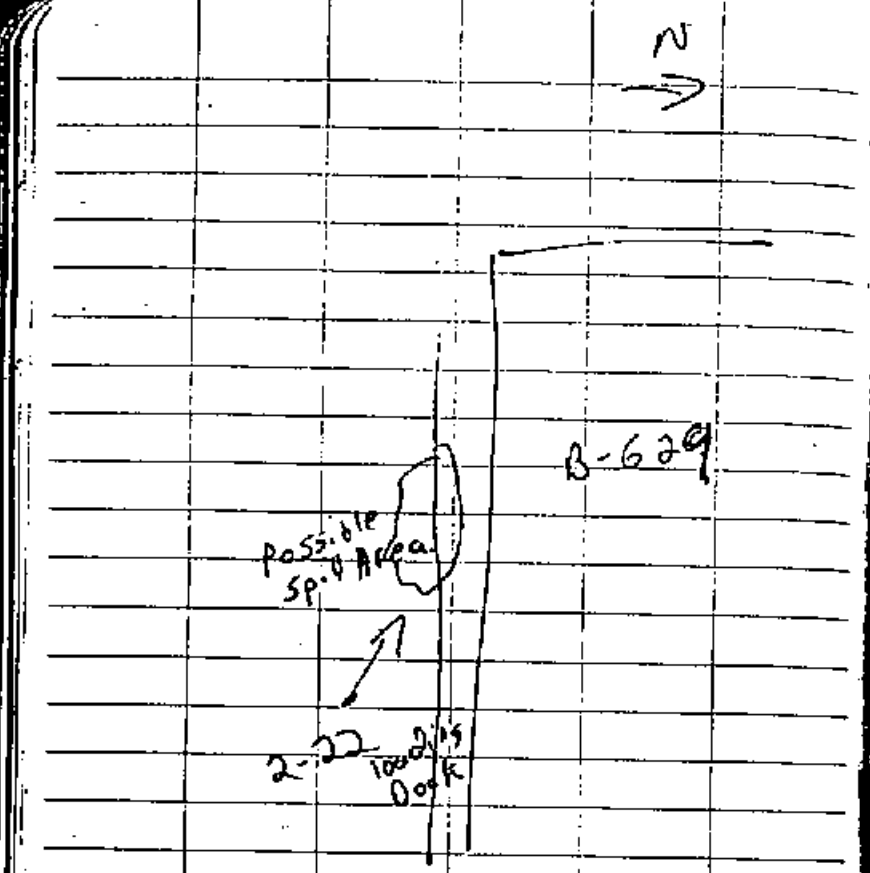
Looking Southwest at Former area where waste water treatments system was setup for decontamination of PCP Tank Liquids during cleanup.

1028 Photo 2-21

Looking East at Former 3.5 Acre Gravel Drying/Drip Area.

The roll off containers in the fore ground are new empty containers being stored there for now

Area has been capped.



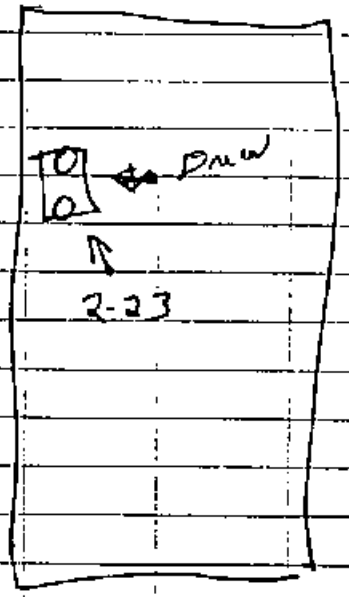
David m walden
12-B-89

1036 Photo 2-22 Rail
Looking west along Loading
Dock of B-629
Area of confirmed
herbicide or pesticide
contaminated soil
possibly from spills
during loading
in 1988
2-5 gallon cans

Ran
6-B29.5 the main
hazardous material
storage Building

David m walden
12-B-89.

North →



David Mallon
12-7-89

David mallon
12-7-89

1045 B-5469

Photo 2-23 looking Southwest

Acid adjust Batterys

waste is mostly sulfuric acid

waste is sent to ARMO then shipped offsite

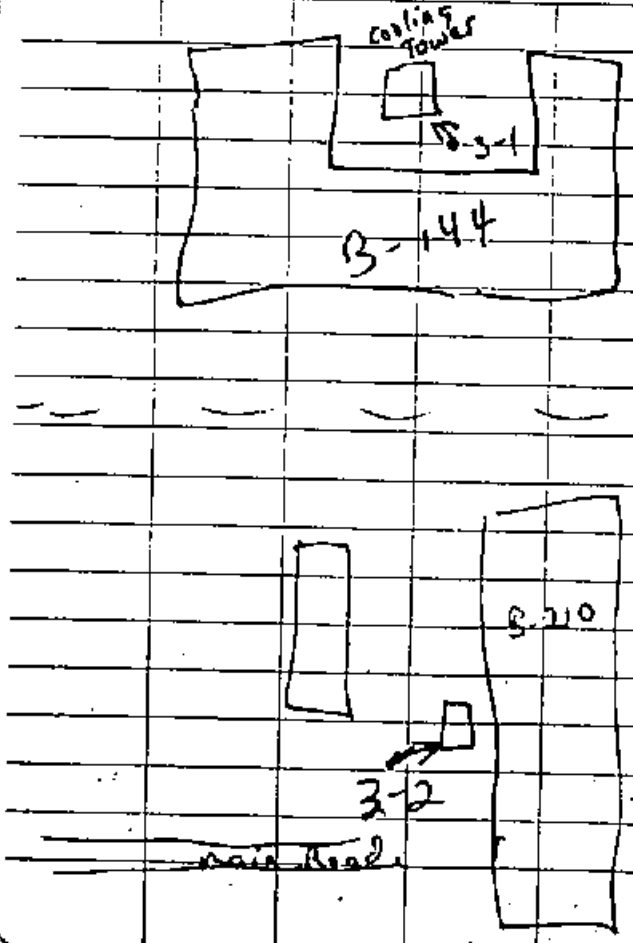
The facility will have a recycling system installed within a year.

10-55 Gallon drums per year

Two drums are in use now

Drums are located on ~~Pallets~~ Pallets over a secondary containment system made of a wood Box with Plastic Spill pan.

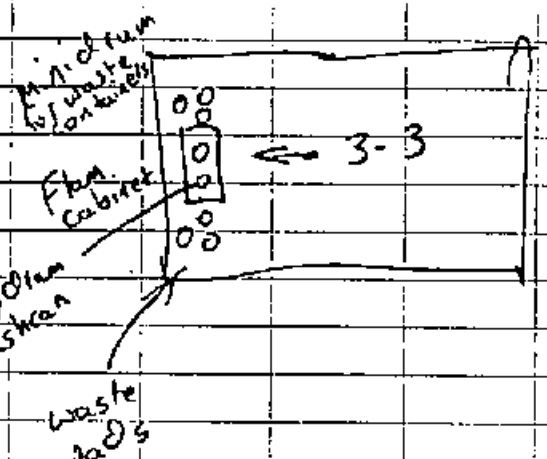
Dan Dawalker
12-7-89



1103 Photo B-1 Facing Southwest
NPDES Discharge
point for cooling
Tower in Building
B-144 Admin Building
This unit will be
connected to the
Sanitary sewer
before beginning operation
in the Spring.
So the permit will be
updated.

1105 Photo B-2 Facing North
NPDES Permit Discharge
for cooling tower
Same as above Discharge
Building 210 cooling
Tower

Dan Dawalker 12-7-89



Damian Wallin 12-7-89

Damian Wallin 12-7-89

1110 Print Shop

Satellite Accumulation

Cleaning solvents for printing machines + dies

photo 3-3 looking North

waste solvent Reg-5

waste solvent on top of Flammables Cabinet

4 black minidrums 25 gal?

These are for empty containers

+ 2 garbage cans for waste pads

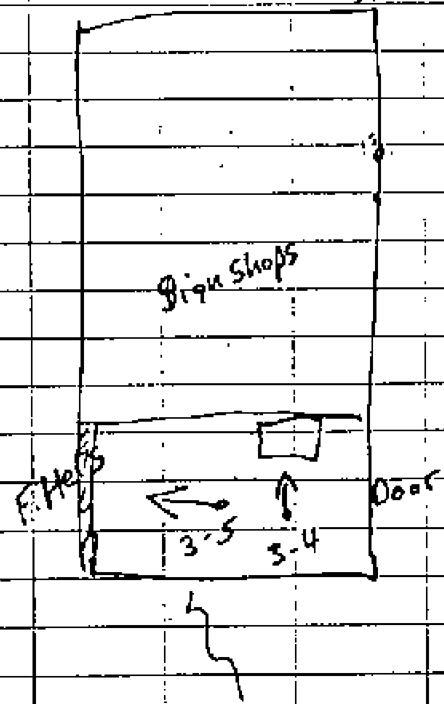
Located on tile

Concrete floor No evidence of spills or leaks

56

16

David M walch
12-7-89



and evidence of spills on sides of drums during filling

David M walch 12-7-89

1120 B-260

Facilities satellite accumulation area.

Sign Shop

Photo 3-4

Looking west at waste accumulation area in paint booth of sign shop

2 - 55 gallon drums on a pallet with numerous 2 Gallon Buckets Filled with paint thinners and paints

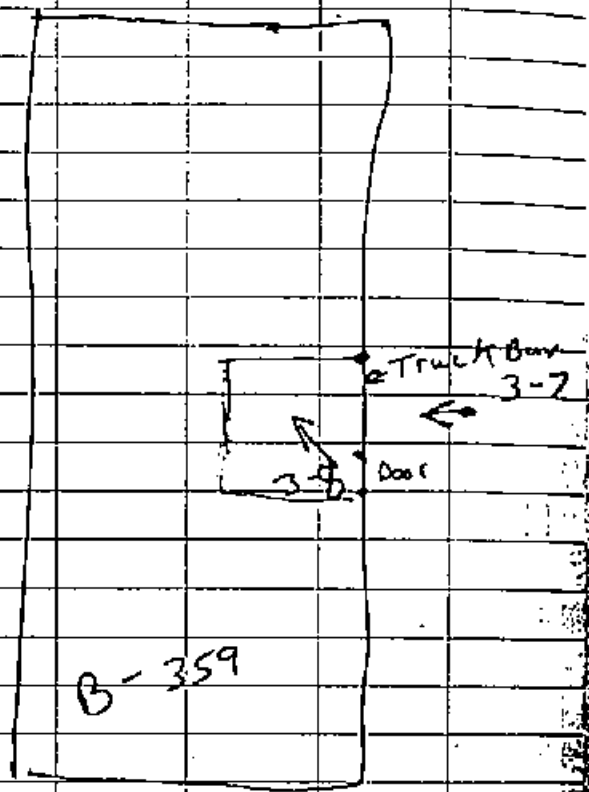
~~There are~~ They are on un coated concrete floor
No cracks nearby.
Some paint stains of floor

Blank Page
Pam M Walker
12-7-89

Pam M Walker 12-7-89

1125 Photo 3-5
looking South
of Dry Paint Booth
Filters
B-260 ~~Paint~~ Sign Shop
PMW
12-7-89

1130 Photo 3-6
Looking East at
Former PCB Transformer
Storage area 272
This area had PCB
~~dcect~~ detected in the
soil and they attribute
PCBs in Lake Danielson
to this area.
Now the site of the
new cafeteria



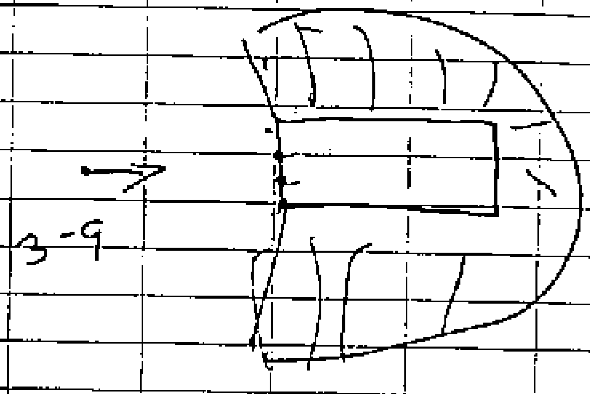
Concrete floor
waste on pallets

David Walker 12-7-07

1130 - 1230 Lunch

D-33 Photo 3-7
Area where medical
waste is stored
Looking Southwest
Building 359
waste consists
of Expired shelf life
medical items
liquid
Material is either crushed
and flushed into sanitary
sewer, solid is taken
offsite for incineration
or disposal.

David Walker 12-7-07



Dargmwalh

Hawd m walh 12-7-87

1244 Photo 3-8 Inside
of warehouse
with medical waste

1257 Photo 3-9 looking
west
Igloo which was used
Additional Storage/
Staging Area for Drums
of PCP / Dioxin Contaminated
Soils from Dip Vat Area
Cleanup
Facility has a
Concrete floor
Concrete ceiling
Has drain holes
which are plugged.
Material was onsite until
February 88

Blank page
Barry M Walsh
12-7-89

1515 Back at
Danny's office
Finish talking
about RFA
collect more information
De briefing meeting
with Colonel Johston
will be tommorrow
(Friday) at 0800.
1400 Left Site
Barry Walsh
12-7-89

16 61

Last

Page for 12-7-89

Dave Walker 12-7-89

Friday 12-8-89

0745 Arrive at

DOMT for mtg with

Commander of the

Supply Center Hdc

Colonel Johnston -

Actually Colonel Harville

0800 Mtg Begins

Barry Chumney

Bill

Colonel Harville

Dave Walker

Jack Slechta

Dave Walker 12-8-89

16 62

Blank

David M Walker 12-8-89

Gave the colonel an Explanation of What we did.

The Colonel Jerry Hartville asked that ~~we did~~ ~~not~~ ~~Say that~~ DMW 12-8-89 the areas within Dunn Field be kept reasonably well defined so that they do not get accused of burying Haz waste throughout the Area

12-8-89 David Walker

16 83

Blank
Dan'o an Walker. 12-8-89

The colonel asked
when he could expect
to have a draft
perm.t

we told him 6 months
to 1 Year after
the AFA Report

We also explained the
difference between
the superfund
RIFS that is currently
under way and the
RCRA corrective action
programs that they

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David M [illegible]

12-5-89

May have to undertake.

0920 Meeting

Complete

Last Page for 12-5-89

David M [illegible]

APPENDIX C

PHOTOGRAPH LOG

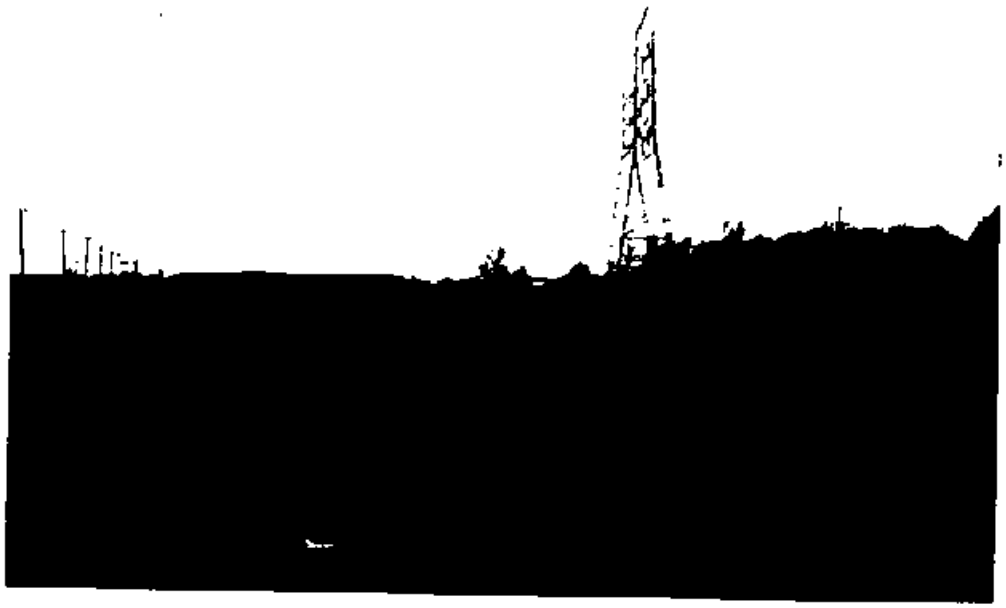
Photograph No. 1-1 Looking southwest at the approximate locations of Methyl Bromide Burial Site A (SWMU No. 5), the Eye Ointment Burial Site (SWMU No. 6), the Fuming Nitric Acid Burial Site (SWMU No. 7), the Methyl Bromide Burial Site B (SWMU No. 8) the Ashes and Metal Burial Site (SWMU No. 9), and the Solid Waste Burial Site (SWMU No. 10). (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-2 Looking south at the Mustard Gas Burial Site (SWMU No. 1), the Ammonia Hydroxide Burial Site (SWMU No. 2), the Mixed Chemical Burial Site A (SWMU No. 3), the POL Burial Sites (SWMU No. 4), the Methyl Bromide Burial Site A (SWMU No. 5), and the Ashes and Metal Burial Site (SWMU No. 9). (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-3 Looking north at the approximate location of the Solid Waste Burial Site (SWMU No. 10) near the north facility property line. New monitoring well in foreground. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-4 Looking west at the Mixed Chemical Burial Site B (SWMU No. 13), the Municipal Waste Burial Site (SWMU No. 14), the Sodium Burial Sites (SWMU No. 15), the Unknown Acid Burial Site (SWMU No. 16), the Mixed Chemical Burial Site C (SWMU No. 17), and the Plane Crash Residue Burial Site (SWMU No. 18). Monitoring Well No. 4 in foreground. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-5 Looking southwest at the Plane Crash Residue Burial Site (SWMU No. 18). (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 1-6 Looking south at the Plane Crash Residue Burial Site (SWMU No. 18) from Monitoring Well No. 4. Stockpile of fluorspar in background. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-7 Looking northeast at the building foundation for former possible storage of pesticides. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-8 Looking southwest at the Former CN Canisters Burn Site (SWMU No. 19). Stockpile of bauxite in background. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-9 Looking south at the Probable Asphalt Burial Site (SWMU No. 20). The facility pistol range is east of trees. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-10 Looking north along Dunn Field Drainage Ditch (AOC A) which is downslope from the XXCC-3 Probable Burial Site (SWMU No. 21) to the east and the pistol range to the west. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-11 Looking northeast at the XXCC-3 Probable Burial Site (SWMU No. 21) located along the east boundary of the facility property. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

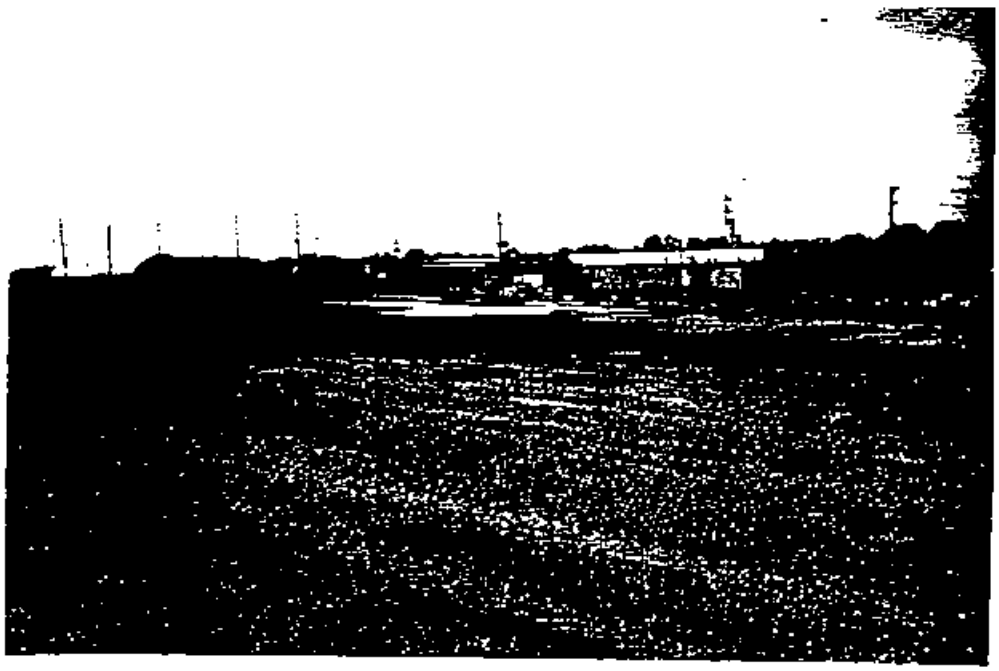
Photograph No. 1-12 Looking northwest at the pistol range and Building 1184 which is used to store pesticides prior to facility use. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-13 Looking north at the approximate locations of Mixed Chemical Burial Site B (SWMU No. 13), the Sodium Burial Sites (SWMU No. 15), the Unknown Acid Burial Site (SWMU No. 16), the Mixed Chemical Burial Site C (SWMU No. 17), and the Plane Crash Residue Burial Site (SWMU No. 18). (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-14 Looking northwest at the Sulfuric and Hydrochloric Acid Burial Site (SWMU No. 12) and the Municipal Waste Burial Site (SWMU No. 14) located along the west boundary of the facility property. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-15 Looking southwest at the approximate location of the Hardware Burial Site (SWMU No. 22). Dirt mound and fluorspar stockpile in background. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-16 Looking west at Construction Debris and Foods Burial Site (SWMU No. 23). Monitoring Well No. 6 in right background. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 1-17 Looking southwest at Former Miscellaneous Burn Site (SWMU No. 24) being regraded for possible fluorspar storage. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

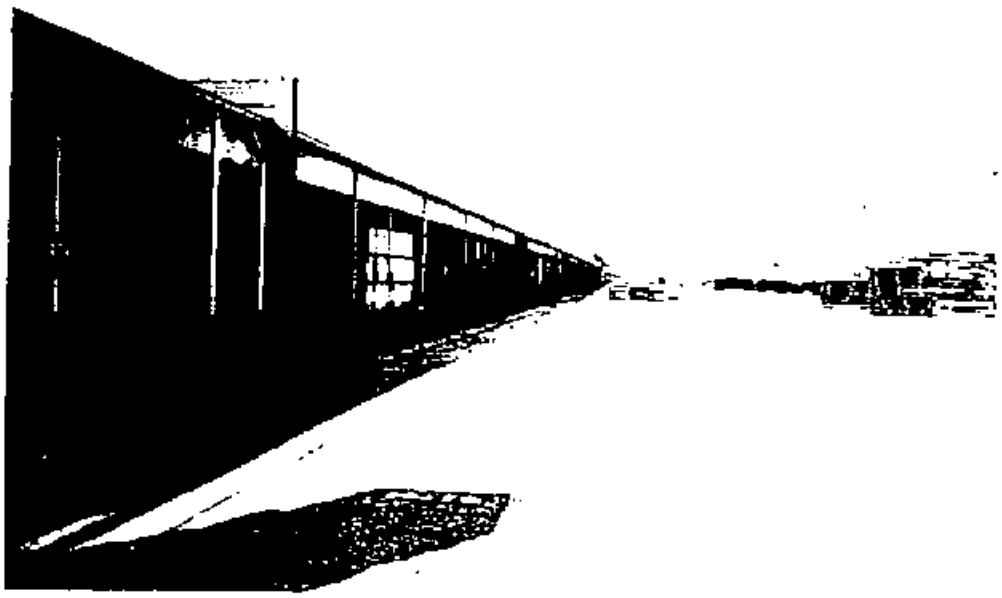
Photograph No. 1-18 Looking south at the Golf Course Pond (SWMU No. 25) which receives run-off from the golf course and the southeast part of the facility. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-19 Looking east at NPDES Outfall No. 004, which accepts drainage from Lake Danielson and the southern part of the main installation, located at southern boundary of facility. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-20 Looking northwest at Lake Danielson (SWMU No. 26) which is currently used as the facility's fire reservoir. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-21 Looking south at the Lake Danielson Outlet Ditch (AOC B) from the dam. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

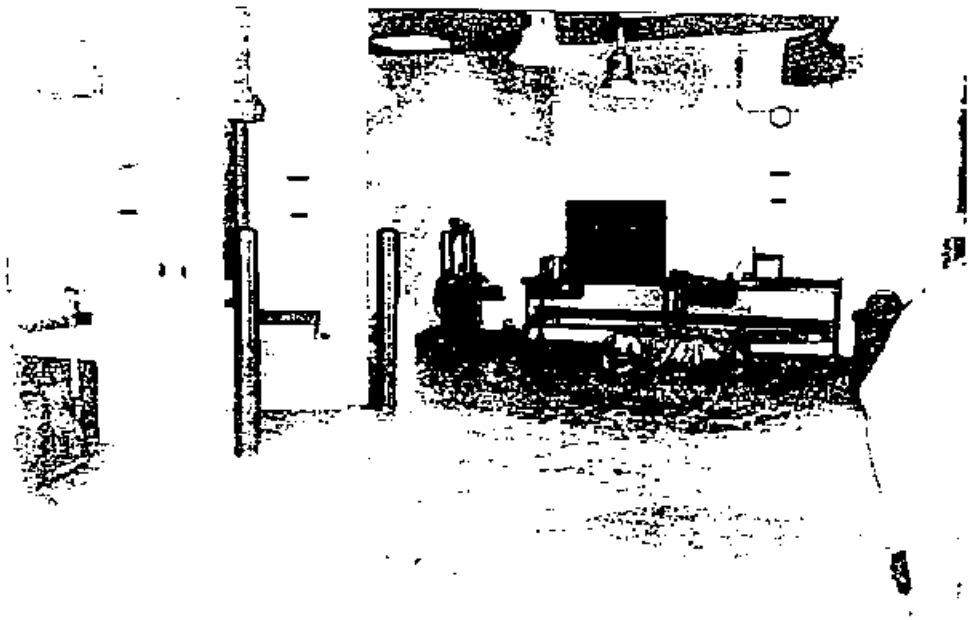
Photograph No. 1-22 Looking southeast at the X-25 Flammable Solvents Storage Area (AOC D) located in the northwest section of the facility. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)



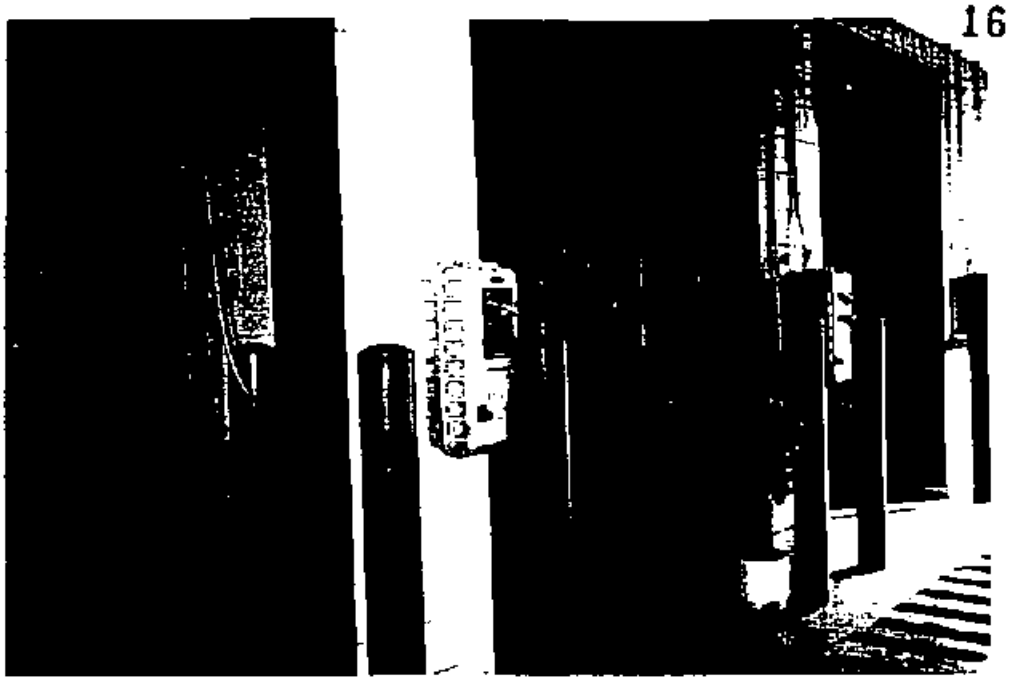
Photograph No. 1-23 Looking north along the eastern side of Building 873 which was the location of the Former Recoup Area (SWMU No. 27). (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-24 Looking south along the eastern side of Building 873 which was the location of the Former Recoup Area (SWMU No. 27). (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

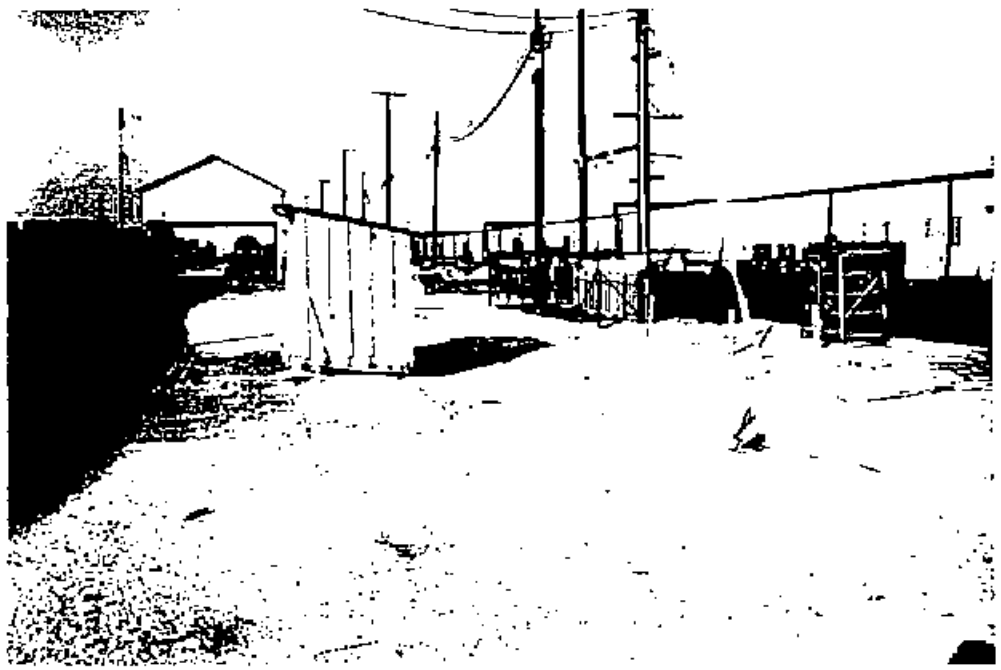
Photograph No. 1-25 Looking east at damaged flammable drum holding area in the Recoup Area Building (SWMU No. 28). Damaged containers of flammable materials are temporarily stored here until they can be repoured into new containers. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 1-26 Looking west at the work room in the Recoup Area Building (SWMU No. 28). This is the area where materials are transferred from damaged containers into new containers. Photograph taken December 6, 1989 by Jack Slechta of A.T. Kearney.



Photograph No. 1-27 Looking southeast at storage bays for damaged hazardous materials containers in the Recoup Area Building (SWMU No. 28). There are three bays, each of which is used to store separate types of hazardous materials. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

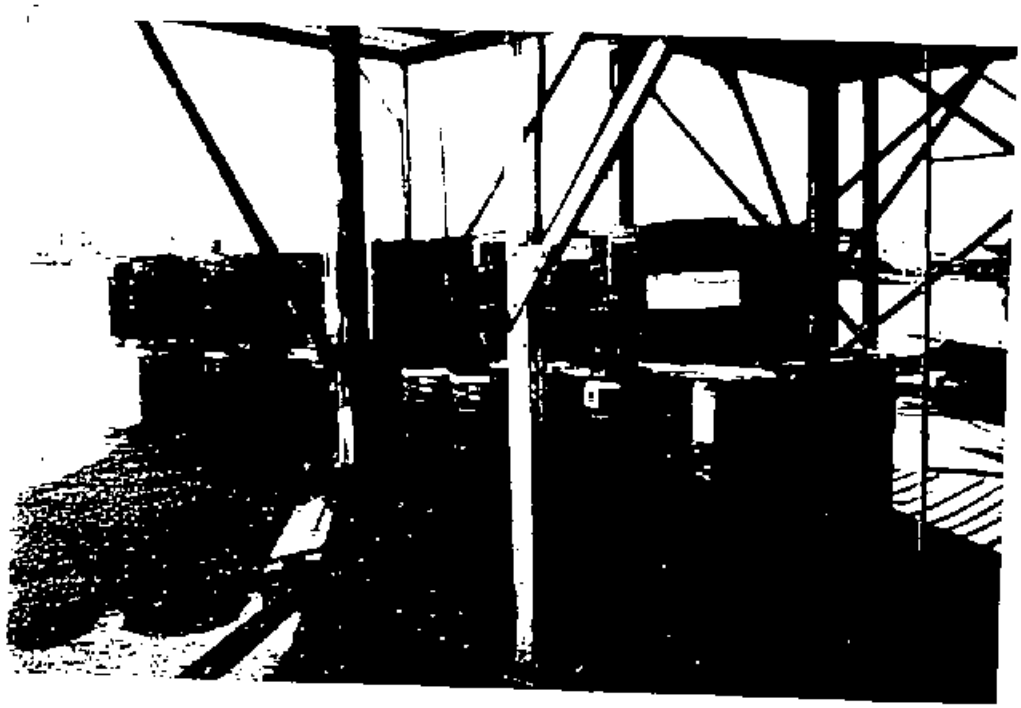


Photograph No. 1-28 Looking north at the Former Underground Waste Oil Storage Tank (SWMU No. 29). The unit is located just east of Building 1086. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

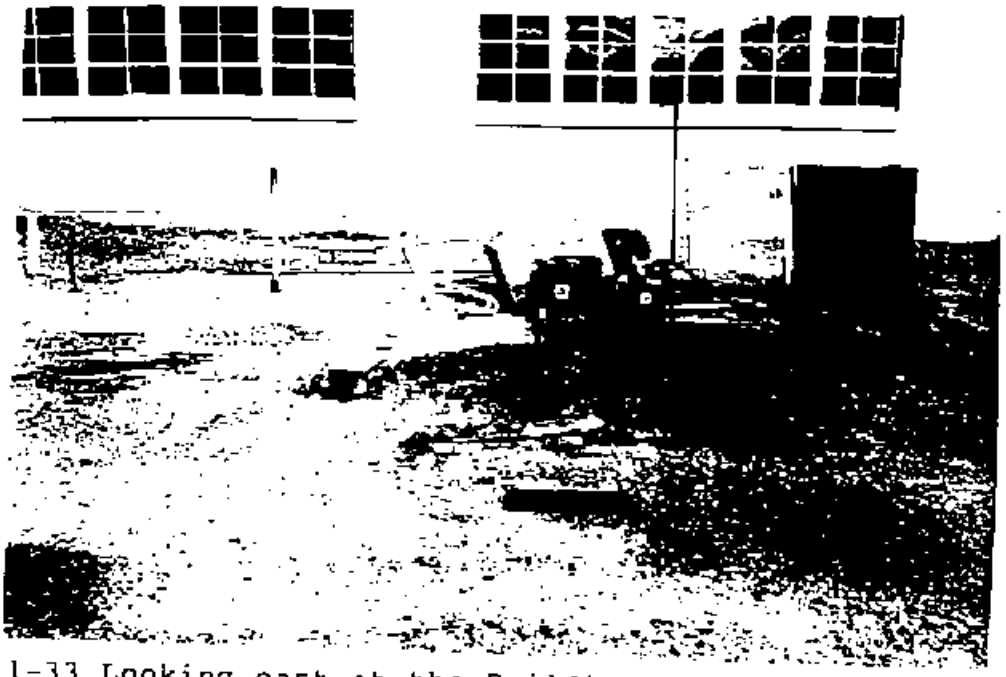
Photograph No. 1-29 Looking north at the Paint Spray Booth (SWMU No. 30) located in Building 1086. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-30 Looking south at the Former Paint Spray Booth (SWMU No. 31) located in Building 1087. The Building is now used as a drying area for painted equipment. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 1-31 Looking northwest at the Sandblasting Waste Accumulation Area (SWMU No. 32) located just south of Building 1088. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 1-32 Looking southwest at the Sandblasting Waste Drum Storage Area (SWMU No. 33), located just south of Building 1088. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

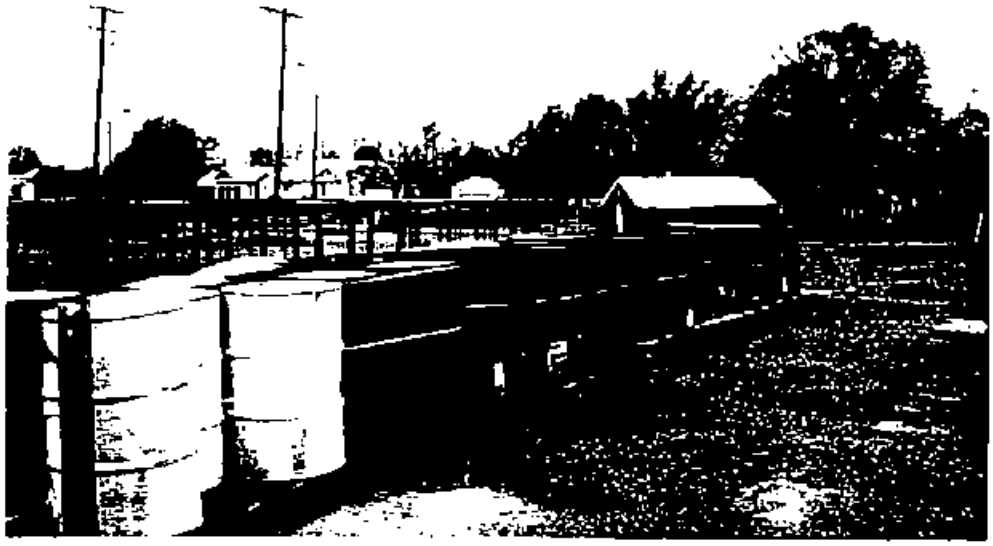


Photograph No. 1-33 Looking east at the Building 770 Underground Waste Oil Storage Tank Area (2) (SWMU No. 34). The unit is located on the west side of Building 770. (Photograph taken December 6, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 2-1 Looking northeast at the DRMO Building T-308 Hazardous Waste Storage Area (SWMU No. 35). (Photograph Taken December 7, 1989 by Jack Slechta of A.T. Kearney.)

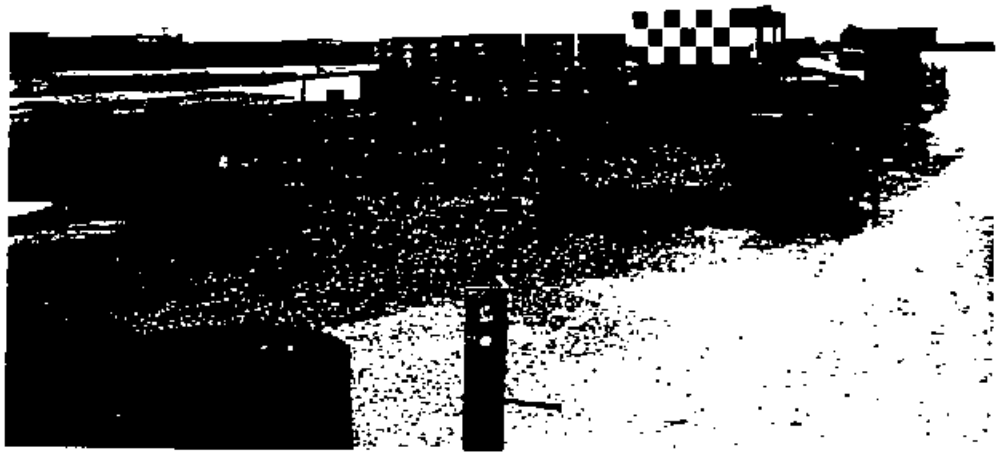
Photograph No. 2-2 Looking west at the DRMO Hazardous Waste Concrete Storage Pad (SWMU No. 36). (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 2-3 Looking southeast at the DRMO Hazardous Waste Gravel Storage Pad (SWMU No. 37). (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



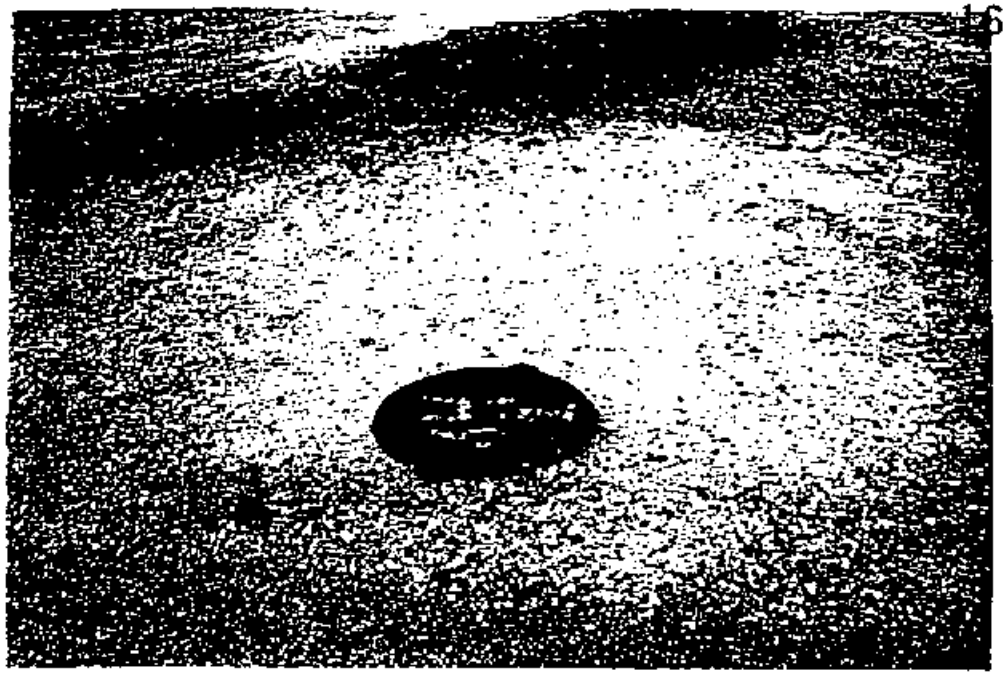
Photograph No. 2-4 Looking northwest at the DRMO Damaged and Empty Hazardous Materials Drum Area (SWMU No. 38). Note stains on the gravel in the foreground. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 2-5 Looking southwest at the DRMO Damaged and Empty Lubricant Container Area (SWMU No. 39). (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 2-6 Looking southwest at the DRMO Damaged and Empty Lubricant Container Area (SWMU No. 39). Note staining on the gravel in the foreground. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

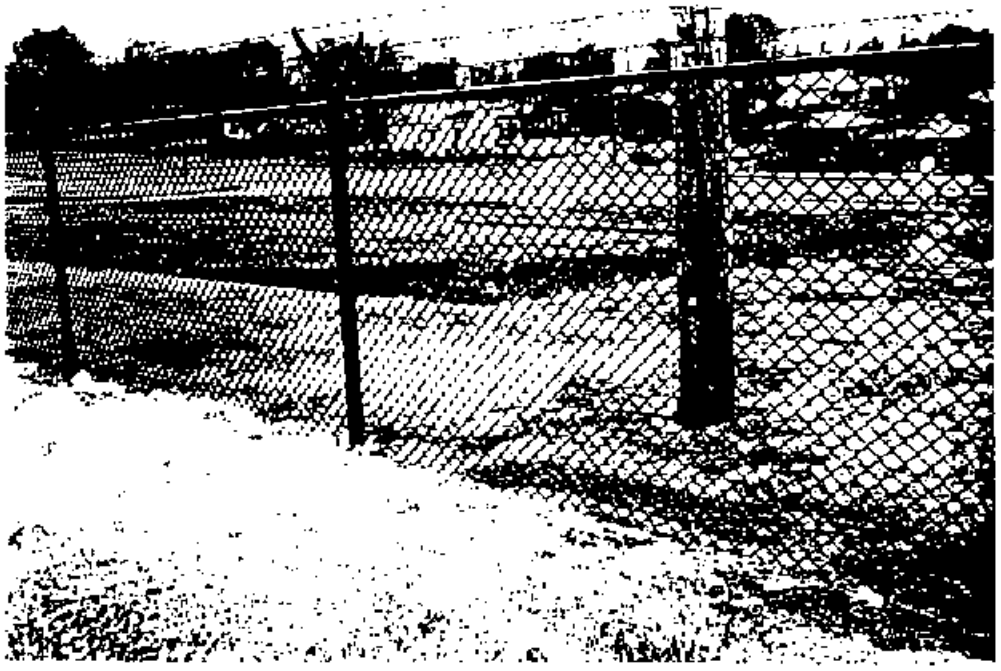
Photograph No. 2-7 Looking southeast at NPDES discharge point No. 008 which is part of the DRMO Drainage Ditch (AOC E). Flow direction is to the left (north). (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 2-8 Looking southwest at NPDES discharge point No. 007, which is part of the DRMO Drainage Ditch (AOC E). The manhole is for a 30-inch storm sewer which runs off-site and eventually empties into Cane Creek. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 2-9 Looking southwest at the Recyclable Materials Storage Area. The DRMO Building T-308 Hazardous Waste Storage Area (SWMU No. 35) is in the right background. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 2-10 Looking west along the northern boundary of the DRMO area at the North Run-off Area (AOC F). This area corresponds to NPDES discharge point No. 006. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

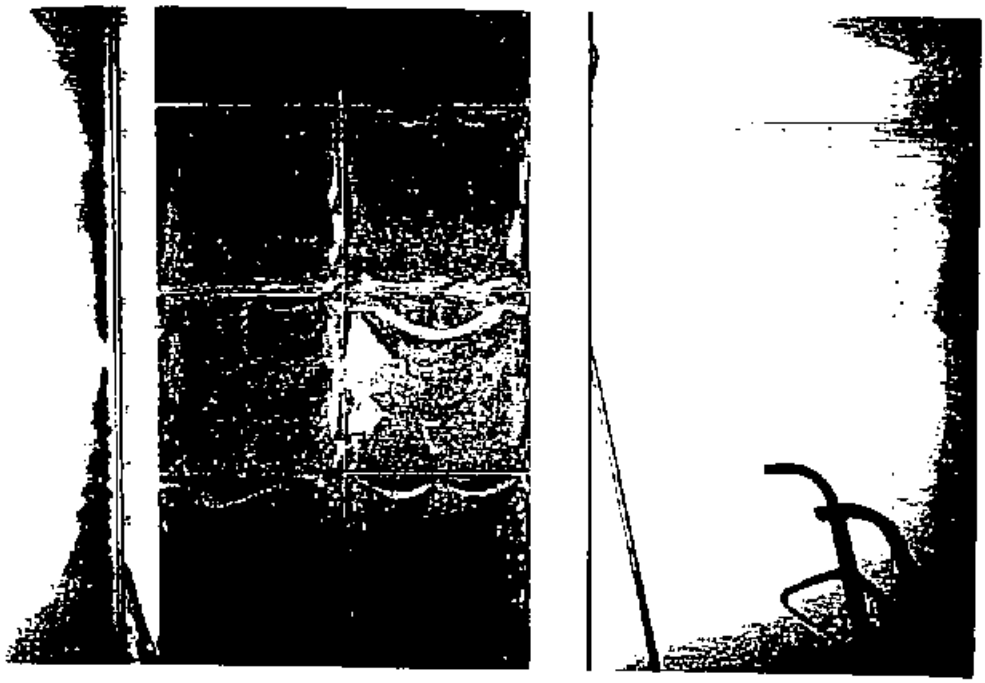


Photograph No. 2-11 Looking southwest at the NPDES discharge point No. 005, which is also the West Run-off Area (AOC G). (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph Nos. 2-12 and 2-13	Safety-Kleen units in Building 770 could not be developed due to lack of light or camera malfunction.

Photograph No. 2-14 Looking south at the thinner rag drum in the Satellite Drum Accumulation Area (SWMU No. 41) in the Paint Spray Booth (SWMU No. 30) located in Building 770. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 2-15 Looking south at the thinner solvent drum in the Satellite Drum Accumulation Area (SWMU No. 41) in the Paint Spray Booth (SWMU No. 30) located in Building 770. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

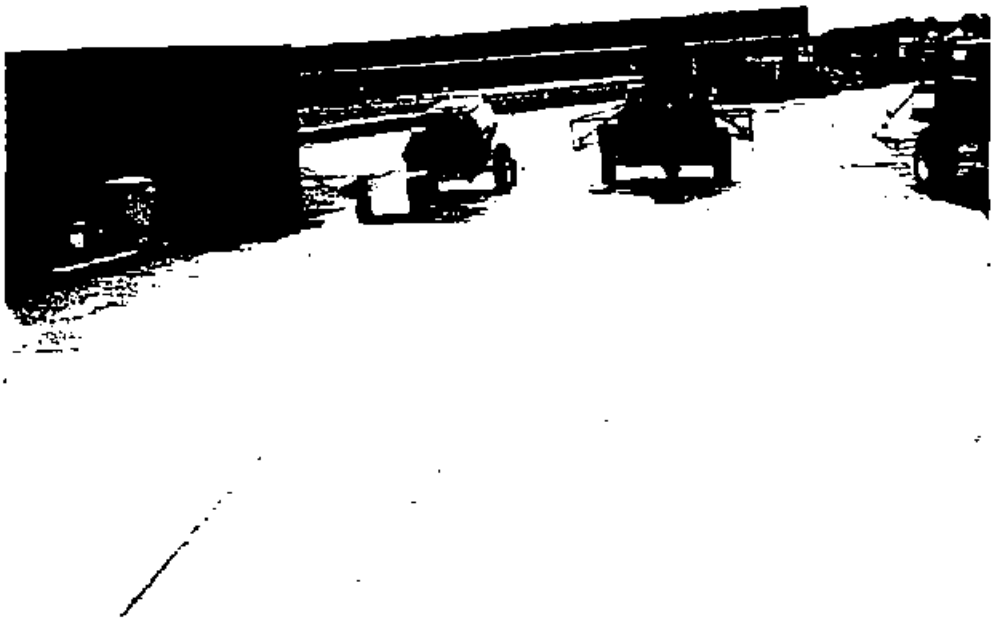


Photograph No. 2-16 Looking east at the Dry Filters in the Paint Spray Booth (SWMU No. 30) located in Building 770. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

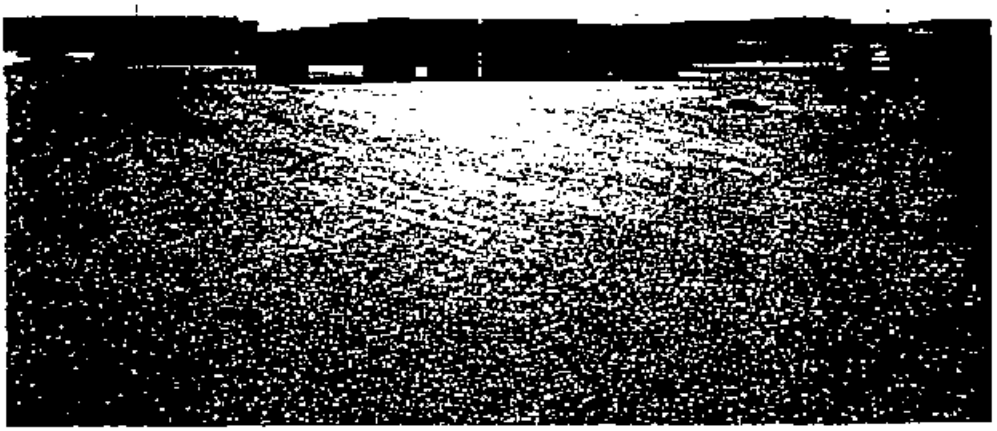
Photograph No. 2-17 Looking north at the Former PCP Dip Vat Area (SWMU No. 42). The unit was located near the middle of the photograph. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 2-18 Looking southwest at the Former Underground PCP Tank Area (SWMU No. 43). The unit was located in the middle of the photo between the railroad track and the edge of the concrete pad. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 2-19 Looking northwest at the Former Contaminated Soil Staging Area (SWMU No. 45). Area extended from the foreground to the line of equipment in the background. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

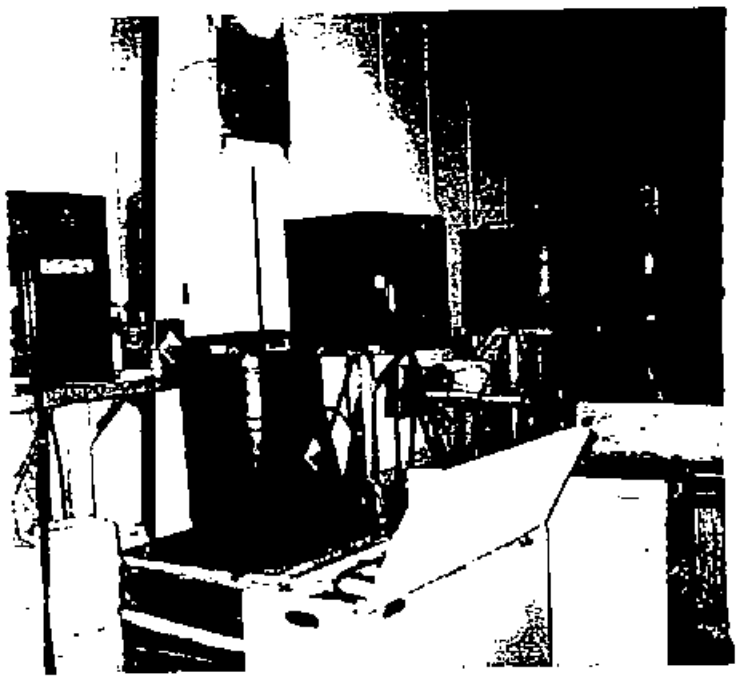


Photograph No. 2-20 Looking west at the Former Wastewater Treatment Unit Area (SWMU No. 44). Unit was located in the center of the picture. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

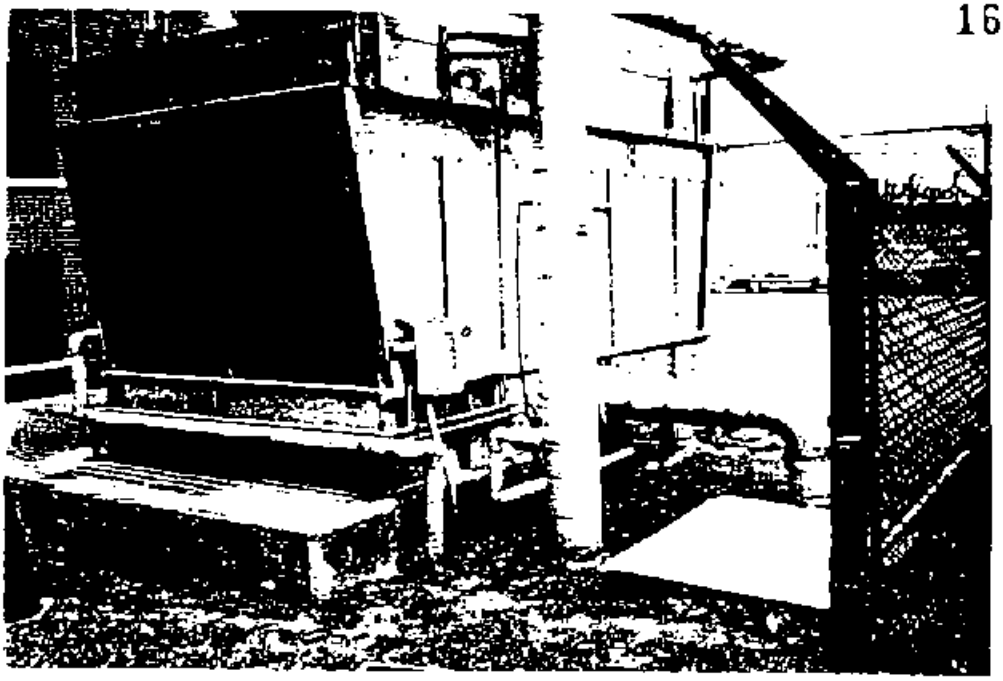


Photograph No. 2-21 Looking east at the Former PCP Drying Area (SWMU No. 46). Unit was located throughout the area shown in the picture. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

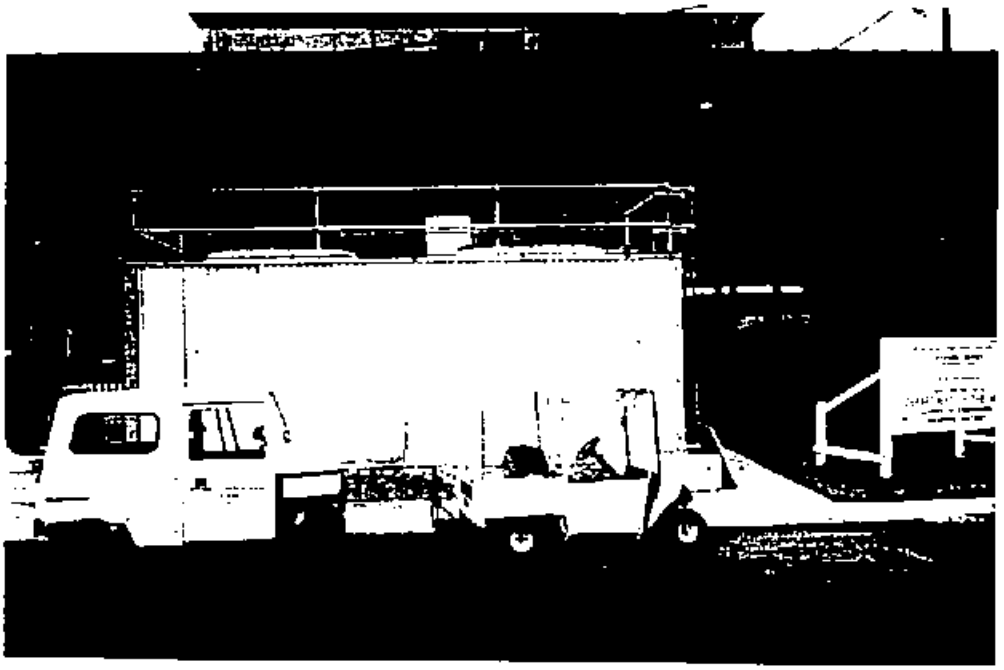
Photograph No. 2-22 Looking west at the Building 629 Spill Area (AOC H). This unit is located at the southwest corner of B-629, the main hazardous materials storage building. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 2-23 Looking southwest at the sulfuric acid drum which is the Satellite Drum Accumulation Area (SWMU No. 41) located in Building S-469. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



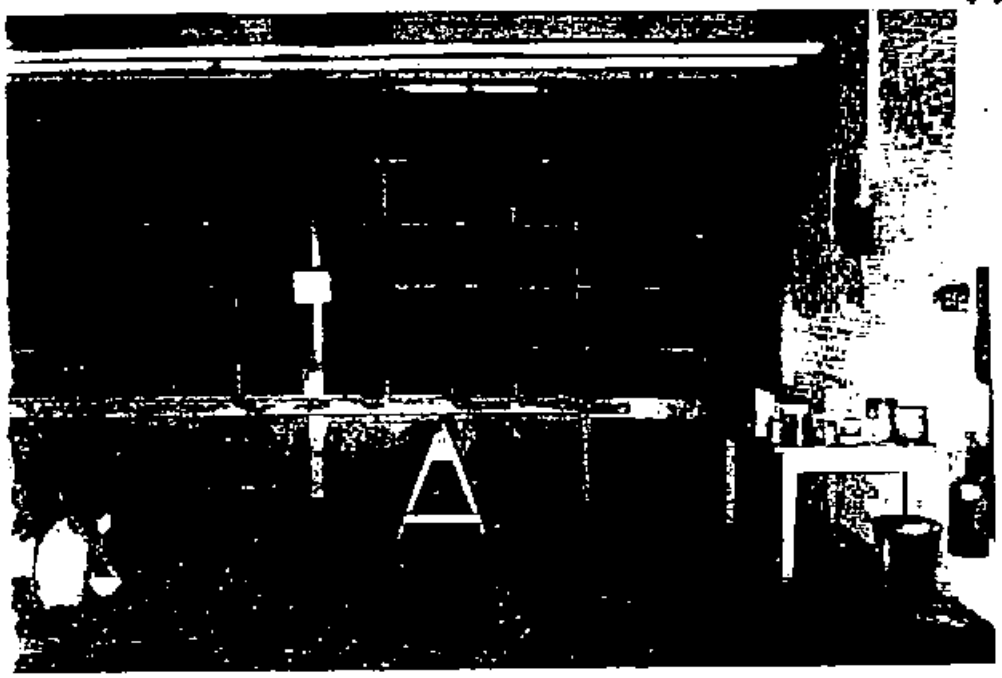
Photograph No. 3-1 Looking southwest at NPDES discharge point No. 002, which is for the Building 144 (Administration) Cooling Tower. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



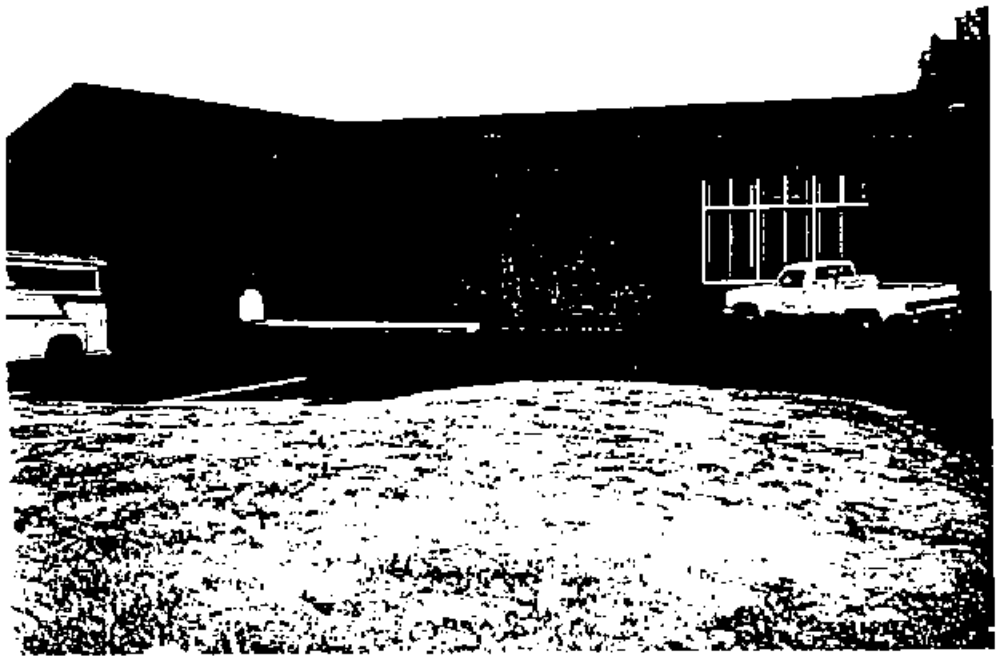
Photograph No. 3-2 Looking north at the Building 210 Cooling Tower. This is the source for NPDES discharge point No. 001. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 3-3 Photograph No. 3-3 of 210 Print Shop Satellite Drum Accumulation Area (SWMU No. 41) did not turn out.

Photograph No. 3-4 Looking west at the Satellite Drum Accumulation Area (SWMU No. 41) located in the Building 260 Sign Shop. The drums and containers show evidence of spills which have occurred during filling. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



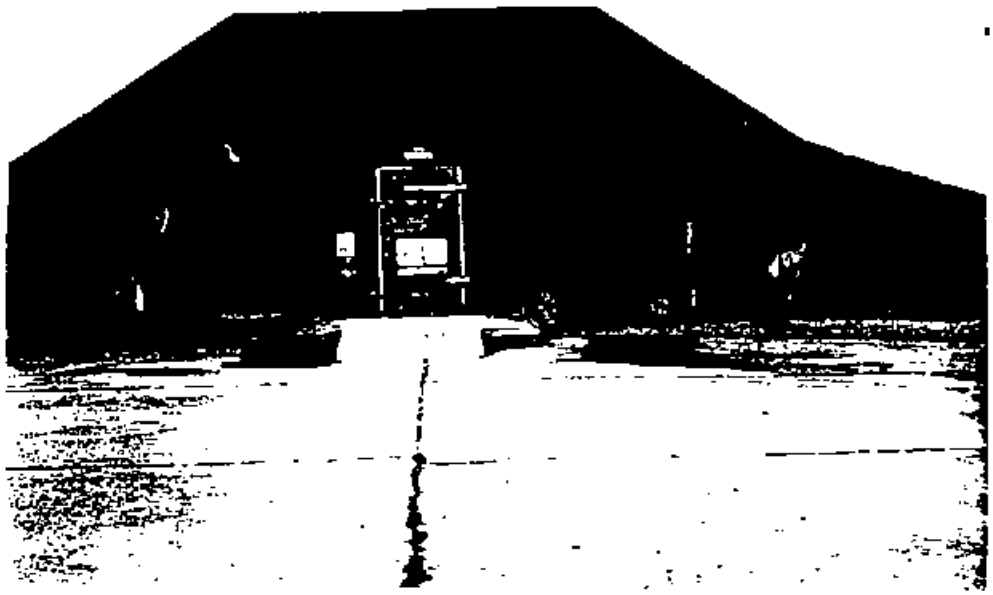
Photograph No. 3-5 Looking south at the Dry Filters in the Paint Spray Booth (SWMU No. 30) located in the Building 260 Sign Shop. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 3-6 Looking east at the Former PCB Transformer Storage Area (SWMU No. 48). The unit is located beneath the new cafeteria which is shown in the photograph. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 3-7 Looking southwest at the exterior of the Medical Waste Storage Area (SWMU No. 49). (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

Photograph No. 3-8 Looking southwest at the interior of the Medical Waste Storage Area (SWMU No. 49). (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)



Photograph No. 3-9 Looking west at the Former Contaminated Soil Drum Storage Area (SWMU No. 47). The drums were stored inside the "Igloo" which was designed as an explosives/ammunition storage building. (Photograph taken December 7, 1989, by Jack Slechta of A.T. Kearney.)

APPENDIX D

Analytical Results of Ground-Water Monitoring

DOD Memphis

NOTE: These results were obtained from Reference 26, the Draft Remedial Investigation Report for the DDMT. Which was prepared by LAW Environmental, Inc. Goverment Services Division, Kennesaw, GA June 1989. The report is currently being reviewed by the facility.

POSITIVE METALS RESULTS IN GROUNDWATER
DUNN FIELD
DEFENSE DEPOT MEMPHIS, TENNESSEE
IN UG/L

SAMPLE POINT	PARAMETER	CONCENTRATION	
MW-2	Antimony	90	N
MW-2	Arsenic	100	
MW-2	Barium	475	N
MW-2	Cadmium	12	N
MW-2	Chromium	118	N
MW-2	Copper	127	N
MW-2	Lead	186	N
MW-2	Mercury	.5	
MW-2	Nickel	48	N
MW-2	Selenium	90	
MW-2	Zinc	299	N
MW-3	Antimony	45	BN
MW-3	Barium	659	N
MW-3	Chromium	643	N
MW-3	Copper	345	N
MW-3	Lead	238	N
MW-3	Mercury	1.8	
MW-3	Nickel	324	N
MW-3	Zinc	114	N
MW-4	Antimony	59	BN
MW-4	Barium	695	N
MW-4	Chromium	823	N
MW-4	Copper	438	N
MW-4	Lead	257	N
MW-4	Mercury	1.1	
MW-4	Nickel	301	N
MW-4	Zinc	115	N
MW-5	Barium	224	N
MW-5	Chromium	170	N
MW-5	Copper	78	N
MW-5	Lead	84	N
MW-5	Mercury	.6	
MW-5	Nickel	57	N
MW-5	Zinc	311	N
MW-6	Antimony	142	N
MW-6	Barium	117	N
MW-6	Cadmium	8	N
MW-6	Chromium	386	N
MW-6	Copper	213	N
MW-6	Lead	395	N
MW-6	Mercury	3.6	
MW-6	Nickel	145	N
MW-6	Silver	20	
MW-6	Zinc	517	N
MW-7	Antimony	170	N
MW-7	Barium	1030	N

NOTE: These results were obtained from Reference 26, the Draft Remedial Investigation Report for the DDMT. Which was prepared by LAW Environmental, Inc. Goverment Services Division, Kennesaw, GA June 1989. The report is currently being reviewed by the facility.

POSITIVE METALS RESULTS IN GROUNDWATER
DUNN FIELD
DEFENSE DEPOT MEMPHIS, TENNESSEE
IN UG/L

SAMPLE POINT	PARAMETER	CONCENTRATION	
MW-7	Chromium	1240	N
MW-7	Copper	856	N
MW-7	Lead	390	N
MW-7	Mercury	1.4	
MW-7	Nickel	602	N
MW-7	Zinc	1910	N
MW-8	Antimony	113	N
MW-8	Barium	994	N
MW-8	Chromium	471	N
MW-8	Copper	304	N
MW-8	Lead	165	N
MW-8	Mercury	1.7	
MW-8	Nickel	170	N
MW-8	Zinc	745	N
MW-9	Antimony	81	N
MW-9	Arsenic	62	
MW-9	Barium	418	N
MW-9	Chromium	182	N
MW-9	Copper	138	N
MW-9	Lead	171	N
MW-9	Mercury	.8	
MW-9	Nickel	67	N
MW-9	Zinc	304	N
MW-10	Antimony	81	N
MW-10	Arsenic	85	
MW-10	Barium	1310	N
MW-10	Chromium	286	N
MW-10	Copper	613	N
MW-10	Lead	653	N
MW-10	Mercury	.7	
MW-10	Nickel	142	N
MW-10	Zinc	1120	N
MW-11	Antimony	54	BN
MW-11	Barium	3390	N
MW-11	Chromium	530	N
MW-11	Copper	643	N
MW-11	Lead	353	N
MW-11	Mercury	1.4	
MW-11	Nickel	225	N
MW-11	Zinc	872	N
MW-12	Barium	2010	N
MW-12	Chromium	517	N
MW-12	Copper	454	N
MW-12	Lead	417	N
MW-12	Mercury	.5	
MW-12	Nickel	350	N

NOTE: These results were obtained from Reference 26, the Draft Remedial Investigation Report for the DDMT. Which was prepared by LAW Environmental, Inc. Goverment Services Division, Kennesaw, GA June 1989. The report is currently being reviewed by the facility.

POSITIVE METALS RESULTS IN GROUNDWATER
DUNN FIELD
DEFENSE DEPOT MEMPHIS, TENNESSEE
IN UG/L

SAMPLE POINT	PARAMETER	CONCENTRATION	
MW-12	Silver	42	
MW-12	Zinc	1300	N
MW-13	Barium	416	N
MW-13	Chromium	184	N
MW-13	Copper	190	N
MW-13	Lead	150	N
MW-13	Mercury	1.4	
MW-13	Nickel	79	N
MW-13	Silver	11	
MW-13	Zinc	407	N
MW-14	Barium	3740	N
MW-14	Chromium	800	N
MW-14	Copper	592	N
MW-14	Lead	507	N
MW-14	Mercury	1.9	
MW-14	Nickel	421	N
MW-14	Silver	13	
MW-14	Zinc	1640	N

N = Spiked sample recovery not within control limits.
B = Value less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).

NOTE: These results were obtained from Reference 26, the Draft Remedial Investigation Report for the DDMT. Which was prepared by LAW Environmental, Inc. Goverment Services Division, Kennesaw, GA June 1989. The report is currently being reviewed by the facility.

POSITIVE METALS RESULTS IN GROUNDWATER
MAIN INSTALLATION
DEFENSE DEPOT MEMPHIS, TENNESSEE
IN UG/L

SAMPLE POINT	PARAMETER	CONCENTRATION	
MW-16	Arsenic	55	
	Barium	218	
	Chromium	55	
	Copper	198	
	Lead	79	
	Nickel	29	
	Zinc	116	
MW-17	Antimony	47	B
	Arsenic	324	
	Barium	603	
	Cadmium	8	
	Chromium	408	
	Copper	322	
	Lead	205	
	Mercury	6.8	
	Nickel	238	
	Zinc	910	
MW-19	Arsenic	38	
	Barium	296	
	Cadmium	6	
	Chromium	17	
	Copper	108	
	Lead	42	
	Zinc	59	
MW-20	Barium	247	
	Cadmium	11	N*
	Chromium	100	
	Copper	242	
	Lead	79	*
	Mercury	.9	N
	Nickel	35	
	Zinc	150	
MW-21	Barium	229	
	Cadmium	7	N*
	Chromium	171	
	Copper	148	
	Lead	97	*
	Mercury	1	N
	Nickel	49	
	Zinc	242	
MW-22	Barium	343	
	Cadmium	14	N*
	Chromium	616	
	Copper	326	

NOTE: These results were obtained from Reference 26, the Draft Remedial Investigation Report for the DDMT. Which was prepared by LAW Environmental, Inc. Goverment Services Division, Kennesaw, GA June 1989. The report is currently being reviewed by the facility.

POSITIVE METALS RESULTS IN GROUNDWATER
MAIN INSTALLATION
DEFENSE DEPOT MEMPHIS, TENNESSEE
IN UG/L

SAMPLE POINT	PARAMETER	CONCENTRATION	
	Lead	201	*
	Mercury	1.4	N
	Nickel	110	
	Zinc	594	
MW-23	Barium	567	
	Cadmium	15	N*
	Chromium	306	
	Copper	1570	
	Lead	334	*
	Mercury	1.6	N
	Nickel	73	
	Zinc	413	
MW-24	Barium	167	
	Cadmium	18	N*
	Chromium	31	
	Copper	88	
	Lead	152	*
	Mercury	.4	N
	Nickel	26	
	Zinc	193	
MW-25	Barium	1960	
	Chromium	337	
	Copper	209	
	Lead	128	
	Mercury	1.7	
	Nickel	125	
	Zinc	408	
MW-26	Barium	908	
	Chromium	150	
	Copper	268	
	Mercury	0.4	N
	Nickel	58	
	Zinc	400	

B = Value less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL).
N = Spiked sample recovery was outside of Laboratory Control Limits.
* = Duplicate analysis not within control limits.

NOTE: These results were obtained from Reference 26, the Draft Remedial Investigation Report for the DDMT. Which was prepared by LAW Environmental, Inc. Goverment Services Division, Kennesaw, GA June 1989. The report is currently being reviewed by the facility.

POSITIVE VOLATILE ORGANIC RESULTS IN GROUNDWATER
DUNN FIELD
DEFENSE DEPOT MEMPHIS, TENNESSEE
IN UG/L

SAMPLE POINT	PARAMETER	CONCENTRATION	
MW-3	1,1,1-Trichloroethane	3	J
MW-3	1,1-Dichloroethene	36	
MW-3	Chloroform	3	J
MW-3	Tetrachloroethene	49	
MW-3	Trichloroethene	25	
MW-4	Carbon Tetrachloride	5	J
MW-4	Chloroform	2	J
MW-4	Tetrachloroethene	100	
MW-4	Trichloroethene	4	J
MW-5	1,2-Dichloroethylene	3	J
MW-5	Carbon Tetrachloride	4	J
MW-5	Chloroform	11	
MW-5	Tetrachloroethene	210	
MW-5	Trichloroethene	28	
MW-6	1,1,2,2-Tetrachloroethane	150	
MW-6	1,1,2-Trichloroethane	7	
MW-6	1,2-Dichloroethylene	270	D
MW-6	Carbon Tetrachloride	77	
MW-6	Chloroform	15	
MW-6	Tetrachloroethene	3	
MW-6	Trichloroethene	190	D
MW-7	1,1,1-Trichloroethane	5	J
MW-7	1,1-Dichloroethane	3	J
MW-7	1,1-Dichloroethene	81	
MW-7	Chloroform	6	
MW-7	Tetrachloroethene	59	
MW-7	Trichloroethene	19	
MW-8	1,1,1-Trichloroethane	5	
MW-8	1,1-Dichloroethane	3	J
MW-8	1,1-Dichloroethene	66	
MW-8	Tetrachloroethene	58	
MW-8	Trichloroethene	21	
MW-9	1,1-Dichloroethene	3	J
MW-9	Carbon Tetrachloride	7	
MW-9	Chloroform	3	J
MW-9	Tetrachloroethene	6	
MW-9	Trichloroethene	7	
MW-10	1,1,1-Trichloroethane	9	
MW-10	1,1,2,2-Tetrachloroethane	10	
MW-10	1,1-Dichloroethane	3	J
MW-10	1,1-Dichloroethene	130	
MW-10	1,2-Dichloroethylene	6	J

NOTE: These results were obtained from Reference 26, the Draft Remedial Investigation Report for the DDMT. Which was prepared by LAW Environmental, Inc. Goverment Services Division, Kennesaw, GA June 1989. The report is currently being reviewed by the facility.

POSITIVE VOLATILE ORGANIC RESULTS IN GROUNDWATER
DUNN FIELD
DEFENSE DEPOT MEMPHIS, TENNESSEE
IN UG/L

SAMPLE POINT	PARAMETER	CONCENTRATION	
MW-10	Tetrachlorethene	190	
MW-10	Trichloroethene	140	
MW-11	1,1,2,2-Tetrachloroethane	73	
MW-11	1,1,2-Trichloroethane	2	J
MW-11	1,2-Dichloroethylene	520	D
MW-11	Carbon Tetrachloride	4	J
MW-11	Chloroform	6	
MW-11	Trichloroethene	380	D
MW-12	1,1,2,2-Tetrachloroethane	340	D
MW-12	1,1,2-Trichloroethane	1	J
MW-12	1,2-Dichloroethylene	190	D
MW-12	Carbon Tetrachloride	1	J
MW-12	Chloroform	3	J
MW-12	Trichloroethene	1700	D
MW-13	Tetrachlorethene	3	J
MW-14	Carbon Tetrachloride	1	J
MW-15	Carbon Tetrachloride	10	J
MW-15	Chloroform	4	J
MW-15	Trichloroethene	2	J

D =Identified in an analysis at a secondary dilution factor.
J = Estimated value.

NOTE: These results were obtained from Reference 26, the Draft Remedial Investigation Report for the DDMT. Which was prepared by LAW Environmental, Inc. Goverment Services Division, Kennesaw, GA June 1989. The report is currently being reviewed by the facility.

POSITIVE VOLATILE ORGANICS RESULTS IN GROUNDWATER
MAIN INSTALLATION
DEFENSE DEPOT MEMPHIS, TENNESSEE
IN UG/L

SAMPLE POINT	PARAMETER	CONCENTRATION
MW-21	Tetrachlorethene	39
MW-22	Trichloroethene	5 J
MW-25	Carbon Tetrachloride	2 J
	Tetrachlorethene	8
MW-26	Carbon Tetrachloride	5 J
	Chloroform	1 J
	Tetrachlorethene	10
	Trichloroethene	3 J

J = Estimated value.

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE

FINAL PAGE

ADMINISTRATIVE RECORD

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