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INDEX

DOE - Mound

Miamisburg, Ohio

Visual Site Inspection

May 3-5, 1988

3 May 1988 70°F
Visual Site Inspection Sunny
DOE-Mound
Miamisburg, Ohio

Field notes recorded herein
by Steven Heikkila, Pope Reid Assoc.,
(PRA)
Arrived at the DOE-Mound facility
@ 0840 hrs w/ William Rohrer
(PRA) and Kae Lee (EPA Reg V)
Met Dick Janowicki (DOE-Mound)
at the main gate.

Escorted through security system
(sign in and x-ray gates) to
office conference room. Met
in conf room w/ Doug Draper,
Jay Doty, Dan Corfagno, Richard
Neff et al (Monsanto Research Corp,
[MRC]) also Lem Metcalf, Dick
Blauvelt (MRC) and Jerry Rama (MRC)
Dick Monson (DOE)

Also, from Ohio EPA: Scott Shane, Ken McQuire, Robert Bubrich, Robert Carey

Hae Lee (EPA Reg V) gave introductory remarks beginning at 0920 hrs. Intend to look @ the Glass Melter and Open Burning Area. Ohio EPA and EPA Reg V personnel will leave at noon for other commitments. PRA will then firm up agenda for the rest of the RSI.
EG to takeover DOE Mound facility on Oct. 1, 1988 from Monsanto.

No radiological controls needed for inspection of the Glass Melter and Open Burn Area.

PRA staff will require respirator fitting and medical screening.

Will at no time be in radiological control area w/o health physics officer (Doug Draper #450, Jerry Rudy) will be escorted continually while at the site for safety + security.

Wherever in an area where there are radiological sources, we will be escorted by health physics officer.

Safety precaution for explosives
- safety glasses required
- agreed to <u>not</u> handle explosive devices or touch them
- require safety shoes

DOE made arrangements for taking photographs. DOE requires copies of photos

80% of Mound facility is used for explosive operations

Medical screening req'd at approx 1130 hrs.

Departed from conference room to begin tour of Glass Melter and Burn Area @ ~~0845 hrs~~ est 0945 hrs.

Glass Melter

In operation for 7-8 yrs according to Thomas Mills

DOE attempting to permit the glass melter w/ EPA and Ohio EPA.

Single chamber stainless steel skin

bed of molten glass (10-12")

drop waste to top of glass

is very absorbed in glass - oxygen exits through top of furnace

Burn glass w/ propane

Continuous heating electrically

1800-2400° F operating temp

Currently 1200° F and not in operation

Above ground on 3 ft stand over concrete floor. Indoor

Burn chamber approx 8 ft long

3 ft wide, 5 ft high

Separate control room for amperage to 4 electrodes to glass melter

Automatic feed shut off if temperature or power failure in the furnace

Continuous recorders for power, temperature and feed rate.

Screw feeders at top of furnace and drop strait onto the glass. If not ignitable then they burn on the glass surface

Start-Up in 1981

Inorganic Waste Feed Tank

55-gallon steel drum covered
located 10 ft from furnace (glass melter)
Feed to glass melter by overhead
pipe to top of melter
Drum on 2 ft stand. Underlain
concrete floor slab. Floor
drain located 3 ft from
drum. Stains noted on the
floor near the drain.
All floor drains to

Off-Gas Treatment Train
Deluge Tank (overhead)
Scrubber (overhead)
Storage/Recycle Tank (overhead)
Venturi Scrubber (mounted on stand)
Cyclonic Demister (overhead)
HEPA Filter (overhead)
2 Exhausters (in series) (mounted on floor)
Part of emissions recycled to furnace
and part to high energy filters
and discharged to the atmosphere

All gas treat units located indoors
above ground in room approx
15 x 40 ft. Room has 20 ft ceiling
(approx) Drains in the floor

Vertical Leaf Filter (3 ft above ground)

Entire system is tied in to
auto shut down in case of
flow or temp excursions

Former Cyclonic Incinerator
used for disposal of radioactive waste. Will not be used again for disposal of bag or radioactive waste. Start up in 1975 (approx)
Ash removed from drum w/ glove bag. Waste burned in the drum

Iodine Treatment Tank
never been used; part of off-gas treat. system

Wastewater containing sludges from the Off-Site System to sump in the basement of the bldg.

Outdoor Drum Staging Area
approx 0 drums present during VSI
Concrete pad w/o curbing
located outside glass melter bldg
staining on pad runoff pad
contents of at least 2 drums were
pieces of glass. These were
open topped. Others closed.

Alpha sniffer check when leaving
the bldg. Look for steady rate of
~100 counts/minute No sources of alpha
detected on any individuals leaving bldg.

Open Burn Area

met Jim Harrison manager of Burn Area. Area is for disposal of explosive waste. Classified material in containers w/ lid.

Last open burn was yesterday

3 kinds of burning

- open burning
- retort
- thermal treatment unit

Burn Cubicle

1400°C

burn powder in 55 gallon drum

fan swirls air to increase temperature. Electric match to ignite. Residue on floor of structure. Vents for air thru bottom of bldg walls. Ignition of waste done remotely.

14 lbs of waste per burn; 5 lbs of powder per burn. Steel floor. Screen over bldg to keep particulates in bldg.

Drum Approx 10 yrs old (installed 1978 approx)

Mounted on fire brick. Drum lasts 2-3 yrs

Approx 14 lbs waste burned/month

Structure installed in 1968

Retort (Rotary Kiln)
1 million BTU/hr
waste explosives in cups on conveyor
to kiln where they blow up.
Residence time in kiln ~5 minutes
Used for units which are encased
and no other disposal means
Small metal detonators (finger sized
or so) classified material.
Residue to off-site disposal
Kiln is fully enclosed and used
for enclosed detonators

Kiln wall is 4 inches thick
Ash is not tested before disposal

Kiln operated at 700°F. Only
for detonation not total burn

Kiln put into operation in 1984
Residue exits in chip cart. Residue
is inspected before off-site
disposal. Drums of wastes and
residues inside the kiln bldg

Kiln bldg is open topped w/ approx
12 inch thick concrete walls. Concrete
floor pad. Top of structure covered
w/ chain link. Emissions from rotary
kiln to atmosphere no APCs.
Facility representative observe only heat
being emitted, no odors or smoke.
About 10 drums of waste residue
" 15 drums of waste to be
detonated
Bldg structure approx 15 x 30 ft
Eight foot high walls

Emissions not tested

Kiln on concrete cradle two feet
above concrete floor

Pyrotechnic Waste Shed
approx 10 x 15 feet
covered cyclone fence structure
water collected from filtration
of pyrotechnic materials in
3 ft square metal pan approx
8 inches deep. Contain water
during VSI. Pan on floor
(concrete) in Pyro Shed.
No curbing on floor of shed
Pad surrounded by gravel
Pyro filters burned in the
Burn Cylinder.
Shed is covered with tin cover
fence with door on one side
Built in approx 1975 maybe later
exact date unknown

To medical center at the facility at 1120 hrs for respirator fitting and medical screening. Screening was so results were satisfactory.

Broke for lunch @ approx 1205 hrs At in facility cafeteria. (EPA + Ohio EPA staff had left facility before medical screening)

Underwent respirator fitting at 1300 hrs

At 1330 hrs met back in the office conference room w/ Dick Janowicke and Dan Cartagno to discuss the agenda of the remainder of the VSI. EPA and Ohio EPA will not attend remainder of VSI. Dick Blanvelt also in attendance.

Discuss duplicate units in Table 1 of PR
#3 Waste Solvent Incinerator
same as Glass Melter?
No - located in Bldg 51, inactive

No soil sampling results for Environmental Survey

#2 Past Landfill #1
formerly located in area now known as the Overflow Pond
#2 + #5 are same wastes
different locations #5 = Lined Landfill

#6 Past Landfill 2
#7 Past Landfill 3
No wastes left below Overflow Pond
Wastes left in the SW corner of the encapsulated area (Lined Landfill)
The wastes originally below the Overflow Pond were all removed and placed in Lined Landfill
Past LFs 2 + 3 represent areas of the old fill not excavated and placed inside the lined Area.
Wastes remain below the liner

#8 Drainage System
One main drainage channel
flows generally east to west
toward the Miami River
Ditch on northeast corner of
the facility drains runoff from
parking lots

#10 Proposed Drainage Flume
facility reps do not know
what this is

#13 Solution Discard Area
Potassium perchlorate
Located inside Burn Area
at the perimeter of the fence.
Poured on the ground to
allow decomposition to occur

#16 Test Firing Tanks
location is known - no questions
New and old tanks

#17 Near Bldg 34
no longer used ; bldg being removed. Subject containers to 800°C fire for 15 minutes.

#18 } same waste ; different location
#19 }

#25 Concrete Lined pond
same as #12 no concrete bottom
clay bottom

#28 Solvent Storage Shed
approx 5 over the site

#30 Photoprocessing Waste Storage
no intermediate storage area per se according to facility representatives
Photo processing waste reclaiming unit never used or assembled. Photo waste handled for off-site disposal by GSX.

#31-33 Units all together

#34 Stagnant Water Area
area cleaned

#36 Chrome Trench
now parking lot

#37 Pyro Waste Disposal Area
(same as #13)

#38 Bldg 38 Hillside Disposal Area
Old Spoils Area
New Spoils Area (#27)

#39 and 40 Cooling Tower Basins
3 or 4 across the site

#41 N + S Ponds in the
Miamisburg Park Area
both off-site; not DOE property
received water from City Power
Plant

#56 Collection Vehicles
no dedicated vehicles
One tanker for rad waste only
(no mixed waste)

#58, #59 } Leach Pits not actually leach pits, concrete lined

#61, #62, #63, #64 } Same as #28 + 29

#67 Solvent Storage Tank
(same as #3)

#72 APCs
Same not active, dismantled

Other Areas of Concern
Beryllium machining area dismantled
dust containing beryl generated in
1984 or 1985. Several pounds

Bldg 21 Thorium Storage
Sold to General Atomic
thorium from the ~~line~~ SCH drums
taken from the Lined Landfill
Area

Vapor Degreasers in Plating Shop
small unit; intermittent use

Lab Sinks, Floor Drain
(drain empty into Seepage Bed)
Sinks piped to sanitary treatment
plant

Off-site Spring
radioactive contamination

Epoxy Disposed in Trash
"possible"

SM/PP Hill 4 through 6
no hazy waste or constituents

~~Concluded discussion in office @ 1530 hrs~~ SCH

DJ
#4715 (24)

SW Bldg & HH Bldg
evidence of tritium releases but
no hog constituents

Concluded discussion in conference
room @ 1530 hrs

~~Begun~~ SH Resumed tour of Swirls

Former Solvent Incinerator
dismantled in late 70's early 80's
behind Bldg 51. No indication or
sign of releases from past
operation

WD Pipeline
from PP to lift station to WD Bldg
(treatment). Abandoned and removed
Sanderson cleaned up. Two inch
pipeline

Plant Drainage Ditch
contained water during VSI
single pass cooling water and
some runoff. No line; vegetated
sides and bottom. Water in
ditch was cloudy. D. Carfagno
said runoff contains high suspended
solids from runoff over construction
areas.

Contaminated Soil Boxes

used to contain soil contaminated by WD pipeline leak. Approx 20-30 boxes, some wood some metal

LSA waste

TRU waste

Capacity of boxes approx 2-3 yd^3

Boxes on asphalt drive way

no special release controls on ground surrounding the boxes. All boxes are covered to prevent contact w/ precipitation. ~~Bo~~ soil

Boxes located at foot of hill being excavated for rad waste in soil. Boxes carried to work areas, loaded and moved back to staging area.

Security Bldg for ~~Empty~~ ~~and Full~~ Soil Boxes
no work

Wastewater Treatment Plant

Grit Chamber
approx 10 ft ~~square~~ scale on a side
drum to collect grit from grit conveyor
Chamber is 10-12 feet deep
Open topped, concrete sides 12 inch
thick. Approx 6 ft freeboard
Concrete bottom. No evidence
to releases
Grit off loaded above ground

Communitor
approx 10 feet below ground
concrete lined, open topped
flow diverted to

Equalization Basins (4)
2 - 12 x 12' approx
2 - 15 x 15' approx
pump to aeration basins

Aeration Basins (2)

approx 20 x 40 ft each
below ground open topped
approx 1.5 ft freeboard
metal sides + bottom
discharge to clarifiers

Clarifiers (2)

approx 12 ft x 40 ft
@ end of clarifiers
metal sides + bottom
discharge to sand filter via
concrete trough covered w/ grate
6" wide 6" deep

Sludge Drying Beds (4)

Concrete sides w/ underdrains

Liquid back into plant

3 beds currently filled w/ sludge

1 bed no sludge

10 - 20 Plan size

approx 20 x 40 ft

open topped

6" thick concrete sides

Sand Filters (2)

indoor units approx 12 ft high

metal sides

9 ft diameter wastewater enters at top discharge to concrete trough and then chlorine contact chambers

Chlorine Contact Basins (4)

chambers each 3 ft on a side
concrete lined. Approx 2 ft
freeboard. Discharge into parshall
flume via another concrete trough
approx 1 ft wide 2 ft deep.
Parshall flume measures effluent
flow.

Sludge Drying Boxes

Pl 238 sludge from Asphalt ponds approx 5 x 10 ft, 1.5 ft deep. Liquid flow through bottom of bed back into pond. Presently filled with treatment plant sludge

Retention Basins (3)

flow into 1st basin NE corner then to south pond then back to pond to the west. Discharge to ~~[illegible]~~ site to South Canal via 002 outfall

No flow currently out discharge.

Ponds receive water from drainage ditch

Currently, water is being diverted to adjacent Overflow Pond due to high suspended solids. Clay bottom for attenuation of radioactive particles

Ponds dredged once. Varying levels of Pl no big constituents according to Dan Carfagno

~~Concluded VSS~~ SCH

Trash Bin

approx 5 yd^3 trash dumpsters metal
located throughout site for
facility trash. Grate in asphalt
drains runoff in area to

Concluded VSI at 1750 hrs
Handed in badges at main gate
and exited thru X-ray machine

4 May 1988
Visual Site Inspection (2nd day)
DOE - Mound
Miamisburg, Ohio

40°F
Overcast
Light wind (East)

Arrived for the second day of the VSI @ 0815 hrs at main gate. Checked in at Visitor Control.
Met w/ D. Janowickie at 0825 walked to Dan Carfagnos office

Van not available till 0900 hrs.

Decided to walk to Bldg 143 to see Ventilation Hoods

Ventilation Hoods
Bldg E, Room 143
representative of over 500
hoods at various locations
at the facility
Exhaust indoor air directly
to the atmosphere no APC.
One emission pt on roof of
E Bldg.
Seven hoods in Rm 143 over
seven lab spaces

Scintillation Vial Storage (Low + High Level)
trimethylbenzene cocktail solvent
containing $< 50 \frac{\mu Ci}{L}$ (low level)
$> 50 \frac{\mu Ci}{L}$ (high level)

High level to mixed waste storage area, Low level to bag waste.
Metal containers on floor. Closed covers. Approx 10 + 20 gallon containers. Plastic vials containing scintillation cocktail in metal containers. Vials approx 40 mL - 250 mL partially filled w/ cocktail.
Containers picked up when full.

E Bldg Solvent Storage Shed
now dismantled; was approx
12 ft on a side. Metal roof and
walls. Concrete pad. Used for
temp. storage of waste ~~storage~~ SCH
solvent. Once a week or so all drums
brought to Hay Drum Storage Area.
Dismantled last week.
Date of start-up is unknown
Contaminated soil around drain to
storm sewer. Cont'd dirt being
packaged for analysis. No record
of release; saw the cont'd soil
when removing the bldg. Will
analyze the soil before backfilling.
Don't know how long leakage from
drain occurred. (This according to
Rick Hampell regarding leak from drain)

Trash Burner

surrounded by chain link
approx 10ft x 10ft, installed 1950s
concrete mount inside fenced
area. Metal box approx 4 ft
on a side on concrete.
Screened on top. Used to flash
large detonation devices that
would not fit into rotary Kiln
or Thermal Treatment Unit
Exploded residue surrounds the
unit. Piping (disconnected)
around the top of the screened
in area. Use of piping unknown.
Workers began dissassembling
the burner during the VSI
The Trash Burn was used
for same purpose as the
Thermal Treatment Unit. Probably
for trash. Burning used to
take place on clay mounds
adjacent to the Rotary Kiln.
Pipe was originally sprinkler system
for fire tests. Early 1960s used
for ~~long waste~~ SCH explosive waste

Explosive Storage Area

Bunker surrounded top and sides (except one side) by soil and vegetation. The other side is concrete wall with opening to bunker. Inside walls of bunker lined with corrugated metal (like inside of metal culvert) Metal shelves and metal drums contain classified inert (non-explosive) to be sent to Savannah River. No explosives in the unit during the VSI. Floor of bunker tiled concrete base. Metal door. Photographs of the bunker when it was filled w/ classified explosives were mounted on the inside door of the bunker. Built after 1965 Probably 1970 according to Norman Way

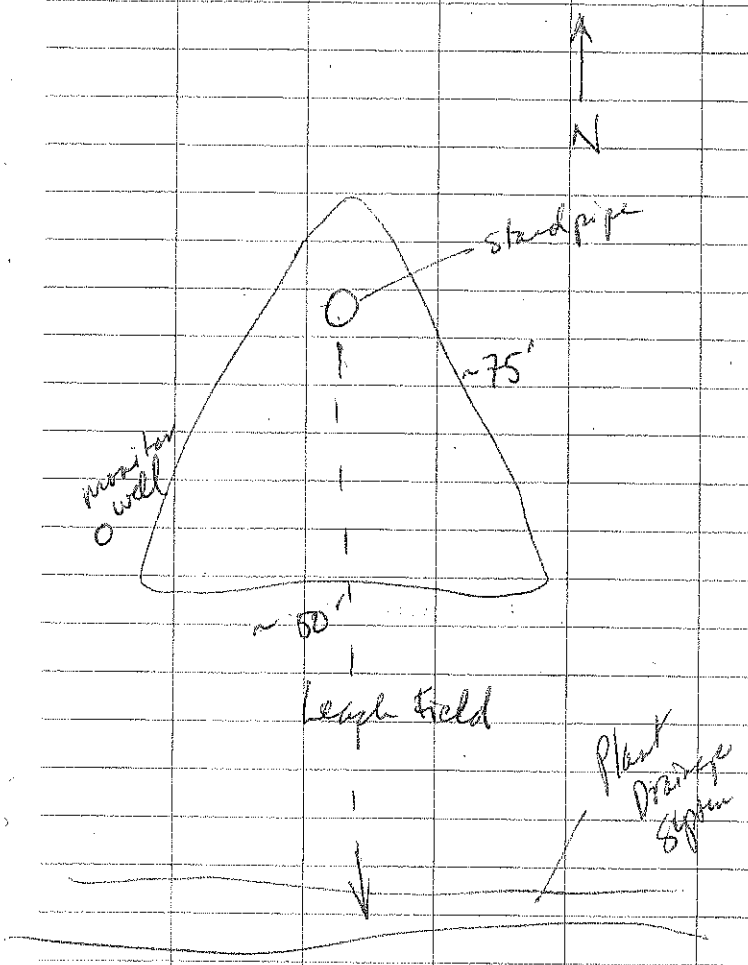
Thorium Sludge Storage Bldg

Thorium sludge stored in concrete bldg in drums. Located near the Open Burn Area (Bldg 21) Perhaps residual rad. contam in the bldg. Plan to tear bldg down. Bldg is empty. Bldg approx 40 ft X 150 ft.

Pyro Wash Disposal Area
rinsing water last disposed in 1985
along fence line of open burn area
Probably max of 20 gal/yr over
five yrs or 100 yrs
First disposed in 1975 according to
Norman Way

~~Explosive Storage Area (Magazine 53)~~ - SCH

Building One Sump (called Leach Pit in PK)
located outside Bld
Solvents w/ trace amts of explosives
opening 4 ft x 4 ft
Material (liquid) from bldg into
sump 3 ft deep. Liquid through
filter → field tile → leach field.
pipe plugged inside bldg in 1985
Water in sump (rain water)
concrete line. Sump covered
with metal lid.
Pipe capped on 11/20/85 out from from
room and sump. Pit scrubbed
down and lines flushed
Used to collect solvent + explosive
discharges from bldg 1. Solids
+ solvents removed at the sump
Filters replaced + disposed.



Leach Field

inactive; soil removed filled w/ gravel
met w/ Norman Way. Leach pit
triangular shaped approx 5 feet deep.
Three pipes lead into pit
- orange from overflow from Bldg 43 sump.
- copper line from discharge from sump @ Bldg 43
- Large pipe from Bldg 1 (not used for 2 years) sump + storm sewers floor drain Bldg 74. Storm runoff still flows into pit

Monitoring well located to west.
Stand pipe drains excess runoff in leach pit to the Plant Drainage System.

Test Firing Area

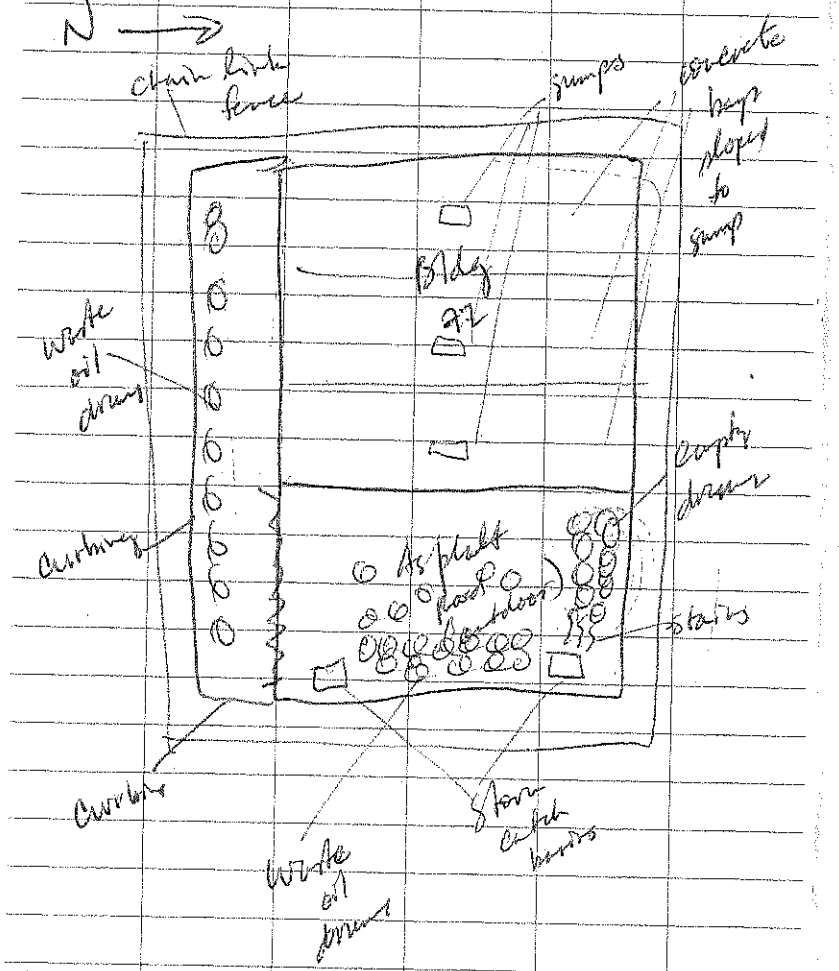
met Ed Hawley after entering
thru check pt (Classified area)
primary aluminum residues generated
in the tanks. Unutilized materials
are brought to Open Burn Area.
Residues placed in 30 gal drums
No drums at the Test Firing Tank Area
during
Operated (tanks) since 1956
Still active
Tank not a SWMU

Bldg 27 Leach Pit
Met Ray Thorpe
Sump not in use 3 x 6 ft
concrete lined. Overflow to
evap pond. Contents water,
acetone + ethanol from Bldg 27
Could have been explosives. Explosives
not soluble in water and settle
out in pit. Approx 4 ft deep.
Expl sol in acetone. Wastewater
conveyed from bldg to sump via
concrete flume approx 20 ft long.
flume is approx ~~10 ft~~ scit 10 inches
wide 1 ft deep. Wastewater now
pumped from flume into waste drums
located on asphalt adj to flume.
Drum picked up once per week
or so + brought to Hay Waste
Storage Area. Volumes of wastewater
is approx 4-55 gall drums per day.
Flume holds approx 2 drums
Sump taken out of service 3 yrs ago
Startup unknown prob early 1960
Sump auto overflow pipe by gravity
to evap pond to the west.

Bldg 27 Leach Pit (inactive)
approx 30 ft on a side
earthen bottom and sides
dates of operation ~~coincide~~ SCH ~~[illegible]~~ SCH
coincide w/ sump at Bldg 27
Pond approx 200 feet west of
sump. Wastewater by pipe underground
to pond. No liquid in pond.
Approx 3 ft deep. Vegetation
growing in bottom. Piping inlet
near center of pond

Solid Waste Salvage + Reclamation Bldg
no hog waste or hog constituents
lumber, furniture, machinery.
Norm Mott indicates that the bldg handles
only materials that are salable.

Runoff Hollow
Storm runoff area that tends to
collect silt. Plutonium study identified
the area as containing silt w/ plutonium.
Areas is located west of property
line by approx 100 ft



Drums contain
I solvent, E solvent, electrophoric waste
sodium dichlorate, HNO_3, toluene (B shed), dye waste and others

Bldg 72 Hazardous Waste Storage Area
three sloped concrete pads overlain w/ metal grate onto which the drums of hazardous waste are stored.
Bldg is enclosed on 3 sides w/ metal walls. Covered w/ roof
Met Richard Hampell. Release controls include the 3 sloped bays and six inch curbing around the base of bldg. Drums also stored outside the bldg on asphalt pad
Asphalt pad also surrounded by concrete curb. Runoff from pad discharged to Drainage Ditch ~~D~~ SCH
Stairs on pad to storm catch basin
Operated since spring 1986
Drums not stacked in the bldg
Drums outside stacked two-high on wood pallets
Stairs ~~of~~ sed on asphalt from empty drum area to storm catch basin
All metal 55-gal drums outside
Drums of various types inside and sizes metal + plastic; 30 and 55 gal

Fire Training Area

two concrete pads w/ concrete curbs
one pad approx 10 ft on a side
containing black residue and rainwater
black staining outside ~~[illegible]~~ SCA curb
other pad approx 10 x 20 ft
~ 12" high curbs on both pads
no residue around larger pad or
outside it. Some residue inside
pad. No liquid. Pads are
approx 10 ft apart
300 gallons in 1987
last burn in 1987
fire hydrant
3-5 gallons at a time
Diesel fuel used for burning

Oil Burn Structure (inactive)
brick structure 10 ft on side
concrete bottom w/ inlet pipe
located adj to spillway from
Retention Ponds to Overflow Pond
(west side of spillway) Approx 4 ft
deep open topped
~~Per~~ not Registered w/ Regional
Air Pollution Control Agency
Dates of operation: early 1970's - 1979

Overflow Pond

Standpipe in northwest corner discharges to NPDES outfall (same outfall as the Retention pond). Approx 10 feet freeboard during VSI. Clay lined sides + bottom, three feet thick

Volume = 5,000,000 gallons

Surface Area = ~~23,000 ft² (approx)~~ xxx

90,000 ft² (approx)

Past Hay Work Storage Area
now graded + revegetated
located approx 300 east of fire
Training Area

Broke for lunch @ ~ 1210 hrs
Drove back to cafeteria

Finished lunch at 1235 hrs. Drove
to WD Bldg

WD Waste Treatment Bldg

Receives wastewater containing Pl^{238}

approx 1.5 Ci treated last year.

Pipelines from H + R Bldgs old

lab areas involved in rad work

Trucks from SM/PP Area carry

wastewater.

Two process:

alpha stream } handled separately

beta stream

Alpha cont'd water

both collect in 4 3000 gallon tanks

Sample + treat, semi continuous,

~~[illegible]~~ scit treat most day.

Co-precipitation process using

calcium chloride

monitor for alpha and pH

receives shower water and work

water no hazy constituents

Alpha System

~~Storage~~ scl Influent Tanks (4 - 30000 gal ea)
w/ mixers for floc

Clariflocculator #1

Sludge Pits (2)

Clariflocculator #2 (out of service)

Sludge Drumming Station
receives sludge from pits / drummed
and solidified w/ concrete

Sand Filters

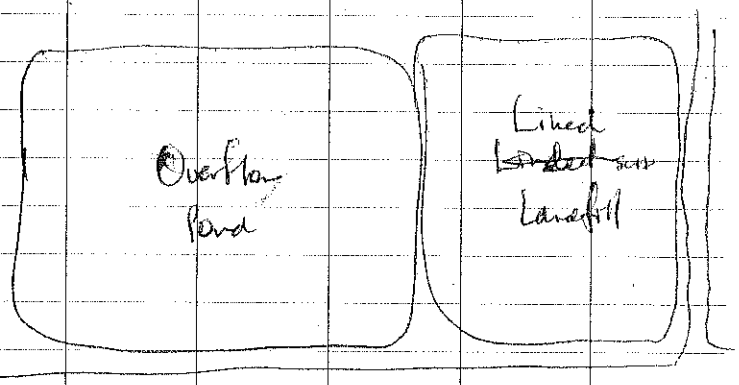
Beta System
2 - 4000 gallon infl tanks
~~water to scl pumped to alpha scl~~
~~treatment system scl~~
25 gallon water station
Mix / Solidification Unit

Glass Melter Room + Off Gas Treat Room
Collection Sump
below ground covered
receives shower water mainly
and any water on floors, collected
water to alpha treat system in
HD Bldg.

HEPA Filter
on roof of WD Bldg
no ~~other~~ set APCs currently used to
manage haz. waste or constituents

Bldg 23 Radioactive Mixed Waste
located @ east end of Bldg 23
Curbed area contains rad. mixed
w/ PCB. Rest of area contains
drums w/ scintillation vials.
Approx 100 drums in room
during VSI. Room has concrete
floor. Drums stacked 3 high
Concrete block walls
Room is approx 30 x 40 ft
Approx 18 ft ceiling
Door to outside on south wall
Floor drain in center of room
discharge to outdoor sump
From sump to WD Bldg for
treatment or to Drainage Ditch
Start Up ~~1975~~ est Sept 1979
No stains or signs of release
on concrete floor

Lithium Carbonate Area
(Stagnant Water Area in PR)
now site of Bldg 34
area was marshy before bldg construction. Lithium carbonate disposed on soil. Not known how disposal occurred. Soil sampled by Weston. No contamination detected. Disposal during the 1950s. Exact date is not known.



Map #
FSD-16994
shows former fill
location beneath the
Overflow Pond + Lined Landfill

Aviation Fuel Tank (waste)
below ground ~~a 500 gallon~~ scott
fed the Oil Burn Structure
~~No sample results available~~ scott
350 - 400 gallon. Pumped to
the Burn Structure below ground
piping

Past Disposal Area 2
Thorium drums empty, dimensions
unknown. Monitoring point ~~in~~ scott
gw in this area NW corner of
the Lined Landfill.

Past Landfill #1
Formerly located partially beneath
what is now Overflow Pond and Lined
Landfill. No sample results available
Composed of five different areas where
trash was dumped and burned.

Spoils Area
south of Lined Landfill
ditches surround site to route
runoff around the area. Receives
construction ~~debris and~~ soil from
the facility, also concrete no
concrete debris. No special
regulatory status. Non vegetated
surface. Approx 10 feet of
fill. Approx 200-300 feet on a side

Waste Oil Drumfield

Drums stored in this area temporarily
situated on skids in the open
35 gallon drums. No drums
any longer. All waste oil drums
to Bldg 72 Haz Waste Storage Area.
Oil contained low level rad waste
(tritium)
Dimension approx 100 x 25 ft
Area now vegetated
This area near Burn Area (east)
One drum of ethylene glycol
No evidence of past releases

Refuse Piles (Orphan soil)
approx 200 ft on side
low contamination (rad waste)
alpha contamination
area is east of Burn Area
Approx 10-12 feet deep.
Pile is partially vegetated
No special runoff controls
Soil from construction on-site
Plan to remove it in the
future. Soil this year. Soil
disposed here over past 10 yrs.

Old Firing Range
Drums stored there containing
haz waste
No special release controls
partially vegetated
Drums stored ~ late 1960's early 1970s
Drums stored in the open and
then brought to Bldg 72.
Approx 100 x 100 ft

Bldg 30 Hillside Disposal Area (called the
Dredged Material Disposal Area by DOE)
low level rad contd soil from
the drainage ditch Approx 100 x 100 ft
on top of hill. Partially vegetated
No special release controls other
than catch basin to catch silt
from runoff. Drum (~~empty~~) still noted
at bottom of hill, toe of slope. Fill
placed on slope approx 40 feet long
Runoff from hillside into catch basin

Hillside Catch Basin

approx 20 x 40 ft, 5 ft deep
vegetated sides + bottom. Liquid
observed seeping out of fill into
the basin. Standpipe in basin
drains to Drainage Ditch.

APC's

Bldg 33 has been dismantled
Bldg 11 no longer has dust collectors
Already saw filter bank for sand
particles (HEPA filters) at WD Bldg.

Other Areas of Concern left to see

- Epoxy in Bldg 49 trash
- Powerhouse Oil Spills
- Vapor degreaser in Plating Shop
- Off-site flaring spring
- Bldg 24 DAP (diallyl phthalate)
  [DAP not listed waste] not a sump
- Hillside Hole w/ Bldg I and Bldg 6B

Acid Leach Field

located west of the SM Bldg approx 150 on slope of hill. Used to collect overflows of acid from SM Bldg. No longer active. Covered w/ fill, on edge of Bldg 303 Disposal Area

Thorium Soil Area

near SM Bldg

approx 100 x 50 ft, 4 feet deep pile on ground surface. No waste analysis for haz. constituents. Sides of soil slopes covered w/ grass + sod. Top partially vegetated. Area is roped off. Soil placed w/in past two years

Bldg 33 Septic Tank + Leach Field
inactive, cont. w/ PI 238

Asphalt Lined Pond
capacity 1.5 million gal
collects runoff from hill area
to avoid erosion of cont'd soil
outlet to corrugated pipe behind
Bldg 51. To drainage line to
Retention Basin.
Gravity flow out of the northwest
end of pond.
Approx 10-12 feet deep. Asphalt
sides + bottom. Also spill way
at west corner, w/ concrete apron
Silt noted on apron. D. Carrington
says silt not from Asphalt Pond
From runoff from hillside
Apron discharges westward along
edge of parking lot
Pond built in late 1970's.
Approx 23,000 ft² surface area

Bldg 28 Solvent Storage Area

two 55 gallon drums on concrete pad outside Bldg 28. Solvent waste automatically pumped into the drums from inside the bldg through hose through brick wall. Metal barrier on two sides of container area 4 ft high. Drums marked Flammable Liquid NOS w/ yellow haz waste sticker. Closed bagged. Filled drums to Bldg 72. Leaking valve (probably water from dehumidifier acc. to Carthage) in this area. No curbing or other controls outside drum for releases.

No sign of past releases from drums

No present releases

Ethylene Glycol Drums

one of two drums appeared to be leaking onto ~~approx~~ asphalt. No curbing

15, 55-gallon drums present during VSI

Cooling Towers Basin

typical cooling tower basin

approx 15 x 30 ft, 1 to 3 ft deep

Carbagro does not know if basin ever cleaned out. Zn-Chromate used as rust inhibitor. Not pumped thru cooling towers

Completed VSI for the day at 1705 hrs.

5 May 1988 — 80°F
Visual Site Inspection (3rd day) — Overcast
DOE-Mound — Calm-windy
Miamisburg, Ohio

Arrived for third day of VSI @ 0815 hrs at main gate. Met Dick Janowiecke at Visitor Control 0820 hrs

Walked to Dan Cortagno's office to arrange inspection of remaining SWMUs @ 0830 hrs

Vapor Degreaser (Bldg M-100)
in plating shop met Charles Baker
used once per month, installed ~ late 1970s
solvent vapors kept in container by surrounding walls. Grate floor + steps
solvent used: perclene D
cleaning chamber is approx 4 ft deep, 3 ft ~~wide~~ see long and 2 ft wide, metal sides with lid when used is covered
operated only when needed
spent solvent contained in the unit
Approx 15 gal capacity, spent solvent into drum

Explosive Waste Transport Vehicle

Step van w/ shelves in cargo area
also hand cart. Approx 6 ft wide
10 ft deep 6 ft high. Shelves
have holes to hold containers; bottom shelf
Also explosives carried in suitcases
placed on top + middle shelve.
Van used for product + waste
1/month waste transported to
Burn Area. Explosive in suitcases
strapped down w/ bungy cords.
Drums also carried in van on floor.
Strapped down. Met Bob Howard @
Bldg 61 where Waste Transport Vehicle
were temporarily located. Described
operation of vehicles.

Drain inside bldg. Not known where discharge to. Drain now sealed.

Mon Well

Water in well seen in teflon bailer dark colored, slight sheen on surface. Groundwater approx 15-20 feet below ground surface. Well is 4 inch diameter. No locking cap. Gravel stained near the well

DS Bldg Solvent Storage Shed

approx 10 ft x 10 ft

12 ft high. Completely containing metal grid floor cover over cracked concrete marked floor. Only one 55-gallon drum of waste solvent. Solvent pumped into the drum from DS Bldg. Filled drum to Bldg 72. 6 inch high curbs. Fan for ventilation in Shed. Automatic fill hose shut off. Filled drums placed outside shed & brought to Bldg 72 w/in week. Some product stored here also.

Bldg B Solvent Storage Shed

Approx 20 x 10 ft concrete floor
~12 ft ceilings. Concrete floor w/
6 inch curbs. Presently reconstructing.
All drums taken out, placed outside.
Solvent pumped from Bldg B into
55 gal drums. Some product drums
stored here also. Drain inside bldg
originally connected to storm sewer.
Intended to be blocked off. No
history of releases from any of the
storage sheds

Chromium Trench

~~Hillside Hole~~ see North Slope Spring (S006)
S006 PVC pipe in hillside intermittent
drips of water soil soaked in the area
on north slope area.
1 drop / 10 seconds
approx 100 ft east of stairway
down slope
approx 1/2 way down the
north slope
Water into Mound Rd storm sewer
usually dried up before it
gets there

S007 North Slope Spring
flow, temp, pH monitored auto sampler
has never dried up
monitored for last year or so
flow is less than or equal to 1 gal/min
1 sample every six hrs
approx 100 ft east of first spring
Flow through V-notch weir down
slope to Mound Rd storm sewer.
Usually dries up before then

Waste Line (Red, green) out of T Bldg
line break; repaired line break

SW Bldg Contamination
fuel waste left below concrete
foundation on SW corner

Hazy Waste Drums
East of SW Bldg; unknown contents and waste oils. Concrete pad no release controls, no evidence of releases

Old Sanitary Treatment Plant
Primary Settling
Comminutor
Aeration Tank
Clarifier
Chlorine Contact Chamber
Sludge Digester
Handled sanitary waste as present treatment system. Entire system is inactive. Surrounded w/ concrete walls. System was too small & got overloaded. Went to new facility
Located near WD Bldg

Hillside Hole
nr Bldgs I + 60
approx 2 gal/min
~10 inch PVC pipe, approx
200–400 nanocuries/l of tritium
automatic monitoring equipment
flows to 600L to Great Miami River
No treatment before discharged.
(Other tritium contd wastes from
the facility are solidified and
disposed off-site)
Monitor since spring 1986

Drilling Mud Drums
approx 1 dozen nr each of
three monitoring wells
on west side of facility
west of overflow pond + lined
landfill. Contain drilling muds
containing barium. Contents to
be analyzed prior to disposal
Wells drilled summer 1987.
No waste analyses available yet.

Broke for lunch at 1210 hrs.

Regrouped for closing meeting even tho two units left to inspect.
Met w/ Richard Neff, Allen Bickerton, Rich Monson, Dick Janowickie, Dan Carfagno

Described D + D program:
$11-12 million/yr till mid 1990s
decomissioning plutonium cont'd facilities
$40 mill spent to date

No health based studies of residents living around the facility. Calculate max dose; ≤1 milirem
Epidemiology study for polonium + plutonium for on-site working.
Approx 2400 polonium workers; largest polonium work force in world.
DOE has healthy worker population
LosAlamos Lab is conducting all worker health studies

From Rick Hampell:

Dates of Operation of Solvent Sheds (approx)

DS Shed: sometime after 1969

B Shed: sometime after 1965

E Shed: 1981 or 1982

Bldg 20 ~~Shed~~ area: 1977 or 1978

Epoxy Resin @ Bldg 49

Restricted access to material for quality control to meet production specs. Test samples thrown in the trash. Size unknown, frequency of disposal unknown, not know whether still taking place

Dan Carfagno says there are at least seven seeps that occur over the site (four more than we saw).

Also, indicated he will send annual monitoring reports for off-site sampling ~~reports~~ seep points.

Carfagno or Growiddie not aware of other SWMU's not seen during the VSI.

Concluded meeting in office at 1350 hrs. Went to facility photo processing to look at first roll of photo negatives. No photos available yet. DOE-Mound will send.

Left photo process area at 1400 hrs to view trailer mark w/ poison placards.

Trailer located just east of water tower and cooling towers down the hill. Trailer locked shut. Could not enter. Carfagno will find out what use of trailer is. Found out later that trailer contains computer cables, and equipment. No waste here.

Moved off-site w/ Dan Carfagno at 1420 hrs to inspect N-S Ponds and North Canal.
North Pond used as a Solar Energy Pond. Hot water through a heat exchanger used to warm the adj pool and bathhouse.

South Property Former Refuse Area
approx 800 ft north of Benner Rd
near extreme SW corner of south
property. Before purchase by
DOE, used by residents for trash
dump. DOE has cleaned out all
trash. Some scattered debris left.
One area marked w/ dark stain
on soil. Area partially vegetated.
Unknown period of use.

Drove back into DOE main gate to
drop off D. Cartagena @ 1500 hrs.

This concluded VSI. Left the
site through the facility main
gate just after 1300.