

Ohio Environmental Protection Agency (OEPA)

And

Ravenna Army Ammunition Plant (RVAAP)

1985 Correspondences

Ohio EPA

Re: Physics International
Portage County
OH 421 009 003/#02-67-0550
G-TSD

29.15

RECEIVED
APR 18 1985
N. WULFF

E.R. Berus, Chief Scientist
Tactical Systems Group, Eastern Division
Physics International Company
P.O. Box 1004
Wadsworth, Ohio 44281-0904

April 16, 1985

Dear Mr. Berus:

Thank you for the courtesies extended by you and Mr. Meier during my April 11, 1985 inspection at the Physics International - Load Line #6 facility. The purpose of this annual inspection was to determine the facility's compliance with Ohio rules pertaining to the generation, temporary storage, and treatment of regulated hazardous wastes. All required plans, operating logs, and inspection records were noted as being on file and up to date.

However, while reviewing the burn log, it was apparent that the D003 wastes (vacuum dust, contaminated paper, etc.) had on at least two occasions been held on-site longer than 90 days prior to being thermally treated at the burn area, in violation of Ohio Revised Code Section 3734.02 (F) and Ohio Administrative Code Section 3745-52-10 (B). As I explained, the long term storage of these wastes in containers is not authorized by the facility's current Ohio HWFAB permit. Within thirty (30) days of receipt of this letter, Physics International should submit documentation to this office demonstrating its intent to comply with the less than 90 day storage requirement for these wastes.

As a final note, I would like to comment on two aspects of your hazardous waste management program. Regarding personnel training, I encourage Physics International to utilize the next annual training session not only to review current procedures, but also to advise personnel of any future operating and permit requirements which would apply in the event that operations are expanded or altered at the Load Line #6 facility. Secondly, at the time of the inspection, the main pink water treatment tank was empty which allowed us the opportunity to inspect the integrity of the vessel. Several cracks on the side walls were noted. The severity of this deterioration should be evaluated and repairs instituted. If the severity of the deterioration is found to be such that it would preclude Physics International from certifying at the completion of a closure action "that the tank is unlikely to have leaked during its operating life" (tank replacement is a closure action), then Physics would be required to investigate the extent of any subsurface contamination as a part of the closure activities, and a description and cost estimate for this investigation should be added to the facility's closure plan.

Ohio EPA

Re: Physics International
Portage County
OH 421 009 003
#02-67-0550
G-TSD

31184
RECEIVED

MAY 23 1985

G. T. WISELY

RECEIVED

MAY 20 1985

N. WULFF

May 17, 1985

A.W. Meier, Staff Engineer
Tactical Systems Group
Physics International Company
P.O. Box 1004
Wadsworth, Ohio 44281-0904

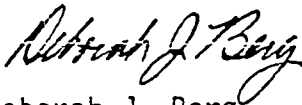
Dear Mr. Meier:

Thank you for your letter of May 2, 1985. Your response adequately addresses the agency's concern regarding the temporary on-site storage of wastes. The agency at this time considers Physics International's Load Line #6 facility to be in compliance with all applicable hazardous waste management rules covered during the April 11, 1985 inspection.

Please note that an in-depth review of your facility's compliance with financial responsibility and closure plan requirements was not undertaken as a part of this inspection. Comments regarding the adequacy of your closure plan and financial responsibility documents may be forthcoming in the future.

Please advise this office of the extent of repairs determined to be necessary to the pink water treatment tank. As indicated in my previous letter to Mr. Berus, depending upon the nature of the deterioration, a subsurface contamination investigation and/or the replacement of that tank may be necessary. These activities may require agency approval of partial closure activities by Physics International. Please feel free to call if you have questions.

Sincerely,

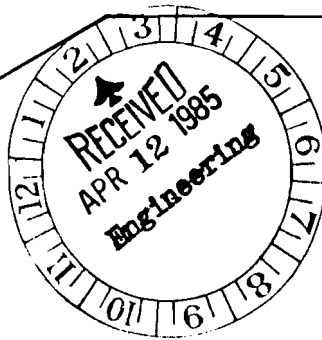


Deborah J. Berg
District Inspector
Division of Solid and Hazardous Waste Management
Northeast District Office

DJB:kr

cc: Kevin O'Grady, DSHWM, Central Office
✓ N. Wulff, Physics International, Wadsworth
E.R. Berus, Physics International, Wadsworth

Ohio EPA



4/12/85

CF: D. E. Lawless
R. J. Kasper
thru COR -AMCCOM, ATTN:AMSMC-IS
G. Paine, Olin Corp.
T. Chanda
File
CoE, Huntsville (Rob Wilcox)

Tom Chanda
Ravenna Arsenal, Inc.
8451 St. Route #5
Ravenna, Ohio 44266-9297

April 10, 1985

Dear Mr. Chanda:

I am writing to reiterate what we talked about in our conversations of April 1 and 3.

Your facility submitted a "Part A" to U.S. EPA in 1981. This "Part A" covered activities to be conducted at some twenty-two areas at the facility. Ravenna Arsenal, Incorporated, received interim status with U.S. EPA on the basis of the "Part A." However, when an identical "Part A" was submitted to the Ohio EPA and the Hazardous Waste Facility Board at that time, we advised you to revise the application, as it did not reflect current operations and therefore did not meet the Ohio statute authorizing Ohio permit issuance for facilities "in operation immediately prior to [October 9, 1980]." The application was revised. Ohio EPA legal staff reviewed the revised application and gave our staff an opinion that the facility operations still could not be considered to have occurred "immediately prior" to the statutory deadline. Therefore we determined the facility would need a "new facility" permit, which is similar to a federal "Part B" permit. Our thinking at the time was that if the facility chose to begin operations it would then apply for the "new facility" permit. However, your understanding of the situation, as you explained to me, was that the revised application would be processed and ultimately you would be issued a permit.

Under the assumption that the permit would be issued and that it would cover the propellant burning, Ravenna Arsenal, Inc., went ahead and burned propellants in one area of the facility. This activity is not being currently conducted, but the facility would like to begin three other operations: detonation of 342 rounds of certain shells which cannot be disassembled for normal demilitarization, operation of a special system for destroying residual TNT from 175 millimeter shells (using the 3" iron channel), and operation of the "popping furnace" to destroy unused fuses.

As things stand now, Ravenna Arsenal, Incorporated does not hold an Ohio hazardous waste facility permit. The facility must apply for a permit from the Hazardous Waste Facility Board. The permit applications which is required for "new facilities" is very similar to the "Part B" application required by U.S. EPA to obtain a final federal permit (as opposed to federal interim status, which the facility already has). You told me that Don Easterling of our Northeast District Office told you that U.S. EPA intends to call in the "Part B" application shortly. My subsequent conversation with Tim Lawrence of our permitting section confirms this fact. As you suggested on the phone, it would be advisable for your federal "Part B" and your state "new facility" application to be identical.

Letter to Mr. Chanda
April 10, 1985
Page 2

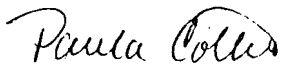
Such a plan would eliminate duplication of your preparation and Ohio EPA's review (we review "Part B" applications for U.S. EPA, as well as state permit applications). I believe both permitting processes involve public notice requirements which could be coordinated if the two applications are identical.

Please contact Mr. Lawrence at (614) 466-8934 to discuss the scope of your application and the format in which it should be presented. The facility will receive a formal request from U.S. EPA to submit its federal application.

You indicated that the facility would like to begin the three operations listed earlier in the near future, although the detonation of the shells is not as urgent as the other two activities. Because the facility has no permit for the site and because the Ohio permit will take at least a year to be issued, you will need to obtain an exemption before you can conduct the planned activities. As I told you on the phone, the Director of the Ohio EPA is authorized by Paragraph (G) of Section 3734.02 of the Ohio Revised Code to issue exemptions from the permit requirements if he finds that two conditions are met. The first condition is that the activity must not cause an adverse impact on human health or the environment. Second, the activity must meet the standards of U. S. EPA's RCRA regulations. If you choose to request an exemption you should address both points for each proposed activity. The sections concerning the potential for an adverse impact should describe what the facility intends to do, potential effects on human health and the environment, and measures to protect human health and the environment (including decontaminations plans if appropriate). The sections pertaining to U.S. EPA requirements should be as specific as possible in linking the proposed activities to the facility's current federal interim status, and to compliance with U.S. EPA's requirements for the activities. The exemption request should be sent to the Director of Ohio EPA, Warren Tyler. Copies of the package should go to Don Easterling at the Northeast District Office and to Steve White.

Please contact Tim Lawrence or me if you have questions.

Very truly yours,



Paula Cotter
Surveillance and Enforcement Section
Division of Solid and Hazardous Waste Mgt.

PTC/mm

cc: Dave Wertz/Don Easterling, NEDO
Tim Lawrence, Engineering
File
Steve White

OhioEPA

May 10, 1985

H. R. Cooper
Plant Engineer
Ravenna Arsenal, Inc.
8451 State Route 5
Ravenna, Ohio 44266-9297

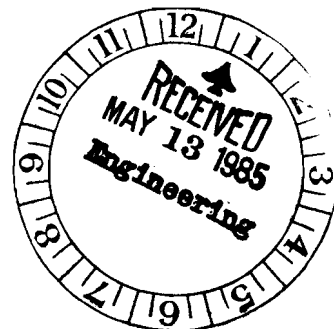
This letter is to acknowledge receipt of your request of April 18, 1985 for an exemption under Sec. 3734.02 (G) of the Ohio Revised Code concerning hazardous waste permit requirements.

Your request will be reviewed by the Division of Solid and Hazardous Waste Management. Upon completion of that review, you will be notified of the decision concerning your request.



Warren W. Tyler
Director

1306R



U.S. Army - Ravenna Ammunition Plant
State Route 5
Ravenna, Ohio 44266

OH5-210-020-736

The Ravenna Army Arsenal consists of approximately 30 square miles of land spanning five townships in Portage and Trumbull counties. The city of Ravenna is (2) two miles west of the arsenal; the Village of Windham is immediately adjacent to the arsenal's northern boundary; Newton Falls is to the east, and the West Branch Reservoir is just below the southern property lines. (USGS Quads - Ravenna 51NW, Windham 51 NE, and Newton Falls 52NW). Suburban and rural residences and agriculture form major land use in surrounding areas.

The Army submitted four (4) CERCLA 103 (c) Notifications to U.S. EPA, identifying three additional sites of land disposal from those on file at OEPA/NEDO. The Solid Waste program has regulated two licensed portions of the site, called the Ramsdell Quarry landfill and the Burning Grounds/ Demolition Area. According to a letter from Ravenna Arsenal, Inc. (8/4/78), the landfills received only household trash and demo debris. The solid waste management plan for January 1979 changed this somewhat to include "varied types and quantities" of industrial wastes. A RCRA Land Disposal Inventory (7/16/79), which concentrated on the Ramsdell Quarry and potential environmental concerns related to its use, is included in the NEDO Solid Waste file.

The Arsenal's major RCRA Hazardous Waste generating operation currently is the recovery of propellants and TNT from munitions (shells). TNT is removed from the shells via steam heating, which results in contaminated wastewaters that are treated on-site and regulated by the NPDES Permit Program. The spent charcoal filter media from the wastewater treatment is a listed RCRA waste (K045) containing TNT. Incineration of the charcoal and the storage in drums of the resultant ash are regulated by the RCRA program, as is the incineration of propellants that are not suitable for re-use. (RCRA ISS Inspection Report, 1/31/85, D. Easterling).

Treated wastewaters discharge from the Arsenal's outfall 006, which is monitored for TNT among other parameters. From 1941 to 1971, surface impoundments were used with the system to dilute wastewater prior to discharge to Sand Creek. Sediments in the impoundments were sampled by an independent lab to check for contaminant (TNT) accumulation (Notes from 7/7/81 Inspection, H.W. file, NEDO). The analytical results were not found in the file and the old ponds should be considered unregulated portions of the site.

The locations of other unregulated disposal sites, mentioned above, were indicated by maps attached to the CERCLA Notifications. "Mustard Gas" or Dichlorodiethyl sulfide was buried in a 150 sq. ft. area just west of Greenleaf Road near the southern boundary of the Arsenal. Hinkley Creek and one of its tributaries flow within 1/10 mile of the site, according to the map provided (#A-109 "Mustard Gas Burial"). The soils in this location are described as having slow permeability and seasonal wetness, with rapid runoff in sloped areas. Due to a lack of information, this review can not

assess the potential for migration of the disposed mustard gas. This material has been proposed as an addition to the RCRA Hazardous Waste list in 40 CFR 261.33 (e) and assigned I.D. number P158 (Fed. Register/ Friday, December 21, 1984/Proposed Rules).

Sodium Dichromate mixed with Sulfuric acid was used for cleaning projectile casings and then disposed in a Quarry within Block C (see map, 1953). The method of burial is unknown and the 500 gallons indicated on the CERCLA form may have come in direct contact with soils and ground water in the quarry. The Department of Defense has conducted a Preliminary Soil Survey that indicated the presence of chromium and lead in the quarry. Hinckley Creek is approximately 3/10 of a mile down-gradient from the site and could possibly receive contaminated runoff or ground water discharge containing heavy metals.

Two burning grounds were reported under CERCLA 103 (c), one of which was used to incinerate wastes containing heavy metals and organics between the years 1941 and 1951. This site, known as Erie Burning Grounds, is located in soils with slow permeability and moderate clayey texture. The water table is typically high and runoff is slow to ponded, so these soils remain wet much of the year (cut and fill land is evident on the Soil Survey of Portage County, which may be the same location as this site). The water may contribute to lateral migration of contaminants on arsenal property, or off-site.

The major potential hazards considered in this P.A. are ground water and drinking water contamination. Ground water availability is very good in and around the arsenal; Windham has a well field located on the arsenal property (map in Public Water Supply file; NEDO). A detailed map in the NPDES file shows locations of numerous private wells along the perimeter of the arsenal. Twenty-six (26) ground water monitoring wells have been drilled by the Department of Defense's Environmental Health Agency. Although analytical results from some of the well sampling is on file at OEPA/NEDO (Hazardous Waste file), the well locations are not included. Some investigation into these records would determine if any of the wells were developed near areas of concern mentioned above.

Surface water contamination potential was also explored in this P.A. Contaminated run-off or ground water discharge may contribute to the degradation of water quality/sediments in Hinckley or Sand Creeks and their tributaries. NPDES monitoring of outfall 006 has occasionally detected concentrations of TNT (October 1982, May 1983 MOR's), but generally sample results were at non-detectable levels (NPDES Permit file, M. Hilovsky, notes 8/30/84).

We recommend a medium priority for State CERCLA investigations at the reported unregulated disposal sites at Ravenna Arsenal. FIT should plan on reviewing the data that will be generated from the site investigation initiated by the Department of Defense and listed in the Federal Agencies Pollution Plans. (A low priority is recommended for FIT pending the outcome of the facility restoration project.)

Submitted by: Pam Wicks, OEPA, NEDO Reviewed by: Gary Gifford, OEPA, NEDO

April 20, 1985



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION	
01 STATE OH	02 SITE NUMBER 210020736

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) US ARMY - RAVENNA AMMUNITION PLANT		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER STATE ROUTE 5	
03 CITY RAVENNA	04 STATE OH	05 ZIP CODE 44266	06 COUNTY PORTAGE
07 COUNTY CODE 133		08 COUNTY DIST 11	

09 COORDINATES LATITUDE **41° 12' 43" N** LONGITUDE **081° 01' 02" W**
Covers portions of: **51 NW, NE & 52 NW Ravenna, Windham & Newton Falls, OH Quads.**

10 DIRECTIONS TO SITE (Starting from nearest public road)
From Cleveland area - southeast via I 480 to Ohio Turnpike east (Exit 13). Exit at Gate 14, turn west on Rte. 5 and the Arsenal's east boundary is at Jct. with Rte 534 & 5. Access to site thru Administration area, off Rte. 5, before Jct. - Newton Falls Rd.

III. RESPONSIBLE PARTIES

01 OWNER (If known) U.S. Army - Firestone Defense Research & Products Div.		02 STREET (Business, mailing, residential) Same as site	
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER 216 358-7111
07 OPERATOR (If known and different from owner) Ravenna Arsenal, Inc., Subsid. of. Firestone		08 STREET (Business, mailing, residential) Same	
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER ()

13 TYPE OF OWNERSHIP (Check one)
 A. PRIVATE B. FEDERAL: **Fed. Armed Forces - D. of Defense** (Agency name)
 C. STATE D. COUNTY E. MUNICIPAL
 F. OTHER: _____ (Specify) G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
 A. RCRA 3001 DATE RECEIVED: _____ MONTH DAY YEAR
 B. UNCONTROLLED WASTE SITE (CERCLA 103(c)) **(4)** DATE RECEIVED: **6 8 81** MONTH DAY YEAR
 C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
 YES DATE **1/31/85** MONTH DAY YEAR
 NO
 BY (Check all that apply)
 A. EPA B. EPA CONTRACTOR C. STATE D. OTHER CONTRACTOR
 E. LOCAL HEALTH OFFICIAL F. OTHER: _____ (Specify)
 CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
 A. ACTIVE B. INACTIVE C. UNKNOWN

03 YEARS OF OPERATION
 BEGINNING YEAR **1941** ENDING YEAR _____ UNKNOWN

04 DESCRIPTION OF SUBSTANCES PROBABLY PRESENT, KNOWN, OR ALLEGED
Heavy Metals (detonated shells, sodium dichromate) [Toxic/Persistent]
Organics (Toxic/Persistent) TNT - (Flammable/Explosive in some cases/Toxic)
Reactives (D003, K047, K045)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Ground water (Environment/Population)
Surface water (Environment/Pop.) Direct Contact (Population)

V. PRIORITY ASSESSMENT **FIT**

01 PRIORITY FOR INSPECTION (Check one - If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
 A. HIGH (inspection required promptly)
 B. MEDIUM (inspection required)
 C. LOW (inspect on time available basis)
 D. NONE (no further action needed, complete current disposition form)
D.O.B. activities replace.

VI. INFORMATION AVAILABLE FROM

01 CONTACT Gary Gifford		02 OF (Agency/Organization) OEPA, DSHWM, NEDO		03 TELEPHONE NUMBER 216 425-9171	
04 PERSON RESPONSIBLE FOR ASSESSMENT Pam Wicks		05 AGENCY OEPA	06 ORGANIZATION NEDO/DSHWM	07 TELEPHONE NUMBER 216 425-9171	08 DATE 4 19 85 MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
OH 5210020736

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply) <input checked="" type="checkbox"/> SOLID <input checked="" type="checkbox"/> POWDER/FINES <input checked="" type="checkbox"/> SLUDGE <input type="checkbox"/> D. OTHER _____ (Specify) <input type="checkbox"/> E. SLURRY <input type="checkbox"/> F. LIQUID <input type="checkbox"/> G. GAS	02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent) TONS _____ CUBIC YARDS <u>Unknown</u> NO. OF DRUMS <u>Unknown</u>	03 WASTE CHARACTERISTICS (Check all that apply) <input checked="" type="checkbox"/> A TOXIC <input checked="" type="checkbox"/> B CORROSIVE <input type="checkbox"/> C RADIOACTIVE <input checked="" type="checkbox"/> D PERSISTENT <input checked="" type="checkbox"/> E SOLUBLE <input type="checkbox"/> F INFECTIOUS <input checked="" type="checkbox"/> G FLAMMABLE <input type="checkbox"/> H IGNITABLE <input type="checkbox"/> I HIGHLY VOLATILE <input checked="" type="checkbox"/> J EXPLOSIVE <input type="checkbox"/> K REACTIVE <input type="checkbox"/> L INCOMPATIBLE <input type="checkbox"/> M NOT APPLICABLE
--	--	--

III. WASTE TYPE

01 CATEGORY	02 SUBSTANCE NAME	03 GROSS AMOUNT	04 UNIT OF MEASURE	05 COMMENTS
SLU	SLUDGE	Unknown		K044 - WWT sludges from... explosives.
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
00C	OTHER ORGANIC CHEMICALS	Unknown	< 100 gallons	"Mustard Gas" also per CERCLA 103(c) - land treatment
IOC	INORGANIC CHEMICALS	500	gallons	mixed Sodium Dichromate & Sulfuric Acid mixed w/ Dichromic Acid
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS	Unknown		Detonated shells; left in site Cadmium

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently used CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/ DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Cadmium	7440-43-9	LF		
00C	Nichloroethyl sulfide (Mustard Gas)	505-60-2	LF	city liquid	100 gallons / 150 sq ft.
IOC	Sodium Dichromate (Dichromic)	10558-01-9	LF (Quarry)	} mixed -	500 gallons in 2 Areas
ACD	Sulfuric Acid	7664-93-9	LF (Quarry)		
00C	2,4,6-trinitrotoluene (Pink water - NPDES)	118-96-7	SI - sediments		

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Give specific references, e.g., state files, sample analysis, reports)

x0 *Man. Waste file - Inspection Reports, discussions re: Part A permit, TNT accumulation in ponds*
Solid waste file - RCRA Land Disposal Inventory, Landfill Inspection Reports
NPDES file - # M305 outfalls to several area streams. Excellent map incl. wells & outfalls
Semi-Public/Public Water Supply files - Location maps of sources of drinking H₂O. Surface & ground water



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE: 02 USE NUMBER:
011 5210020736

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 A. GROUNDWATER CONTAMINATION 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000 Approx
04 NARRATIVE DESCRIPTION
The Army's Environmental Health Agency has set up several gw. monitoring locations - 26 wells. Ponds (5) onsite designed to dilute & discharge wastewater and their sediments have been sampled to check for TNT accumulation. Heavy metals and poisonous Mustard gas have been buried onsite; see F. Landfills on site may have received some hazardous materials

01 B. SURFACE WATER CONTAMINATION 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: Approx 50
04 NARRATIVE DESCRIPTION
Surface impoundments were used & regulated by NPDES, other outfalls all discharged to Hinckley & Sander Creeks. Monitoring of discharges showed TNT detected from outfall 006 only a few times - generally ND. Contaminated groundwater may contribute to changes in surface water quality, several burial sites are adjacent to streams.

01 C. CONTAMINATION OF AIR 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
N.A.

01 D. FIRE/EXPLOSIVE CONDITIONS 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ~ 0
04 NARRATIVE DESCRIPTION
TNT recovery results in reactive carbon filter media - RCRA regulations (K045) address generation, treatment & disposal of wastes. See Hazardous Waste file & Inspection Reports - wastes

01 E. DIRECT CONTACT 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
See 1/31/85 RCRA Inspection form - patrols, security fence, etc prevent access by unauthorized personnel. Future uses of the site may affect potential for hazards of direct contact and I, below.

01 F. CONTAMINATION OF SOIL 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
A variety of toxic/persistent chemicals have been buried on-site. "Mustard gas" was land disposed; Heavy metals may accumulate in soils from detonated shells and Load line operations (Hg & Pb) in past. Metal cleaning w/ acids was also done & waste buried on site. Soils in area have slow permeability & high H₂O tab.

01 G. DRINKING WATER CONTAMINATION 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,000 Approx
04 NARRATIVE DESCRIPTION
The Village of Windham has their well field within the Arsenal's boundary (see map) on the northeast portion. Other wells for domestic, as well as agricultural & small industrial, use have been developed in sand/gravel deposits and sandstone aquifers surrounding the site. See Water Supply files & Groundwater Resources Map show specific locations.

01 H. WORKER EXPOSURE/INJURY 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
See E.

01 I. POPULATION EXPOSURE/INJURY 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION
See E. Changes in use and accessibility of the site to general public may affect assessment of potential hazards re: direct contact.



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
OH 5210020736

II. HAZARDOUS CONDITIONS AND INCIDENTS Continued

01 J. DAMAGE TO FLORA 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

None reported.

01 K. DAMAGE TO FAUNA 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION (include names of species)

See J.

01 L. CONTAMINATION OF FOOD CHAIN 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
03 NARRATIVE DESCRIPTION

If contamination of Hinckley or Sand Creek were to occur, transport of water soluble or sediment contaminants might reach the W. Branch Reservoir to the south.

01 M. UNSTABLE CONTAINMENT OF WASTES 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
(Soils runoff stream, leachate, leaking drums)

03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION
Reports do not indicate this is a problem - landfill inspection reports mention some violations of leachate control (6/3/84)

01 N. DAMAGE TO OFFSITE PROPERTY 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

Unknown - see L.

01 O. CONTAMINATION OF DUMPS, STORM DRAINS, WWTPs 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

N.A.

01 P. ILLEGAL UNAUTHORIZED DUMPING 02 OBSERVED (DATE: _____) POTENTIAL ALLEGED
04 NARRATIVE DESCRIPTION

Unknown Security onsite would probably prevent it.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

Need to find out if the "Mustard gas" liquid biodegrades when buried or if it remains a poison over time. Burial in ground was near both a stream and area of high water table. Date sometime between 1941 & 1950. Proposed addition to 'P' listed wastes.

III. TOTAL POPULATION POTENTIALLY AFFECTED: Approx. 10,000.

IV. COMMENTS

Several land disposal areas are scattered on site and should be thoroughly investigated to avoid direct contact by populations other than Army personnel. Army's groundwater monitoring results, sediment sample analysis of ponds, and 1972-73 Geologic Survey need to be located (per 7/7/81 meeting) and reviewed.

V. SOURCES OF INFORMATION Cite specific references, e.g., state files, sample analysis, reports

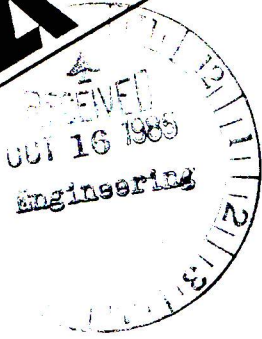
NEDS file, Vol. II - Map including Haz. Waste Treatment sites, drinking H₂O wells, etc.
Groundwater Resources Maps - Trumbull & Portage Co. ODNR, 1979. Wells near site.
Soil Survey of Portage Co., OH, USDA & SCS, ODNR. June 1978.
1980 Census - Population of OH, Portage County. Ravenna, Rootstown, Windham

EPA FORM 2070 (2-7-81)

1981 RCRA Inspection notes on groundwater monitoring (7/7/81) D. Wertz, EPA.
(in Haz. Waste file, NEDS)
Some Groundwater Monitoring Results on file but no map of well locations.

cf: R. J. Kasper
D. E. Lawless
T. M. Chanda
File

Ohio EPA



Re: Director's Final Findings & Orders
Ravenna Army Ammunition Plant
US EPA ID No.: OH5210020736
Ohio Permit No.: 02-67-0209

October 1, 1985

Ravenna Army Ammunition Plant
8451 State Route 5
Ravenna, Ohio 44266

General Manager Ravenna Arsenal, Inc. TWD FOR
<input type="checkbox"/> Information
<input type="checkbox"/> Compliance as applicable
<input type="checkbox"/> Reply NLT

TO	
1 CR-COR	<i>[Signature]</i>
2 PROP ADM	<i>[Signature]</i>
OASAS	
RAI	
Return For File	

CERTIFIED MAIL

Dear Sir:

Transmitted herewith are Final Findings & Orders of the Director concerning the matter indicated.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Law Division of the Office of the Attorney General within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address:

Environmental Board of Review
250 E. Town St.
Room 101
Columbus, Ohio 43215

Very truly yours,

Thomas E. Crepeau

Thomas E. Crepeau, Manager
Data Management Section
Division of Solid & Hazardous Waste Management

Ohio Environmental Protection Agency
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TEC/dhs

cc: Steven White, Chief, DSHWM
Joan DeMartin, Legal Counsel, OEPA
Bill Skowronski, NEDO

1161R

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: *[Signature]* Date *10/1/85*

1512-01

9. RVAAP has 20,000 M720 point detonating fuze assemblies which must be deactivated to comply with military requirements.
10. The fuze assemblies are deactivated by exposing the assembly to high temperatures for a sufficient time to detonate the charge.
11. On August 7, 1985, RVAAP applied to the Ohio EPA for permission to open burn the 20,000 M720 fuze assemblies referenced in Finding No. 9.
12. Pursuant to ORC Section 3734.02(G), the Director of Environmental Protection (hereinafter "the Director") may by order exempt any person generating, storing, treating, or disposing of hazardous wastes in such quantities or under such circumstances that, in the determination of the Director, it is unlikely that the public health or safety, or the environment will be adversely affected thereby, from any requirement to obtain a permit or license, or comply with the manifest system or other requirements of Chapter 3734, Ohio Revised Code.
13. RVAAP has proposed to detonate the projectiles and fuze assemblies, and open burn the nitroguanidine in a manner that will be safe to the public and environment and to RVAAP personnel.

ORDERS

1. An exemption is hereby granted to RVAAP to detonate the three hundred eighty two 152 MM projectiles, to open burn approximately 14,000 pounds of nitroguanidine, and to detonate the 20,000 M720 fuze assemblies in the manner prescribed by RVAAP, provided the following conditions are met:
 - a. The Northeast District Office is notified 24 hours before the first detonation takes place for the projectiles and fuze assemblies and is afforded an opportunity to inspect the detonation sites and techniques to be used in the detonations.
 - b. The Northeast District Office is notified 24 hours before the open burning takes place and is afforded an opportunity to inspect the open burning site and techniques to be used in the open burning.
 - c. All air pollution requirements are met before detonation of any projectiles or any open burning takes place.
2. RVAAP by its acceptance of this exemption agrees to comply with all conditions of the exemption and acknowledges that RVAAP's failure to so comply may result in an immediate revocation of this exemption and possible further legal action by OEPA, if appropriate.

I hereby file to be a true and accurate copy of the above document as filed in the records of the Ohio Environmental Protection Agency.

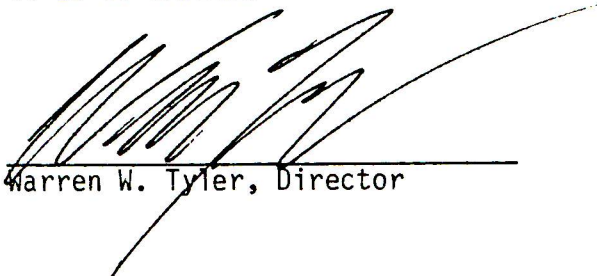
By: James A. Owen Date 10 15

Ohio Environmental Protection Agency
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3. The duration of this exemption is for the time required to deactivate the projectiles, nitroguanidine, and fuze assemblies as directed in Order No. 1, or 45 days from the effective date of these Orders, whichever comes first. RVAAP shall notify the Ohio EPA Northeast District Office in Twinsburg of the completion of the deactivation activity within 24 hours of the last scheduled detonation, and within 24 hours of the last scheduled open burn.

IT IS SO ORDERED



Warren W. Tyler, Director

October 1, 1985

Date

Ohio Environmental Protection Agency
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I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Unid Ohio Date 10/1/85